

MINUTES OF THE
JEFFERSON COUNTY EMERGENCY COMMUNICATIONS AUTHORITY
January 17, 2013

The Jefferson County Emergency Communications Authority Board met in regular session at the Jefferson County Government Center, 100 Jefferson County Parkway, Golden, Colorado.

Present: Director Lynn Johnson
 Director Casey Tighe
 Director Mark Krapf
 Director Dan Gard
 Dennis Tharp, Attorney
 Debbie Quinn, Secretary

Excused: Director Mike Donner
 Director Nick Boukas

Also Present: Jeff Irvin, Executive Director
 Vicki Pickett, Arvada PD
 Jodi Malpass, Lakewood PD
 Jen Sliemers, Arvada Fire
 Diane Culverhouse, Jefferson County Sheriff's Office
 Monty Heffner, Broomfield PD
 Larry Stodden, Wheat Ridge PD
 Karin Marquez, Westminster PD
 Missy Saggau, Westminster PD
 Michael Murphy, West Metro Fire/Rescue
 Pat Purdy, West Metro Fire/Rescue

Director Johnson called the meeting to order.

APPROVAL OF MINUTES

The Board upon motion of Director Krapf, duly seconded by Director Gard, and by majority vote with Directors' Donner and Boukas excused, approved the Minutes of December 20, 2012.

TREASURER'S REPORT

Jeff Irvin presented the Treasurer's Report. The Board upon motion of Director Gard, duly seconded by Director Krapf, and by majority vote with Directors' Donner and Boukas excused, approved the Treasurer's Report.

ADVISORY COMMITTEE REPORT

Monty Heffner, Broomfield PD, presented the Advisory Committee Report.

- The Committee had the monthly GeoComm conference call.
- They had the standard update with NICE and the major issue was dealing with the help tickets.
- There was a long discussion about the new CodeRED emergency notification system. Opt-in records from the previous system have been imported. An All-Call test will be conducted the first week of February during which citizens will be

encouraged to re-register in the new system to enhance accuracy of data. There is a planned WebEx Session with the PIO's in the two counties for next Thursday to talk about the message to be sent out for All Call and to coordinate press release information of the entire County scheduled the week of February 3rd.

- Daryl Branson made a presentation to update the Advisory Committee with regards to the efforts of the Colorado 911 Resource Center. Daryl advised he is planning a 9-1-1 Goes to Denver event for 2013 that will be similar to the NENA 9-1-1- Goes to Washington event in order to promote dialog between the 9-1-1 community in Colorado and the State Legislature.
- The Colorado NexGen 9-1-1 Steering Committee is working on the Colorado path to NexGen 911 which is a totally IP based system and still in the works.
- Text to 911 with the FCC proposed rules is the first step in the ability to receive text messages. It is a voluntary program right now with a deadline of May 2014 and the location information is just being proposed at this time. Vicki Pickett says that location is a very important component to getting text messages and depends on the cell phone you have. The message to the FCC is stressing the importance of the location.

EXPENDITURE REQUESTS

Jeff presented the agency expenditure requests for amounts of \$10,000 or less. The Board upon motion of Director Krapf, duly seconded by Director Gard, and by majority vote with Directors' Donner and Boukas excused, approved the expenditure items under \$10,000 in the amount of \$38,002.02.

Jeff then presented the major expenditure requests over the \$10,000.amount. The Board upon motion of Director Gard, duly seconded by Director Krapf, and by majority vote with Directors' Donner and Boukas excused, approved the expenditure requests for items over \$10,000.00 in the amount of \$61,166.92.

EXECUTIVE DIRECTOR'S REPORT

Jeff presented the Executive Director's Report.

- The Regionalization Study Agreement was approved on January 16, 2013 and should be completed in the next few months.
- PUC Advisory Task Force – Century Link rolled out their proposed road map for NexGen 911 but they did not talk enough about the cost of the rollout.
- On the CodeRED issues out he said they would get the word out on February 3rd depending on the WebEx PIO meeting next week.

Dennis Tharp said the Committee needs to be involved in the Century Link application for the tariff to ensure the costs are proper.

Jaci Louise has been motivating the telephone service providers to remit the tariff fees which has resulted in an increase of revenues for the coming year.

Director Johnson welcomed Commissioner Tighe to the Authority Board.

ADJOURNMENT

The Board upon motion of Director Krapf, duly seconded by Director Gard, and by majority vote with Directors' Donner and Boukas excused, adjourned the meeting.

NOTICE OF MEETING

FOR THE JEFFERSON COUNTY EMERGENCY COMMUNICATIONS AUTHORITY

FEBRUARY 21, 2013 AT 9:00 A.M.

1. Call to Order
2. Approval of January 17, 2013 minutes
3. Treasurer's Report
4. Advisory Committee Report
5. Expenditure Requests
6. Executive Director Report
7. New Business
 - a. Zayo Conduit Swap Presentation by City of Lakewood
8. Adjournment

MINUTES OF THE
JEFFERSON COUNTY EMERGENCY COMMUNICATIONS AUTHORITY
February 21, 2013

The Jefferson County Emergency Communications Authority Board met in regular session at the Jefferson County Government Center, 100 Jefferson County Parkway, Golden, Colorado.

Present: Director Lynn Johnson
 Director Casey Tighe
 Director Nick Boukas
 Director Mike Donner
 Dennis Tharp, Attorney
 Tracy Emerson, Clerk

Excused: Director Dan Gard
 Director Mark Krapf

Also Present: Jeff Irvin, Executive Director
 Vicki Pickett, Arvada PD
 Jen Sliemers, Arvada Fire
 Chris Ambrosio, Arvada Fire
 Monty Heffner, Broomfield PD
 Larry Stodden, Wheat Ridge PD
 Shawn Cullingford, Lakewood IT
 Karyn Kretzel, West Metro Fire/Rescue
 Michael Murphy, West Metro Fire/Rescue

Director Johnson called the meeting to order.

APPROVAL OF MINUTES

The Board upon motion of Director Boukas, duly seconded by Director Tighe, and by majority vote with Directors' Gard and Krapf excused, approved the Minutes of January 17, 2013.

TREASURER'S REPORT

Jeff Irvin presented the Treasurer's Report. The Board upon motion of Director Donner, duly seconded by Director Boukas, and by majority vote with Directors' Gard and Krapf excused, approved the Treasurer's Report.

ADVISORY COMMITTEE REPORT

Vicki Pickett, Arvada PD, presented the Advisory Committee Report.

- The Committee heard a status report during the monthly GeoComm conference call. The errors in the message-street-address-guide (MSAG) continue to decrease. They are now showing a 98% accuracy level in the geo-coded process. They are also doing a wireless audit for every PSAP and have completed the City of Arvada.
- The Committee also had their monthly update call from NICE. They reported they are working through 14 service tickets currently open with various PSAPs having issues.
- CodeRED called in to give their update on the All-Call notification test where they

attempted to call 340,970 phone numbers. The result was a raw connection rate of 70.2% which is above the national average of 60%. A second calls was made to the number if the first call resulted in a fast busy signal or an operator intercept. Most of the calls received from citizens in response to the test were to confirm if the web address was legitimate. The PSAP representatives indicated that the number of calls received was greatly reduced thanks to the press release efforts of the PIO's. The Committee discussed calls received from some residents who expressed a desire to not be called for emergency notifications. Each agency will need to review these requests as they pertain to citizens in their jurisdiction and perhaps develop a policy for handling.

- The Committee heard a presentation from the Alzheimer's Association. They are conducting out-reach sessions with First Responders and Dispatchers on how to deal with Alzheimer's patients in emergency situations.
- Mission Critical Partners, Inc. will be holding a Regionalization Study kick-off meeting on the afternoon of February 25, 2013.
- Vicki is trying to coordinate with some reps to conduct a Mission Thread workshop for CMAS (Commercial Mobile Alerting System). The CMAS is part of the FEMA (Federal Emergency Management Agency) IPAWS (Integrated Public Alerting and Warning System) that provides the ability to make wireless phone notifications by geographic area to wireless phones affiliated with particular cell towers. This project is in the process of being deployed nationwide, so they are working with Software Engineering Institute for a full review and consideration. Vicki will report more on this project in the coming months.
- Jefferson County is working through issues regarding configuration of their new Cassidian Patriot phone system. Primarily the issues have been the integration with the CPE (customer premises equipment) PBX and local phone system which wasn't integrated initially. They are working with both Cassidian and CentryLink to get it resolved. Jeff interjected that he understands they are making progress toward resolution.

EXPENDITURE REQUESTS

Jeff presented the agency expenditure requests for amounts of \$10,000 or less. The Board upon motion of Director Donner, duly seconded by Director Boukas, and by majority vote with Directors' Gard and Krapf excused, approved the expenditure items under \$10,000 in the amount of \$62,914.12.

Jeff then presented the major expenditure requests over the \$10,000.amount. The Board upon motion of Director Donner, duly seconded by Director Boukas, and by majority vote with Directors' Gard and Krapf excused, approved the expenditure requests for items over \$10,000.00 in the amount of \$215,902.29.

EXECUTIVE DIRECTOR'S REPORT

Jeff presented the Executive Director's Report.

- Swanhorst & Company will begin the JCECA annual audit February 25, 2013.
- Jeff attended the NENA Development Conference. It was very informative including very technical discussions about network issues and transitions to NG911.
- The J-FON Committee is now conducting face-to-face meetings every quarter with the next meeting scheduled for March 4, 2013. Discussions are underway with RTD regarding possibilities for fiber along the Goldline to Arvada and

possible connection to the I-225 corridor fiber that serves Aurora.

NEW BUSINESS

Shawn Cullingford, City of Lakewood IT gave a presentation to explain a proposed Zayo Conduit Swap project. This project could provide fiber connectivity for the City of Wheat Ridge PSAP as a cost substantially below that predicted in the MinnTex study regarding connectivity to the public safety fiber backbone along the RTD West Corridor. The board authorized incurring costs of up to \$5,000.00 for engineering to determine the project costs.

ADJOURNMENT

The Board upon motion of Director Donner, duly seconded by Director Boukas, and by majority vote with Directors' Gard and Krapf excused, adjourned the meeting.

NOTICE OF MEETING

FOR THE JEFFERSON COUNTY EMERGENCY COMMUNICATIONS AUTHORITY

MARCH 21, 2013 AT 9:30 A.M.

1. Call to Order
2. Approval of February 21, 2013 minutes
3. Treasurer's Report
4. Advisory Committee Report
5. Expenditure Requests
6. Executive Director Report
7. New Business
8. Adjournment

MINUTES OF THE
JEFFERSON COUNTY EMERGENCY COMMUNICATIONS AUTHORITY
March 21, 2013

The Jefferson County Emergency Communications Authority Board met in regular session at the Jefferson County Government Center, 100 Jefferson County Parkway, Golden, Colorado.

Present: Director Lynn Johnson
Director Casey Tighe
Director Nick Boukas
Dennis Tharp, Attorney
Debbie Quinn, Secretary

Excused: Director Mike Donner
Director Mark Krapf
Director Dan Gard

Also Present: Jeff Irvin, Executive Director
Vicki Pickett, Arvada PD
Lisa Sorrentino, Golden PD
Jen Sliemers, Arvada Fire
Diane Culverhouse, Jefferson County Sheriff's Office
Monty Heffner, Broomfield PD
Christy McCormick, Evergreen Fire/Rescue
Missy Saggau, Westminster PD
Michael Murphy, West Metro Fire/Rescue
Pat Purdy, West Metro Fire/Rescue
Wes Horn, Century Link

Director Johnson called the meeting to order.

APPROVAL OF MINUTES

The Board upon motion of Director Boukas, duly seconded by Director Tighe, and by majority vote, approved the Minutes of February 21, 2013.

TREASURER'S REPORT

Jeff Irvin presented the Treasurer's Report. Jeff mentioned that they would need to move \$500,000 from a Certificate of Deposit (CD) to the Colorado Business Bank Direct Deposit Account (DDA) in order to keep the fund balance at a level that will offset bank charges and other services. The DDA account pays a higher interest rate than the short term CD. He also reported the fieldwork for the audit was complete. The Board upon motion of Director Boukas, duly seconded by Director Tighe, and by majority vote, approved the Treasurer's Report.

ADVISORY COMMITTEE REPORT

Vicki Pickett, Arvada PD, presented the Advisory Committee Report.

- The Committee had the monthly GeoComm conference call. The status of the geocoding of the address point layer used for the Emergency Notification System was discussed. The GIS data is pulled from the County and uploaded according to

the agency's schedule.

- NICE presented a report regarding the status of repair tickets and projects.
- Nelson Martinez, City of Westminster Radio Technician initiated a discussion regarding funding of radio console upgrades. The committee would like to standardize the radio equipment requests for a program fund for future requests.
- CodeRED representatives joined the meeting via WebEX and there was a discussion of outstanding issues. It was clarified that multiple wireless numbers can be registered for an address. Once a number is registered to an address it cannot be registered to another address in the JCECA service area. There was discussion as to handle requests from citizens to have their wireline number(s) removed so they will not receive notifications. It was decided that each agency will need to consult with their legal counsel and develop policies regarding these cases. CodeRED provided a sample form for the people that want to opt out. After the ALL-Call test and the CodeRED ValiData procedure 3400 Atlantis records remain that would not geocode. They will do one last launch to the 3400 opt in numbers to test them. It is suspected that the majority are just bad numbers.
- Lisa Sorrentino, Golden PD advised that her agency will be submitting a funding request for bi-directional amplifiers to enhance radio reception at a future Advisory Committee meeting.
- Reminder - Wireless Emergency Alerting (WEA formerly CMAS) Mission Thread Workshop will be held April 1, 2013. The technology will allow notifications via a cell tower rather than the opt in option which would be helpful for transient travelers.
- The 911 Awards Banquet will be held April 12 this year.

EXPENDITURE REQUESTS

Jeff presented the agency expenditure requests for amounts of \$10,000 or less. The Board upon motion of Director Boukas, duly seconded by Director Tighe, and by majority vote, approved the expenditure items under \$10,000 in the amount of \$14,650.97.

Jeff then presented the major expenditure requests over the \$10,000 amount. The Board upon motion of Director Boukas, duly seconded by Director Tighe, and by majority vote, approved the expenditure requests for items over \$10,000.00 in the amount of \$173,526.98. Jeff stated that 23% of the 2013 budget was penetrated and 14% of anticipated Emergency Telephone Charges (ETC) fees had been collected so far. In 2012 88% of the total budget was expended.

EXECUTIVE DIRECTOR'S REPORT

Jeff presented the Executive Director's Report.

- HB 13-1255 – The Colorado 9-1-1- PUC Task Force voted to oppose the language of this bill. Alternate language will be asserted in a letter to legislators and the Governor. The bill, as written, would severely limit the ability of the PUC to regulate the aspects of telecommunication in the future NexGen IP environment as it will relate to 9-1-1. A letter in opposition to HB13-1255 was presented to the Board for signature. The Board upon motion of Director Boukas, duly seconded by Director Tighe, and by majority vote, approved execution and dissemination of the letter.

- The J-FON committee met and was hosted by the vendor, ISC Corporation. They discussed the limits of responsibility of J-FON for operation and maintenance of the J-FON network. The DMARC point where each agency accesses the network will be the point at which ownership and responsibility shifts to the end user(s).

ADJOURNMENT

The Board upon motion of Director Boukas, duly seconded by Director Tighe, and by majority vote, adjourned the meeting.

NOTICE OF MEETING

FOR THE JEFFERSON COUNTY EMERGENCY COMMUNICATIONS AUTHORITY

APRIL 18, 2013 AT 9:00 A.M.

1. Call to Order
2. Approval of March 21, 2013 minutes
3. Treasurer's Report
4. Advisory Committee Report
5. Expenditure Requests
6. Executive Director Report
7. New Business
 - a. Introduction of newly appointed Directors Amobrosio and Rush
8. Adjournment

MINUTES OF THE
JEFFERSON COUNTY EMERGENCY COMMUNICATIONS AUTHORITY
April 18, 2013

The Jefferson County Emergency Communications Authority Board met in regular session at the Jefferson County Government Center, 100 Jefferson County Parkway, Golden, Colorado.

Present: Director Lynn Johnson
 Director Casey Tighe
 Director Chris Ambrosio
 Director Mark Krapf
 Dennis Tharp, Attorney
 Tracy Emerson, Clerk

Excused: Director William Rush

Also Present: Jeff Irvin, Executive Director
 Jodi Malpass, Lakewood PD
 Lisa Sorrentino, Golden PD
 Monty Heffner, Broomfield PD
 Diane Culverhouse, Jefferson County Sheriff's Office
 Tim Hersee, Broomfield PD

Director Johnson called the meeting to order.

APPROVAL OF MINUTES

The Board upon motion of Director Tighe, duly seconded by Director Johnson, and by majority vote, approved the Minutes of March 21, 2013.

TREASURER'S REPORT

Jeff Irvin presented the Treasurer's Report. The Board upon motion of Director Tighe, duly seconded by Director Krapf, and by majority vote, approved the Treasurer's Report.

ADVISORY COMMITTEE REPORT

Monty Heffner, Broomfield PD, presented the Advisory Committee Report.

- The Committee had the monthly GeoComm conference call. They presented their quarterly status report. They continue to work on the wireless consulting activities from the different agencies. The wireless audits have been sent out.
- The Committee also heard from Mike Jones of NICE. They have seven open tickets for ongoing maintenance issues and they recently closed four tickets.
- The Committee discussed Smart 911 regarding how the different agencies are getting the information to the public so they can register for the program. Steve Raval, the Regional Sales Director for Smart 911 is now based locally which is giving him the opportunity to seek more input. Steve also volunteered to help at any of the public presentations or education. The committee decided to start compiling information and sending it to a central point person to better share ideas on how to get the information out to the people in the community. Monty will be responsible for

gathering the information from the different PSAP's. Monty suggested for the next Board meeting that they provide the numbers of how many people have signed up per agency as well as County wide. The committee is also considering a direct mail campaign to targeted audiences to promote both Smart 911 and Code Red programs. Jeff Irvin is going to explore what the cost of the campaign as well as the benefits. To better penetrate the target audience, Director Johnson suggested they utilize resources that exist with the community, for example in Arvada where they have a Senior Liaison Officer. Broomfield has created a way to help seniors register even if they do not have access to a computer or email. Director Tighe suggested hiring a professional Public Relations firm to execute the campaign. Director Johnson voiced his support to have Jeff look into the potential costs.

EXPENDITURE REQUESTS

Jeff presented the agency expenditure requests for amounts of \$10,000 or less. The Board upon motion of Director Krapf, duly seconded by Director Tighe, and by majority vote, approved the expenditure items under \$10,000 in the amount of \$29,256.60.

Jeff then presented the major expenditure requests for amounts over \$10,000. The Board upon motion of Director Krapf, duly seconded by Director Tighe, and by majority vote, approved the expenditure requests for items over \$10,000.00 in the amount of \$102,397.51.

EXECUTIVE DIRECTOR'S REPORT

Jeff presented the Executive Director's Report.

- Jeff is hoping to have the draft audit report by the end of the week. It is currently still with the auditors in the internal review process. He is also hoping the audit will be ready to be presented at next month's meeting.
- On March 28 Jeff attended a meeting with RTD, City of Arvada and Arvada Fire Department to discuss the Arvada GoldLine. They discussed what opportunities there are for additional fiber to be placed within the micro duct. Dennis Tharp is reviewing the IGA aspects and the right-of-way issues. They are also awaiting a response regarding potential costs. RTD also invited Jeff to attend the RTD Board in June to brief them on the success of the collaboration with RTD along the West Corridor as well as future opportunities.
- The Code-RED Atlantis record call on April 4, 2013. We had 4700 records that were still numbers that could not be Geo-coded properly. They conducted the calls and had a high success rate. Jeff fielded about 40 calls mostly from people who had web or registration difficulties.
- A Code-RED widget has been rolled out. Jeff has sent out a message to the Advisory Committee and PIO's. Use of the widget, which can display the last five alerts sent via Code-RED on a website, is something that will be discussed at the next Advisory Committee meeting.
- Jeff has reviewed the GeoComm ENS protocol. The biggest issue is large parcels in Jefferson County and capturing the wireless number that is coded in two different spots. They are discussing a strategy that will resolve this issue.
- Next Jeff mentioned House Bill 13-1255 that was discussed in the March

meeting, which is a push by the telephone service providers to have complete deregulation of IP services in the State of Colorado. The bill came before a House Committee and Jeff and Dennis Tharp as well as others testified in opposition. They are waiting to see the amended language that will be included in the bill. There are still opportunities to oppose it and Jeff has sent a letter as the Chair of the Colorado PUC Task Force to all of the State Legislators and the Governor.

- Director Johnson asked Jeff for an update on Lakewood's request for money to participate in a conduit swap with Zayo. Jeff reported that it appears the possibility of the swap may no longer be viable and the request may not be presented.
- Jeff gave an update on the Regionalization Study. Jeff reported that Mora Hickey from Mission Critical Partners was in town to meet with all of the stake holders to get additional in-depth information regarding the study. They are conducting conference calls twice a month for status reports and are hoping to have an initial draft soon of what has been accomplished.
- Jeff talked with Jefferson County and they are starting the 2014 budgeting process for radio funding. Jeff will be coordinating a meeting and would like a couple of the Board members to attend.
- Director Johnson asked Jeff to comment on this year's budget. To date, including items the Board authorized today for expenditure requests, we are at 33% of the budget. Anticipated fees for 2013 as of the end of March are 23% so we are right on track as far as collections. The P&L may yet be adjusted back into 2012 after we see the audit draft.

Lastly Director Johnson noted that this week is National Tele-communicator's Week. He mentioned that he hopes all the agencies have the opportunity to recognize the great work that is done by our Dispatchers and Supervisors every single day. There was also a 911 banquet on Friday and it was an extraordinary event.

ADJOURNMENT

The Board upon motion of Director Tighe, duly seconded by Director Krapf, and by majority vote, adjourned the meeting.

NOTICE OF MEETING

FOR THE JEFFERSON COUNTY EMERGENCY COMMUNICATIONS AUTHORITY

MAY 16, 2013 AT 9:00 A.M.

1. Call to Order
2. Approval of April 18, 2013 minutes
3. Treasurer's Report
4. Advisory Committee Report
5. Expenditure Requests
6. Executive Director Report
7. New Business
8. Adjournment

MINUTES OF THE
JEFFERSON COUNTY EMERGENCY COMMUNICATIONS AUTHORITY
May 16, 2013

The Jefferson County Emergency Communications Authority Board met in regular session at the Jefferson County Government Center, 100 Jefferson County Parkway, Golden, Colorado.

Present: Director Lynn Johnson
 Director Mark Krapf
 Director Chris Ambrosio
 Dennis Tharp, Attorney
 Debbie Quinn, Secretary

Excused: Director Casey Tighe
 Director William Rush

Also Present: Jeff Irvin, Executive Director
 Vicki Pickett, Arvada PD
 Lisa Sorrentino, Golden PD
 Jen Sliemers, Arvada Fire
 Diane Culverhouse, Jefferson County Sheriff's Office
 Monty Heffner, Broomfield PD
 Christy McCormick, Evergreen Fire/Rescue
 Missy Saggau, Westminster PD
 Jodi Malpass, Lakewood PD
 Ryan Tharp

Director Johnson called the meeting to order.

APPROVAL OF MINUTES

The Board upon motion of Director Krapf, duly seconded by Director Ambrosio, and by majority vote, approved the Minutes of April 18, 2013.

TREASURER'S REPORT

Jeff Irvin presented the Treasurer's Report. He also said the audit was received and reviewed and will be presented at the June meeting. The Board upon motion of Director Ambrosio, duly seconded by Director Krapf, and by majority vote, approved the Treasurer's Report.

ADVISORY COMMITTEE REPORT

Vicki Pickett, Arvada PD, presented the Advisory Committee Report.

- Vendor Verint Inc. conducted a presentation before the Committee meeting demonstrating their logging systems. Westminster discovered that once they go to the new radio system, Cassidian, the NICE recorder will not log/allow them to retrieve all the metadata information they need. They will have vendors demonstrations of their products over the course of the next month.
- The Committee had the monthly GeoComm conference call. The annual wireless audits have been completed. It was reported that GeoCoding associated with the Regional Map has attained a level of 99% accuracy.

- Discussed with Smart 911 strategies for increasing citizen registration. Methods considered include: mass mailings, a public service announcement including representatives' set-up at several locations. Jeff supplied zip codes to Smart 911 for the JCECA service area in order that they may pull monthly profiles so the agencies can track enrollment levels. Dennis Tharp stated that Smart 911 has almost tripled their costs making it prohibitive for other counties to enroll.
- A CMAS, now known as Wireless Emergency Alert (WEA) was held at Arvada PD on April 1st. The workshop facilitators will provide a report and subsequent discussion.
- CodeRED has provided a link for a "widget" that can be used on agency websites for local websites. The widget will provide the ability for citizens to view the last 5 alerts sent via the CodeRED system and allow playback of the alert audio. The committee discussed how requests by citizens to have their wireline phone numbers removed will be handled. It was agreed that each agency needs to determine their own policy. Currently none of the agencies are placing wireline numbers on the CodeRED Do Not Call List.

EXPENDITURE REQUESTS

Jeff presented the agency expenditure requests for amounts of \$10,000 or less. The Board upon motion of Director Krapf, duly seconded by Director Ambrosio, and by majority vote, approved the expenditure items under \$10,000 in the amount of \$22,091.59.

Jeff then presented the major expenditure requests over the \$10,000 amount. The Board upon motion of Director Krapf, duly seconded by Director Ambrosio, and by majority vote, approved the expenditure requests for items over \$10,000.00 in the amount of \$10,400.00. Jeff stated that 43% of the 2013 budget was penetrated and 33% of anticipated Emergency Telephone Charges (ETC) fees had been collected so far.

EXECUTIVE DIRECTOR'S REPORT

Jeff presented the Executive Director's Report.

- A Radio and Logging Systems Committee was established. Steve Kabelis, City of Lakewood was selected as the chairman and Matt Jackson, JCSO was selected as vice chairman. A regular meeting schedule will be established. The focus of the committee was to look at radio funding needs of the agencies and to discuss current and future logging system needs and architecture.
- The committee agreed that funding of Bi-Directional Amplifiers (BDA's) in Schools is a recommended appropriate use of Agency Operating Funds (AOF) on a case by case basis as determined by the agencies. Establishment of a Program Fund for BDAs is not recommended
- Radio consoles – the Committee will request figures from agencies in order to look at the effect on JCECA budget projections if funded. The discussed ISSI licensing, Network First talk paths and a multi-site project for Lakewood and other agencies. The Committee recommended scheduling a retreat or special technical meeting with the Board and Advisory Committee in order to discuss how to fund the projects, possibly by raising the emergency telephone charges.

Director Johnson stated that paying for consoles is a stretch to what was done in the past. Director Krapf suggested looking at CAD systems and other core program funding opportunities. The Board agreed that they would like county wide interoperability and should look into cost sharing or possibly matching funds with other agencies.

- Need to review with NICE because of the magnitude of the current investment in their equipment, compare with other vendors, and evolve as technology evolves.
- Mission Critical Partners (MCP) is expected to present their Regionalization Study report by May 31st.
- Jeff will incorporate the CodeRED widget on the JCECA website. CodeRED provided a suggested template for a press release regarding their weather warning product. Jeff asked if the Board should consider including a Smart 911 message within the press release. It was agreed it best to keep CodeRED and Smart 911 information separate so as not to confuse citizens
- RTD Goldline – A meeting was held to discuss the placement of hand holds for Fiber Optic (F/O) cable to be placed along the line.
- Jeff has been asked to attend the RTD meeting in June to speak to the success of the JCECA-RTD collaboration with regard to F/O projects.
- CO 9-1-1 PUC Task Force- Jeff hosted the meeting on May 9th and it was well attended.
- Legislative update from Colorado Resource Center. Both HB 13-1255 and SB 13-287 were defeated but it is expected the issues will come back in the next state legislative session. The CO 9-1-1 PUC task Force will request that a legislative liaison be appointed by each 9-1-1 authority in the State to deal with issues as they come up.
- Joe BeMenedetto who represents the disabled community on the CO PUC Task Force advised that the hearing impaired community prefers interpreters in PSAPs rather than having to pass through an intermediary service.

ADJOURNMENT

The Board upon motion of Director Krapf, duly seconded by Director Ambrosio, and by majority vote, adjourned the meeting.

NOTICE OF MEETING

FOR THE JEFFERSON COUNTY EMERGENCY COMMUNICATIONS AUTHORITY

JUNE 20, 2013 AT 9:00 A.M.

1. Call to Order
2. Approval of May 16, 2013 minutes
3. Treasurer's Report
 - a. Presentation of 2012 Audit by Swanhorst & Company
4. Advisory Committee Report
5. Expenditure Requests
6. Executive Director Report
7. New Business
8. Adjournment

MINUTES OF THE
JEFFERSON COUNTY EMERGENCY COMMUNICATIONS AUTHORITY
June 20, 2013

The Jefferson County Emergency Communications Authority Board met in regular session at the Jefferson County Government Center, 100 Jefferson County Parkway, Golden, Colorado.

Present: Director Lynn Johnson
Director Casey Tighe
Director Chris Ambrosio
Dennis Tharp, Attorney
Tracy Emerson, Clerk

Excused: Director William Rush
Director Mark Krapf

Also Present: Jeff Irvin, Executive Director
Vicki Pickett, Arvada PD
Austin Bump, Swanhorst & Company LLC
Lisa Sorrentino, Golden PD
Christy McCormick, Evergreen Fire/Rescue
Larry Stodden, Wheat Ridge PD
Laura Curliss, Village of Yellow Springs, OH
Brian Zoril, Foothills Fire Protection District

Director Johnson called the meeting to order.

APPROVAL OF MINUTES

The Board upon motion of Director Ambrosio, duly seconded by Director Tighe, and by majority vote, approved the Minutes of April 18, 2013 which had been previously approved.

TREASURER'S REPORT

Jeff Irvin presented the Treasurer's Report. The Board upon motion of Director Tighe, duly seconded by Director Ambrosio, and by majority vote, approved the Treasurer's Report.

Austin Bump of Swanhorst & Company LLC presented the finalized 2012 Audit Report. The Board upon motion of Director Ambrosio, duly seconded by Director Tighe, and by majority vote, approved the 2012 Audit Report.

ADVISORY COMMITTEE REPORT

Vicki Pickett, Arvada PD, presented the Advisory Committee Report.

- Vendor High Ground began the meeting with a logging recorder equipment demonstration. Several PSAP's were in attendance for the demonstration.
- The Committee had the monthly GeoComm conference call. GeoComm is now seeing a 98-99% geo-coding match.

- Jim Ericson of CodeRED delivered an overview report from the emergency notification call-out for the Blue Bell fire. He reported that they had a connection rate of 84.68% which is above the national average and felt this first launch was very successful. There were a few complaint calls that came into Jeff, however each issue was successfully identified and addressed. Jeff Irvin interjected that they held a debriefing session with the PIO of Jefferson County and he was very complimentary with regard to how the system performed and also the overall interaction with CodeRED. It was mentioned that there was a tweet early on in the launch with raw data which probably shouldn't have been released so early. So they discussed how, what and when this information will be decimated to the public in the future. Vicki asked that the correct procedures for information flow be distributed to all PIO's.
- Representatives of the Mountain Fire Departments attended the meeting to discuss the regionalization draft report from Mission Critical Partners (MCP). The fire representatives said they were in favor of the draft report however they had concerns on funding. Vicki cautioned that the report had several issues regarding accuracy which MCP will need to correct. MCP is expected to deliver the next version of the draft report on June 24th and then a conference call will be held on June 26th for responses. MCP is expected to deliver the final report on July 9, 2013. Jeff is working on confirming the details of when and where the presentation will be held. After discussion, it was agreed that MCP will give a presentation of the findings to the JCECA, and then an implementation strategy meeting would be held with the stakeholders. The stakeholders would be sent the report for full review before the collective session is scheduled.
- Lastly, Vicki reminded everyone that the 911 Summit is scheduled for September 23, 2013.

EXPENDITURE REQUESTS

Jeff presented the agency expenditure requests for amounts of \$10,000 or less. The Board upon motion of Director Tighe, duly seconded by Director Ambrosio, and by majority vote, approved the expenditure items under \$10,000 in the amount of \$52,793.53.

Jeff then presented the major expenditure requests over the \$10,000.amount. The Board upon motion of Director Ambrosio, duly seconded by Director Tighe, and by majority vote, approved the expenditure requests for items over \$10,000.00 in the amount of \$168,947.32.

EXECUTIVE DIRECTOR'S REPORT

Jeff presented the Executive Director's Report.

- CodeRED and Data Sharing with Clear Creek County (CCC):
Jeff reported on recent discussions about giving permission to CodeRED to allow the sharing of data with CCC for those events where jurisdictional boundaries overlap. JCECA can authorize the data share however Jeff suggested to Randy Long of CCC, that a meeting be set up between Jefferson County, CCC and Evergreen Fire Rescue in order to come up with an MOU or SOP to implement that type of operation.

- CodeRED Discussion with Mountain Area Fire Chief's:
Jeff and the Mountain Area Fire Chief's discussed the difficulty for fire observers trying to determine the evacuation area and then relay that information to a dispatcher. Similar to large parcels, part of this problem is about having phones that are geo-coded to a structure rather than a street center line. As a result of this discussion was the idea of utilizing laptops for CodeRED system access while on the scene of a fire and from their specific vantage point. The information would then be saved in the system and used by the communication center to initiate a CodeRED launch.
- Mission Critical Partners (MCP) and the Regionalization Draft Report:
As mentioned earlier, there were deficiencies and issues with the draft report that MCP submitted. Some agencies expressed disappointment that there was only one recommendation and not a listing of alternatives. MCP has been asked to create an addendum that will provide some additional options to the one main recommendation.
- RTD and the Gold Line:
RTD has requested JCECA issue a commitment letter to Denver Transit Partners in order to get the work started on the Gold Line. Jeff provided a scope of work letter with a thematic commitment which was discussed at the last Board Meeting. We are still waiting hear about the potential costs.
- RTD and the North Line:
Jeff mentioned that we are looking at which agencies to include in the discussion regarding the possibilities for the North Line fiber. There are many potential benefits specific to Westminster.
- Jeff asked Dennis Tharp to give an update on the CentryLink tariff filing.

ADJOURNMENT

The Board upon motion of Director Tighe, duly seconded by Director Ambrosio, and by majority vote, adjourned the meeting.

NOTICE OF MEETING
FOR THE JEFFERSON COUNTY EMERGENCY COMMUNICATIONS AUTHORITY
JULY 18, 2013 AT 9:00 A.M.

1. Call to Order
2. Approval of June 20, 2013 minutes
3. Treasurer's Report
4. Advisory Committee Report
5. Expenditure Requests
6. Executive Director Report
7. New Business
8. Adjournment

MINUTES OF THE
JEFFERSON COUNTY EMERGENCY COMMUNICATIONS AUTHORITY
July 18, 2013

The Jefferson County Emergency Communications Authority Board met in regular session at the Jefferson County Government Center, 100 Jefferson County Parkway, Golden, Colorado.

Present: Director Lynn Johnson
 Director Mark Krapf
 Director Chris Ambrosio
 Director Casey Tighe
 Dennis Tharp, Attorney
 Tracy Emerson, Clerk

Also Present: Jeff Irvin, Executive Director
 Vicki Pickett, Arvada PD
 Lisa Sorrentino, Golden PD
 Diane Culverhouse, Jefferson County Sheriff's Office
 Christy McCormick, Evergreen Fire/Rescue
 Jodi Malpass, Lakewood PD
 Ryan Tharp, Fairfield & Woods
 Karyn Kretzel, West Metro Fire/Rescue
 Steve Kabelis, City of Lakewood
 Richard Bartlett, Foothills Fire Protection District
 Dean Nelson, 911-Colorado.org
 Joe Benkert, 911-Colorado.org
 Randy Simpson, Inter Canyon Fire Protection District
 Clint Fey, Jefferson County Emergency Management
 Chris Brown, CenturyLink
 Chris Garramone, Wheat Ridge PD
 Larry Stodden, Wheat Ridge PD
 Brian Goeman, Broomfield PD
 Wes Horn, CenturyLink
 Karin Marquez, Westminster PD & FD
 Bill McLaughlin, Elk Creek Fire District
 Brian Zoril, Foothills Fire Protection District
 Richard Barlett, Foothills Fire Board
 Emery Carson, Indian Hills Fire

Director Johnson called the meeting to order.

TREASURER'S REPORT

Jeff Irvin presented the Treasurer's Report. The Board upon motion of Director Tighe, duly seconded by Director Ambrosio, and by majority vote, approved the Treasurer's Report.

ADVISORY COMMITTEE REPORT

Vicki Pickett, Arvada PD, presented the Advisory Committee Report.

- They began the meeting with demonstrations from NICE and discussion of NICE maintenance services available from Graybar Voice & Data Inc. They talked about

their formats and services since the Committee is looking at options for logging recorders.

- The Committee had the monthly call with GeoComm.
- NICE did a presentation discussing two open tickets.
- The Committee reviewed the latest regionalization draft report from Mission Critical Partners. The Committee as a group has been dissatisfied with the reliability and responsiveness with the company as well as the inaccuracies of the report.
- West Metro Fire is considering consolidating and sharing CAD systems with South Metro and Littleton Fire. This would be a 2014 project and they may be requesting funds.
- Vicki reported that they are going to move forward Wireless Emergency Alerts (formerly CMAS). Jeff is going to contact the State to get the final approval so they can start sending the messages. The Committee will be making a threshold list and flowcharts regarding what types of emergencies qualify for the alert.
- Vicki and Dennis Tharp both gave a PUC Taskforce update regarding the the RFP process for the next generation project.
- Communications Committee will be meeting at the end of the month to discuss logging recorders and radios.
- Vicki mentioned that the GIS Subcommittee needs to reconvene to address Pictometry imagery and the DR-COG imagery.
- Lakewood PD is receiving APCO Project 33 Certification at the APCO Conference for training standards.
- Re-programing of the Jefferson County Cassidian system went very well.
- Several PSAP's are involved in the Colorado State Training Standards Committee.

EXPENDITURE REQUESTS

Jeff presented the agency expenditure requests for amounts of \$10,000 or less. The Board upon motion of Director Krapf, duly seconded by Director Tighe, and by majority vote, approved the expenditure items under \$10,000 in the amount of \$36,358.48.

Jeff then presented the major expenditure requests over the \$10,000.amount. The Board upon motion of Director Krapf, duly seconded by Director Ambrosio, and by majority vote, approved the expenditure requests for items over \$10,000.00 in the amount of \$638,932.67.

EXECUTIVE DIRECTOR'S REPORT

Jeff presented the Executive Director's Report.

- Regionalization Project: Jeff announced that two representatives from Mission Critical Partners (MCP), Marc Berryman and Charles Connely were in attendance via conference phone. After discussion from the Board, MCP, Advisory Committee as well as stakeholders coming forward to voice opinions, it was decided that Jeff would create a structure outline in order to move forward on this project. He plans to distribute the outline for additional comments before he schedules the next meeting regarding the final stages of this project.

(At 10:20:30am Director Rush announced he was on the conference phone.)

- Fiber Optic Project Update: Jeff's update included that we are still waiting for RTD to provide the final certification on fiber testing as well as a brief discussion about the Gold Line and North Line.
- Code Red: Jeff mentioned that we have had a surge in registrations that will need to be processed.
- Clear Creek Conference Call: Jefferson County Sheriff's Office and Evergreen Fire to discuss a data sharing agreement with CodeRed CNE System portal data to work together in common service areas.
- Audit was filed with the State and has been posted to the web site. We will be starting the next year's budget process shortly. Mark Krapf asked that we want to modify how we plan the budget to include discussion about items that need to be added for consideration. Lynn Johnson said this topic would be discussed in September.

NEW BUSINESS

Jeff mentioned that it has been requested that the Board add a public comments section to the agenda next month.

ADJOURNMENT

The Board upon motion of Director Ambrosio, duly seconded by Director Tighe, and by majority vote, adjourned the meeting.

NOTICE OF MEETING

FOR THE JEFFERSON COUNTY EMERGENCY COMMUNICATIONS AUTHORITY

AUGUST 15, 2013 AT 9:00 A.M.

1. Call to Order
2. Approval of May 16, 2013 and June 20, 2013 minutes
3. Treasurer's Report
4. Advisory Committee Report
5. Expenditure Requests
6. Executive Director Report
7. New Business
8. Public Comments
9. Adjournment

MINUTES OF THE
JEFFERSON COUNTY EMERGENCY COMMUNICATIONS AUTHORITY
August 15, 2013

The Jefferson County Emergency Communications Authority Board met in regular session at the Jefferson County Government Center, 100 Jefferson County Parkway, Golden, Colorado.

Present: Director Lynn Johnson
 Director Mark Krapf
 Director Chris Ambrosio
 Director William Rush
 Dennis Tharp, Attorney
 Debbie Quinn, Secretary

Excused: Director Casey Tighe

Also Present: Jeff Irvin, Executive Director
 Vicki Pickett, Arvada PD
 Lisa Sorrentino, Golden PD
 Jen Sliemers, Arvada Fire
 Diane Culverhouse, Jefferson County Sheriff's Office
 Scott Hunter, Jefferson County Sheriff's Office
 Karen Sweet, Jefferson County Sheriff's Office
 Monty Heffner, Broomfield PD
 Jodi Malpass, Lakewood PD
 Karyn Kretzel, West Metro Fire
 Alan Fletcher, Fairmount Fire
 Wes Chisnall, Wireless Advanced Communications
 William Fleming, Wireless Advanced Communications
 Karin Marquez, Westminster PD
 Nelson Martinez, Westminster PD
 Ryan Tharp, Fairfield & Woods P.C.
 Emery Carson, Indian Hills Fire
 Brian Zoril, Foothills Fire
 Michael Murphy, West Metro Fire

Director Johnson called the meeting to order. He welcomed Director Rush to the meeting.

APPROVAL OF MINUTES

The Board upon motion of Director Krapf, duly seconded by Director Ambrosio, and by majority vote, approved the Minutes of May 18, June 20 and July 18, 2013.

TREASURER'S REPORT

Jeff Irvin presented the Treasurer's Report. The Board upon motion of Director Ambrosio, duly seconded by Director Krapf, and by majority vote, approved the Treasurer's Report.

PUBLIC COMMENT

There was no public comment.

ADVISORY COMMITTEE REPORT

Vicki Pickett, Arvada PD, presented the Advisory Committee Report.

- Mark Hall, Ready Op demonstrated their internal software notification product which would be used in addition to CodeRED and has the ability to conference call, push to talk and VOIP functionality. It could be an internal and organizational piece and is a useful tool for tracking of National Incident Management System (NIMS) personnel assignments.
- The Committee had the monthly GeoComm conference call and they reported that there is no process in place to do quality assurance on opt-in records. They will follow up with CodeRED regarding monthly export of records for validation by the JCECA GIS contractor.
- WEA (Wireless Emergency Alert) is pushing forward. Jeff is contacting the State representative, Jack Cobb and Vicki is developing a flow chart and thresholds for when it would be utilized. This program should be used for life threatening events only. Jeff and Vicki both think anyone using the WEA alert will need to take the FEMA online certification to operate the system properly.
- There was a discussion regarding the process for approval of CodeRED pending records. A telephone phone number (TN) may only be associated with 1 address. An address may be associated with multiple TNs. CodeRED has been talking about an upgrade called CodeRED Next. Jeff mentioned that there has been a lot of improvement on the data set since the migration to CodeRED. Validation by GeoComm calls to the "Atlantis" numbers from the previous op-in data really cleaned up the records.
- CodeRED has been asked to conduct a WebEx seminar to explain how system performance statistics are calculated and reported.
- Text to 911 is coming and the big 4 cellular companies are currently sending a bounce back that notifies message that notifies someone attempting to text 9-1-1 that this currently is not possible. There is a webinar available from APCO that discussed the state of technology for text to 9-1-1. The committee will discuss in study sessions. We want to be proactive prior to mandate but may want to consider another approach such as the hearing impaired community is using, or wait for the technology to mature.
- Discussed proposal for Golden and Jeffco to share a CAD system housed in Jeffco.
- Arvada Fire did a construction project which allowed them to use Arvada PD as backup to practice live.
- CodeRED was used to send notification for a Jeffco SWAT message. Some addresses were intentionally excluded from the notification. It was later determined that because mobile users were included in the notification a link to the recorded message was displayed on the CodeRED web widget used by agencies on their websites.

EXPENDITURE REQUESTS

Jeff presented the agency expenditure requests for amounts of \$10,000 or less. Monte Heffner, Broomfield PD explained his unbudgeted request of approximately \$240,000 for backup center equipment, computers and data switches. Included was a custom

table to house CAD and radio equipment for a back-up communications center in the detentions center. Completion of the project will likely extend into 2014. A long discussion ensued, with the Board stressing the need for a shift to a regionalization center, a discussion of furniture purchasing and whether there were other sources of funding. The Board asked some of the other agencies if they were interested in using the facility Broomfield is creating for their backup center. They suggested using monies this year to cover all the expenses for this expenditure. The Board upon motion of Director Krapf, duly seconded by Director Ambrosio, and by majority vote, approved the expenditure items under \$10,000 in the amount of \$48,102.57.

Jeff then presented the major expenditure requests over the \$10,000 amount. Monte Heffner brought forward a request for new logging equipment, NICE, because their old equipment is old and not working properly. The Board agreed to appropriate the money if the new equipment came in before the end of the year. Nelson Martinez and Karin Marquez, Westminster, presented details for a non budgeted request of \$313,000 for 8 Avtec Consoles. Discussion ensued about radio equipment and whether the Board should assign a set number per console or if a participation percentage would work better to figure out how to fairly distribute money for radio consoles and equipment. The radio and logging equipment subcommittee has been making great progress in their meetings to come up with an overall 5 year technology roadmap plan. The Board wants to make decisions in a consistent and informed way and asked if they could table this request for a month in order to discuss it fully at the retreat. The Board upon motion of Director Krapf, duly seconded by Director Rush, and by majority vote, approved the expenditure requests for items over \$10,000.00 in the amount of \$298,049.62 and allowed Westminster to start their project with \$70,000 from the AOF funds and tabled their other request for the retreat.

EXECUTIVE DIRECTOR'S REPORT

Jeff presented the Executive Director's Report.

- At Jeff's request Mission Critical will submit a final corrected report on the Regionalization Study and will conduct a formal presentation for the full Board and stakeholders. It was decided to have the presentation on September 4th at 2:00 p.m. with the location to be announced.
- The Board Meeting and Retreat will be scheduled for September 17, 2013 at the Evergreen Fire Training Facility and will go from 9:00-3:00.
- August 22, 2013, is the next meeting for radio logging subcommittee and Steve Kabelis will be hosting and they will try to decide the number of consoles and a wish list of program funding, fund balance and future needs.
- The GIS subcommittee will meet August 20th via WebEx session to discuss the continued use of Pictometry, using the DRCOG orthogonal imagery in the years Pictometry is not flown and use of the GeoLynx server and the regional map.
- The fiber project had a Gold Line conference call with RTD on August 14th. RTD's contractor is preparing a cost estimate.
- Still waiting to see how discussions go on the North Metro fiber swapping project.
- Gold Line last mile getting to the PSAP's. Arvada has some ideas of connectivity and Westminster may also have connectivity to this line through a rail station or possible CDOT fiber connection on Sheridan.

Dennis Tharp gave a PUC update. He discussed the change from a Request for Proposal (RFP) to a Request for Information with regard to provisioning for NG9-1-1 Services for the state of Colorado. The PUC opened a docket with regard to these matters. On 7/31/13 the PUC issued a decision permanently suspending the effective date of the Century Link NG911 Tariff that had been submitted to the PUC earlier this year. The PUC has entered into an investigatory phase to gather information regarding how NexGen will look for Colorado in the future.

ADJOURNMENT

The Board upon motion of Director Ambrosio, duly seconded by Director Krapf, and by majority vote, adjourned the meeting.

NOTICE OF MEETING

FOR THE JEFFERSON COUNTY EMERGENCY COMMUNICATIONS AUTHORITY

**SEPTEMBER 17, 2013 AT 9:00 A.M.
RETREAT AND BUSINESS MEETING
EVERGREEN FIRE TRAINING FACILITY
1802 BERGEN PARKWAY, EVERGREEN CO 80439**

1. Call to Order
2. Public Comment
3. Approval of August 15, 2013 Minutes
4. Treasurer's Report
5. Advisory Committee Report
6. Expenditure Requests
7. Executive Director Report
8. New Business
8. Adjournment

Attached are two files:

- 1) The MCP Regionalization Study Final Report
- 2) A .pdf file containing the Power Point Presentation used by MCP during this meeting.

At the conclusion of the presentation there was a question and answer period in which several persons present participated. There was no action by the Board of Directors during this meeting.

By: 

Jeffrey J. Irvin, JCECA Executive Director



**Jefferson County Emergency Communications Authority
911 Regionalization Study**

Submitted August 2013 to:

Jefferson County Emergency Communications Authority



MissionCriticalPartners

502 N. Carroll Avenue, Suite 120 | Southlake, TX 76092 | 888.8.MCP.911 or 888.862.7911 | www.MCP911.com



TABLE OF CONTENTS

1. Executive Summary	1
2. Methodology	3
3. Background.....	3
3.1 State Governance Structure.....	3
3.1.1 Public Utilities Commission (PUC)	4
3.1.2 PUC 9-1-1 Task Force.....	4
3.1.3 Colorado 9-1-1 Resource Center	4
3.1.4 9-1-1 Emergency Authority Boards	4
3.2 Jefferson County Emergency Communications Authority	6
3.2.1 Agencies Participating in the Assessment.....	8
4. Findings and Conclusions.....	9
4.1 Participating Agency Data.....	9
4.2 Memorandum of Understandings and Intergovernmental Agreements.....	10
4.3 Colorado PUC Mandated Standards.....	12
4.4 Stakeholder Observations.....	12
4.5 Operational Findings	13
4.5.1 Certifications	13
4.5.2 Staffing.....	13
4.5.3 Call Handling Methods.....	14
4.5.4 Standard Operating Procedures (SOPs)	15
4.5.5 Hiring	15
4.5.6 Telecommunicator Training	15
4.5.7 Quality Assurance/Quality Control (QA/QC).....	16
4.5.8 Performance Measurements.....	16
4.5.9 Call Loads	16
4.5.10 Call Routing.....	16
4.5.11 Technology	17
5. Regionalization – Models.....	22
5.1 Co-location	23
5.2 Regionalization – Virtual Technology.....	24
5.3 Regionalization – Physical	24
6. Phased Options	25
6.1 Option 1 – Golden Dispatch to Join JCSO	25
6.2 Option 2 – Wheat Ridge to Join Lakewood.....	27
6.3 Option 3 – Mountain Fire Agencies Dispatched by Evergreen	28
6.4 Other Options Considered	29



6.4.1	Golden and Wheat Ridge Join Together	29
6.4.2	Option – Golden Fire Dispatched by WMFR	29
7.	Recommendations	30
7.1	Options	30
7.2	Regionalization	30
7.3	Call Handling Facility.....	30
7.4	Re-allocation of Current Workstations.....	31
7.5	Dispatch Centers	32
7.6	CAD System	32
7.7	Logging/Recording System	32
7.8	EMD	33
7.9	CPE Solution	33
7.10	RMS	34
7.11	Governance.....	34
7.11.1	Regional Operations Board.....	35
7.11.2	Executive Director	36
7.11.3	Call Handling and Dispatch Center Directors	36
7.11.4	Managers, Supervisors and Telecommunicators.....	36
7.11.5	Staffing Levels – Recommended Organization.....	36
7.11.6	Staff	37
7.12	Funding	38
7.13	Summary	39
8.	Appendix A.....	39
8.1	Arvada Police Department	39
8.1.1	Overview	39
8.1.2	Operations	39
8.1.3	Call Loads	43
8.1.4	Call Routing.....	43
8.1.5	Technology	44
8.1.6	Continuity of Operations Plan (COOP).....	45
8.1.7	Redundancy and Resiliency	45
8.2	Golden Police Department	45
8.2.1	Overview	45
8.2.2	Operations	45
8.2.3	Call Loads	50
8.2.4	Call Routing.....	51
8.2.5	Technology	51
8.2.6	Continuity of Operations Plan (COOP).....	53
8.2.7	Redundancy and Resiliency	53



8.3	Jefferson County Sheriff's Office (JCSO)	53
8.3.1	Overview	53
8.3.2	Operations	54
8.3.3	Call Loads	57
8.3.4	Call Routing.....	57
8.3.5	Technology	57
8.3.6	Continuity of Operations Plan (COOP).....	59
8.3.7	Redundancy and Resiliency	59
8.4	Lakewood Police Department	59
8.4.1	Overview	59
8.4.2	Operations	59
8.4.3	Call Loads	63
8.4.4	Call Routing.....	64
8.4.5	Technology	64
8.4.6	Continuity of Operations Plan (COOP).....	66
8.4.7	Redundancy and Resiliency	66
8.5	Arvada Fire Protection District (AFPD)	67
8.5.1	Overview	67
8.5.2	Operations	67
8.5.3	Call Loads	70
8.5.4	Call Routing.....	71
8.5.5	Technology	71
8.5.6	Continuity of Operations Plan (COOP).....	73
8.5.7	Redundancy and Resiliency	73
8.6	West Metro Fire Rescue	74
8.6.1	Overview	74
8.6.2	Operations	74
8.6.3	Call Loads	77
8.6.4	Call Routing.....	77
8.6.5	Technology	78
8.6.6	Continuity of Operations Plan (COOP).....	80
8.6.7	Interoperability.....	80
8.6.8	Redundancy and Resiliency	80
8.7	Evergreen Fire and Rescue	80
8.7.1	Overview	80
8.7.2	Operations	81
8.7.3	Call Loads	83
8.7.4	Call Routing.....	83
8.7.5	Technology	83
8.7.6	Continuity of Operations Plan (COOP).....	84
8.7.7	Interoperability.....	85
8.7.8	Redundancy and Resiliency	85
8.8	Wheat Ridge Police Department	85
8.8.1	Overview	85



8.8.2	Call Loads.....	88
8.8.3	Call Routing.....	89
8.8.4	Technology	89
8.8.5	Continuity of Operations Plan	90
8.8.6	Interoperability.....	90
8.8.7	Redundancy and Resiliency	90

TABLE OF TABLES

Table 1 – Agencies Participating in the Assessment	8
Table 2 – PSAP Shifts	14
Table 3 – Trunk Assignments	17
Table 4 – CAD System Summary	20
Table 5 – Technology Summary.....	21
Table 6 – Co-location Advantages and Challenges	23
Table 7 – Regionalization – Virtual Advantages and Challenges	24
Table 8 – Regionalization – Physical Advantages and Challenges	25
Table 9 – Golden Joining with JCSO	26
Table 10 – Golden JCSO Combined Staffing	26
Table 11 – Wheat Ridge Joining with Lakewood	27
Table 12 – Wheat Ridge – Lakewood Combined Staffing.....	28
Table 13 – Mountain Fire Joining with Evergreen.....	28
Table 14 – Golden Joining with Wheat Ridge	29
Table 15 – Golden Fire joining with WMFR	29
Table 16 – Recommended Dispatch Centers	30
Table 17 – Re-Allocation of Current Workstations	32
Table 18 – Population Growth Based on US Census	37
Table 19 – Conceptual Organization Staffing Levels.....	37
Table 20 – Square Foot Estimates for Calltake Center	38
Table 21 – Estimated Calltake Center Renovation Cost.....	38
Table 22 – Arvada PD Communications Center Call Statistics.....	43
Table 23 – Golden PD Communications Center Call Statistics.....	50
Table 24 – JCSO Communications Center Call Statistics	57
Table 25 – Lakewood PD Communications Center Call Statistics	63
Table 26 – AFD Communications Center Call Statistics	71
Table 27 – WMFR Communications Center Call Statistics.....	77
Table 28 – EVFR Communications Center Call Statistics	83
Table 29 – Wheat Ridge PD Communications Center Call Statistics	88



TABLE OF FIGURES

Figure 1 – State of Colorado Governing Bodies	5
Figure 2 – Conceptual Architecture for Recommended Regional Layout.....	34
Figure 3 – Conceptual Organization Chart	35
Figure 4 – Golden Network Configuration.....	52
Figure 5 – Lakewood Network Configuration.....	65
Figure 6 – AFD Network Configuration	72
Figure 7 – WMFR Network Configuration	78



1. EXECUTIVE SUMMARY

Prior to any regionalization discussions it is beneficial to evaluate current operations and levels of effectiveness of the interested public safety entities. In preparation for determining effective partnerships, an assessment of individual agency's current capabilities is essential to understanding the synergies that may exist with other agencies.

Jefferson County Emergency Communications Authority (JCECA) contracted with Mission Critical Partners, Inc. (MCP) to conduct an assessment of five primary and three secondary communications centers that expressed an interest in studying E9-1-1/public safety answering point (PSAP) regionalization and consolidation options. The result of this assessment provides guidance and a roadmap for a more detailed planning and implementation phase, should JCECA choose to move forward with the recommendations. The concepts presented herein are based on industry best practices, standards and MCP's experience in public safety.

A number of methods were employed to garner an understanding of agency operations and gather information for providing an underlying foundation and understanding of the different emergency communications center services and functionality.

Each PSAP was provided a short questionnaire requesting information on call statistics, organizational structure, staffing, training, certifications, radio, CAD, logging, and similar communication center system functions and management.

A second level of information and data gathering was conducted by MCP in the form of personal interviews of Executive level personnel, PSAP management, communication staff, Chief and Deputy Chief level administration, radio system administrators, and closely related communication staff. These interviews were conducted by MCP during two different visits to Jefferson County. During each of these visits by MCP, interviews took place at each individual agency to document views and concerns, capture and refine statistical data and to understand the more subjective thoughts and issues generally associated with discussions surrounding consolidation. There were several key findings from these interviews.

- All stakeholders expressed a genuine desire to improve the level of service. They also support reviewing options that include consolidation.
- Stakeholders were not supportive of a single consolidated call taking and dispatch center wherein all disciplines (police, fire and emergency medical services [EMS]) are in the same building; stakeholders believe the level of service to the citizens would be reduced. Funding to build a new facility to house the center was a common concern.
- Agencies have taken steps forward toward interoperability by implementing similar technologies, such as the NICE logging and voice recording systems, and agency radio systems interoperate with the Colorado Digital Trunked Radio System (DTRS). Agencies also use shared 9-1-1 geo-diverse Cassidian Sentinel® Patriot® systems for call handling.
- In general, communications centers are adequately staffed to handle the number of emergency calls presented.



- JCECA is funding the implementation of a region-wide high-speed data network. This network will be available to interconnect shared systems to support a consolidated operation.

From interviews with stakeholders and analysis contained in this report MCP found operational issues that should be addressed.

Calls are often transferred from the primary PSAP to the secondary PSAP for dispatching or from the primary PSAP to another agency to provide Emergency Medical Dispatch. Any transfer of calls during an emergency involves inherent risk of losing a call or losing the momentum of the caller interrogation. A unified CAD system would allow incident information to be entered by the call taker and displayed at the appropriate dispatch center.

Telecommunicator retention rates varied significantly among agencies taking part in this assessment. Communication center employee turnover rates ranged from near zero to above the national average of 19 percent (81 percent retention rate). The 2007 APCO Next Gen Project “Responsive Effort To Address Integral Needs in Staffing (RETAINS)” cites supportive supervision as the most important indicator in predicting employee commitment to the organization. An employee’s perception that their work is appreciated by the public is another significant retention indicator.

Agencies should review their exit interview process to assure it appropriately assesses the reason why communication center personnel choose to resign. This analysis will help ensure that staffing needs are accounted for in the future.

Agencies often had significantly different approaches to measuring and assessing quality control and quality assurance (QA). Agency QA goals and performance measurements are critical to the performance of public safety communication centers, but may be geared specifically to the goals and mission of the agency. A unified QA process would be beneficial to analyze communication center processes from a regional perspective.

MCP’s recommendation is to create an organization responsible for call taking and dispatch. Staff for this organization comes from the existing agencies and is managed as a unit. This organization is charged with addressing the hiring, QA/QC and performance issues. Consolidation of the call handling function into a single dedicated call handling center and dispatch into four centers based on geography and first responder environment are also part of the recommendation. These actions reduce call handling time by eliminating all but the few transfers required to handle special cases, such as in-progress calls where the caller is viewing the offense or incident unfolding. Callers only talk to one person who captures all pertinent information and initiates sending aid to the caller. A recommendation to implement CAD, logging and records management systems shared by all centers reduces workload by eliminating duplicate CAD entries and streamlining other database functions.

Several phased options are provided. These options may be exercised independently of one another or they can be done as standalone opportunities. Phase options can be used to address immediate needs while providing transitional steps on the path to regionalization.



These changes are not without challenges, but the advantages outweigh the challenges.

If JCECA elects to implement the recommendations, a more detailed planning and implementation phase should be initiated.

2. METHODOLOGY

Face-to-face meetings were held, with all participating agencies to gain a comprehensive overview of their respective communications center and associated activity. The initial meetings were conducted the week of February 25–March 1, 2013. These meetings were used to gather the agencies' perspectives and background on staffing, operations, equipment, processes, training, and other aspects of the communication centers. This allowed MCP to obtain and clarify additional information to provide recommendations and options for consolidating or regionalization.

A second series of face-to-face meetings took place April 10–16, 2013. These meetings were to gain clarifications on the information gathered and to spend time with communications center staff to solidify our understanding of their procedures, daily duties and responsibilities.

Bi-weekly conference calls were held to provide information on the progress of the Jefferson County Regionalization Study, answer any questions and allow feedback from participating entities.

3. BACKGROUND

The State of Colorado is a “home rule” state, wherein all decisions related to the implementation and funding of 9-1-1 services are managed at a local level. Colorado has 98 cities and towns that are designated home rule municipalities. Home rule is intended to prevent the state legislature from interfering in the regulation of local matters. In short, home rule gives a city or town the right to draft and amend its own charter and to regulate its own local issues, and to be largely self-governing.

3.1 STATE GOVERNANCE STRUCTURE

The following sections provide a brief description of the 9-1-1 governing bodies in the state of Colorado.



3.1.1 Public Utilities Commission (PUC)

The Colorado PUC regulates utilities and facilities so the people of Colorado receive safe, reliable, and reasonably-priced services. The Telecommunications Section of the PUC is the primary regulatory body and is responsible for the oversight of the 9-1-1 network.¹

3.1.2 PUC 9-1-1 Task Force

The purpose of the 9-1-1 Advisory Task Force (Task Force) is to research and report on subjects related to implementation of 9-1-1 services, database formatting standards, automatic location identification (ALI) data transfer and related issues to assist the PUC in developing rules for emergency reporting services throughout the state of Colorado.²

3.1.3 Colorado 9-1-1 Resource Center

The Colorado 9-1-1 Resource Center (Resource Center) exists to support those 9-1-1 professionals keeping the public and public safety responders of Colorado safe. It does this by creating a statewide information database and clearinghouse where 9-1-1 professionals can learn about current issues, how other authorities and PSAPs do business, see sample policies and organizational documents, and make their voices heard.”³

3.1.4 9-1-1 Emergency Authority Boards

Colorado Revised Statutes (C.R.S.), Title 29, Article 11, as amended, provides local governmental entities the ability to enter into agreements to provide Emergency Telephone Service. An Emergency Authority Board (Authority) is typically an independent body formed by an intergovernmental agreement (IGA) between counties, cities, towns and fire districts within a respective county.

¹ <http://cdn.colorado.gov/cs/Satellite/DORA-PUC/CBON/DORA/1251632683208>

² <http://cdn.colorado.gov/cs/Satellite/DORA-PUC/CBON/DORA/1251633041697>

³ <https://sites.google.com/site/co911rc/home/purpose>



Figure 1 below depicts the current governing bodies of Colorado 9-1-1.

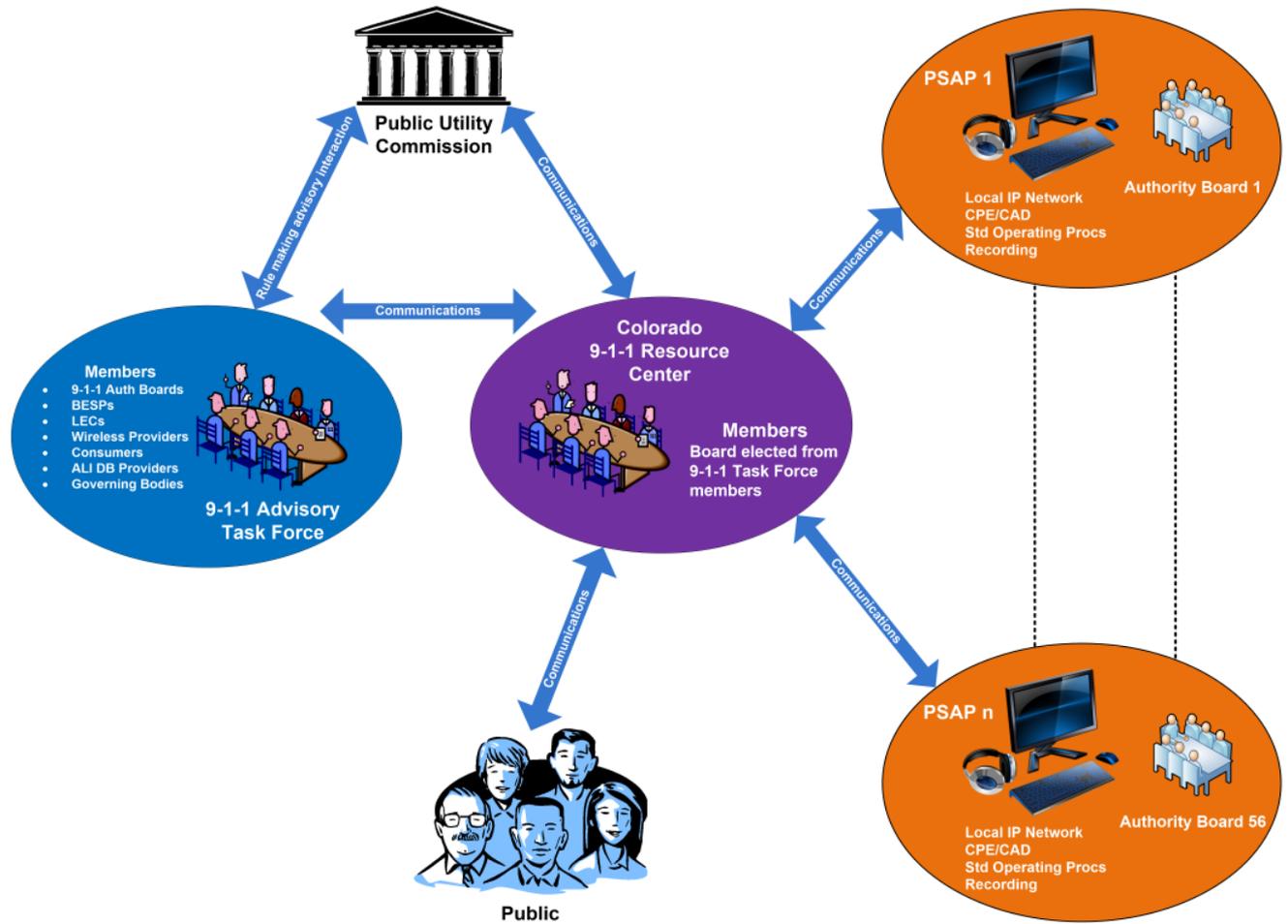


Figure 1 – State of Colorado Governing Bodies



3.2 JEFFERSON COUNTY EMERGENCY COMMUNICATIONS AUTHORITY⁴

On October 28, 1983, 28 local governments entered into an IGA to form the Jefferson County Emergency Telephone Service Authority (JCETSA):

1. County of Jefferson
2. City of Arvada
3. City of Broomfield
4. City of Edgewater
5. City of Golden
6. Town of Lakeside
7. City of Lakewood
8. Town of Morrison
9. Town of Mountain View
10. City of Westminster
11. City of Wheat Ridge
12. Arvada Fire Protection District (FPD)
13. Bancroft Fire Department (later merged into the West Metro FPD)
14. Coal Creek Canyon Fire Protection District
15. Elk Creek Fire Protection District
16. Evergreen Fire Protection District
17. Fairmount Fire Protection District
18. Genesee Fire Protection District
19. Inter-Canyon Fire Protection District
20. Idledale Fire Protection District (later merged into the Genesee FPD)
21. Indian Hills Fire Protection District
22. Littleton Fire Protection District
23. Lakewood Fire Protection District (later merged into the West Metro FPD)
24. Lookout Mountain Fire Protection District (later merged into the Foothills FPD)
25. Mt. Vernon Fire Protection District (later merged into the Foothills FPD)
26. Pleasant View Metro District Fire Department
27. West Adams Fire Protection District (later merged into the North Metro Fire Rescue District)
28. Wheat Ridge Fire Protection District

Subsequent amendments to the IGA provided a mechanism whereby the signatory local governments may submit a list of nominees to the Jefferson County Board of County Commissioners (BCC) for the appointment of five Board of Directors positions. One Director is appointed by the BCC as its representative. This has traditionally been the Jefferson County Emergency Manager.

⁴ JCECA website



The JCECA Executive Director oversees the day-to-day business operations of the Authority and meets monthly with an Advisory Committee. The Executive Director collaborates with the Advisory Committee to work through operational matters, review recommendations regarding expenditure requests, and together present outcomes to the Board.

Telephone subscribers with billing addresses in Jefferson or Broomfield counties remit a \$0.52 Emergency Telephone Charge (ETC) per month for each wireline, wireless and static VoIP line. Prepaid wireless telephone service providers remit ETCs via a charge at the point of sale; these funds are collected by the Colorado Department of Revenue and a percentage is remitted to JCECA based on the percentage of 9-1-1 call traffic experienced by the JCECA PSAPs.

JCECA provides funding for ten primary and secondary PSAPs located in Jefferson and Broomfield counties, which includes:

- Arvada Police Department (PD)
- Broomfield PD
- Golden PD
- Jefferson County Sheriff's Office (JCSO)
- Lakewood PD
- Westminster PD
- Wheat Ridge PD
- Arvada Fire Protection District (FPD)
- Evergreen FPD
- West Metro FPD

C.R.S 29-11-104 sets forth the purposes for which the ETC funds collected may be spent. This includes, but is not limited to:

- Purchase, installation and maintenance of systems for the receipt and routing of emergency calls.
- Monthly recurring charges of service suppliers and basic emergency service providers (BESPs) for the emergency telephone service.
- Costs related to the provision of the emergency notification service and the emergency telephone service, including costs associated with total implementation of both services by emergency service providers, including costs for programming, radios, and emergency training programs.
- Other costs directly related to the continued operation of the emergency telephone service and the emergency notification service.
- Emergency medical dispatch (EMD) systems and training.
- Personnel expenses necessarily incurred for a PSAP, but limited to call takers, dispatchers and personnel who maintain the computer database of the PSAP.



3.2.1 Agencies Participating in the Assessment

The agencies participating in this regionalization assessment are shown in Table 1. These agencies participated with this assessment to study options for improving service, exploring regionalization options, positioning for Next Generation 9-1-1 (NG9-1-1) and/or explore cost savings.

Table 1 – Agencies Participating in the Assessment

Primary PSAPs		
Arvada PD	Pickett	Communications Manager
	Johnson	Deputy Chief
Golden PD	Sorrentino	Communications Manager
	Hollingsworth	Captain, Support Services
	Kilpatrick	Chief
Jefferson County SO	Culverhouse	Communication Unit Manager
	Hunter	Director of Informational Services
	Pocsik	Support Services Division Chief
Lakewood PD	Malpass	Communications Manager
	Rose	Communications Supervisor
	McCasky	Division Chief, Support Services Division
Wheat Ridge PD	Stodden	Communications Manager
	Cassa	Division Chief, Support Services Division
	Brennan	Chief
Secondary PSAPs		
Arvada Fire Protection District (AFPD)	Sliemers	Communications Supervisor
	Ambrosio	Support Services Director
Evergreen Fire Rescue (EVFR)	McCormick	Communications Supervisor
	Weege	Chief
West Metro Fire Rescue (WMFR)	Kretzel	Assistant Communications Manager
	Murphy	Communication Division Chief
	Krapf	Deputy Chief of Administration
Other contacts:		
JCECA Staff (JCECA)	Irvin	Executive Director



4. FINDINGS AND CONCLUSIONS

4.1 PARTICIPATING AGENCY DATA

From the questionnaire and the face-to-face discussions held with stakeholders, data was collected for each participating agency, including:

- **Certifications**
Staff is reviewed to determine the level of industry certifications held (e.g., Association of Public-Safety Communications Officials-International [APCO], National Emergency Number Association [NENA], National Incident Management System [NIMS], and Emergency Medical Dispatch [EMD]). This information is used to determine the current state as related to best practices. This baseline is then used to establish the norm within the participating agencies and to support the resulting recommendation.
- **Staffing**
Staffing levels are compared to industry requirements and best practices. They are also used to establish relative cost in lieu of a detailed fiscal review. Positions are documented and mapped to any new organization recommended.
- **Call Handling Methods**
The manner in which calls are handled is utilized for identifying efficiencies and common practices that could be used in a regional environment, should they be effective and appropriate.
- **Standard Operating Procedures (SOPs)**
SOPs provide consistency and uniformity in the handling of 9-1-1 and other emergency calls for level of service, answering protocol, dispatching protocol and interoperability practices. The level of SOP detail and the variance of protocols between the agencies are used to determine how the SOPs can be integrated in a regional environment.
- **Hiring Processes**
The process of identifying potential candidates including recruiting and tools (e.g. CritiCall®, typing proficiency, psychological examination) used to evaluate potential telecommunicators for employment has a direct relationship to overall success and staff retention.
- **Telecommunicator Training**
Training programs were assessed to determine conformance to industry standard processes and best practices (e.g., APCO, National Academies of Emergency Dispatch [NAED], and National Fire Protection Association [NFPA]). This baseline was used to establish the norm within the participating agencies and to support the resulting recommendations.



- **QA/QC/Performance Measurements**
The systematic monitoring of personnel to evaluate adherence to agency SOPs, delivery of service and productivity is critical to ensure that an agency is performing to expectation and providing the expected level of response to the community they serve. Information obtained via the QA process provides the necessary data for measuring telecommunicator performance.
- **Call Loads**
The volume of incoming 9-1-1, 10-digit emergency and non-emergency calls is the foundation for determining appropriate staffing levels and the most efficient PSAP configuration for potential regionalization.
- **Call Routing**
Each agency acts in the capacity of either a primary or secondary PSAP. Assessing the path for how 9-1-1 calls are received and disseminated prior to dispatch provides insight as to how regionalization may improve efficiencies.
- **Technology**
An assessment of the various technologies (e.g. CAD, customer premise equipment [CPE], radio, network infrastructure) in use by the agencies serves as the foundation for identifying commonalities that can provide future economies of scale if a regionalized PSAP model is pursued.

The data captured for each participating agency is included in Section 8 – Appendix A.

4.2 MEMORANDUM OF UNDERSTANDINGS AND INTERGOVERNMENTAL AGREEMENTS

Memorandum of Understandings (MOUs) and Intergovernmental Agreements (IGAs) listed in this section may be affected by regionalization or consolidation and should be reviewed in the planning and implementation phase.

Arvada PD, JCSO, Lakewood PD, WMFR, Westminster Police and Fire Dispatch and Wheat Ridge Police and Fire Dispatch are all participants of the MOU with the Jefferson County Combined Incident Dispatch Team (CIDT). The primary purpose of the CIDT is to lighten the strain placed on any one dispatch center during a large-scale incident.

Arvada PD has Collaboration Letters for the Mobile Command Post Vehicle with the Adams County Communications Center, AFD, JCSO, Lakewood, West Metro FPD, Westminster Police, Westminster Fire, and Wheat Ridge PD. There is also an IGA with Arvada FPD for storage and use of the Mobile Command Post Vehicle.

Arvada PD, Arvada FPD and Westminster PD have an MOU for the sharing of the geo-diverse 9-1-1 Cassidian Sentinel® Patriot® phone system. Half of the servers for this system are located at Arvada PD and the other half are located at Westminster PD,



An IGA exists between Arvada FPD, Arvada PD, Westminster PD, and Evergreen FPD for the shared Harris 800 megahertz (MHz) radio system.

Golden PD has an IGA with Jefferson County for the use and operation of an 800 MHz communications system. This IGA was updated in July 2012 to change from the then Jefferson County Communications Network System to the State of Colorado System.

The Golden PD Communications Center maintains interagency agreements for the purpose of guarding terminals for the Colorado Crime Information Computer (CCIC) and National Crime Information Center (NCIC) traffic as needed. Agencies included in the agreements are the City of Golden Municipal Courts, Jefferson County Sheriff Dispatch, DYC, Lookout Mountain Youth Services and the Colorado School of Mines Public Safety Department.

The City of Wheat Ridge has an IGA with the West Metro FPD for the shared use and operation of a P25 multi-channel 800 MHz radio communications system located on Mount Morrison. This IGA also allows the City of Wheat Ridge to utilize the City of Lakewood's Green Mountain P25 multi-channel 800 MHz radio site.

Wheat Ridge also has an IGA with the Wheat Ridge FPD for the use of their radio sites.

A Letter of Agreement (LOA) exists that allows the City of Lakewood the shared use of the Mount Morrison Radio site for public safety communications. This LOA will remain in effect until a new IGA is generated covering the shared use of Mount Morrison and Green Mountain by West Metro Fire, the City of Lakewood, the City of Wheat Ridge and Wheat Ridge Fire.

An MOU exists between the Jefferson County Emergency Communications Authority (JCECA), the City of Wheat Ridge, the City of Lakewood and the West Metro FPD for the purchase and shared use of NICE recording hardware and software for radio and telephone audio.

JCSO and the City of Lakewood have an IGA for participation in a Joint Training Academy.

The City of Golden and the Pleasant View Metropolitan District have an "Enhanced Mutual Aid Agreement" to provide Mutual Aid for the eastern portion of Golden and all of Pleasant View with the exception of the West Metro dual response areas.

The City of Lakewood has an MOU to establish the guidelines allowing the programming and use of radios belonging to the Colorado Department of Corrections, Division of Adult Parole Gang Unit with Lakewood Police Department-specified radio channels.



4.3 COLORADO PUC MANDATED STANDARDS

A high-level review of the C.R.S suggests the participating agencies are in compliance with statutes, including:

- C.R.S. 24-33.5-716 (2012) Interoperable communications among public safety radio systems
 - All agencies in this study have the ability to communicate on radio channels (e.g., Network First, Metro Net, and EMS MA) that are interconnected with other local, regional and statewide public safety entities.
- C.R.S. 29-11-101 (2012) Emergency Telephone Service
 - All PSAPs in Jefferson County have the equipment necessary to receive the call back number and the location of the caller dialing 9-1-1.
- C.R.S. 24-33.5-415.7 Amber alert program
 - The local law enforcement agencies in this study have processes and procedures to assist in the safe recovery of the abducted child.
- C.R.S. 29-5-103, 29-5-104, 29-5-106, 29-5-108, and 29-5-109 and authorized agreements in requesting and providing assistance regarding mutual aid.
 - An agreement is made by and between JCSO and the following parties for mutual aid:
 - Arvada FPD
 - Coal Creek FPD
 - City of Edgewater
 - Elk Creek FPD
 - Evergreen FPD
 - Fairmount FPD
 - Foothills FPD
 - Genesee FPD
 - City of Golden FD
 - Golden Gate FPD
 - Highland Rescue
 - Indian Hills Fire
 - Inter-Canyon Fire/Rescue
 - City of Lakeside FD
 - Littleton Fire Rescue
 - North Fork FPD
 - North Metro FPD
 - Pleasant View Metropolitan District
 - Rocky Mountain Fire Authority
 - West Metro FPD
 - City of Westminster FD
 - Wheat Ridge FPD

4.4 STAKEHOLDER OBSERVATIONS



MCP was tasked to research the operations of each PSAP and provide insight that will enable the JCECA to better evaluate a path forward to regional PSAP consolidation. The observations below were captured during stakeholder interviews.

- All agencies wish to improve the level of service to their citizens and were open to considering options for a regionalized consolidation path forward.
- Agencies were not supportive of a single consolidated call taking and dispatch center wherein all disciplines (police, fire and EMS) are in the same building. In probing this, it became clear there is a strong feeling that the level of service to the citizens would be reduced because dispatch SOPs are so varied based on the area served. For example, urban fire SOPs are drastically different than in the foothills.
- Funding for building a new facility to house a new center was a common concern.
- Several accomplishments in this service area have been put into action to support interoperability:
 - Implementing similar technologies such as the NICE logging and voice recording system
 - All agencies are interoperable with the Colorado Statewide DTRS
 - Agencies using shared 9-1-1 geo-diverse Cassidian Sentinel® Patriot® systems for call handling
 - CodeRED® system implemented for citizen notifications

4.5 OPERATIONAL FINDINGS

4.5.1 Certifications

All law enforcement PSAPs are Colorado Crime Information Center (CCIC) certified. All fire and EMS PSAPs are EMD-certified. All PSAP personnel should be properly trained and certified to ensure liability is minimized and adherence to Criminal Justice Information Services (CJIS) policies.

PSAPs within the state of Colorado are considering certifications for telecommunicators and standardized training.

4.5.2 Staffing

Wheat Ridge PD and Golden PD communications centers have shifts with only one telecommunicator on duty. JCSO Communications Center, Wheat Ridge PD and Golden PD do not have supervisory staff on all shifts.

A staffing model involving a single on-duty telecommunicator incorporates inherent risk in the ability to provide the expected level of service to customers. Exposure to liability is high when a PSAP is chronically understaffed. If one telecommunicator is busy providing information to law enforcement or handling an evolving situation on a 9-1-1 call, there should be a second telecommunicator to continue operations in the center. Ideally, one of the on-duty telecommunicators should be a lead or supervisor. Having less than one telecommunicator on duty is also a potential first-responder safety issue.



The table below provides a count of current staff per participating agency. In calculating FTEs part-time and temporary staff are counted as .5 FTE. This method yields at total of 162.5 FTEs.

Table 2 – PSAP Shifts

PSAPS	Manager	Supervisor/Lead	TC	Other (FTE)	Shift
Arvada PD	1	4	18		10 hr. staggered
Golden PD	1		10		8 and 10 hr.
JCSO	1	5	26	3 PBX	8 hr.
Lakewood PD	1	6	30	3 over-hires 1 Temp PT	10 hr.
Arvada FD	2	4	4	4 PT	12 hr.
WMFR	1	4	12		12 hr.
Wheat Ridge	1	1	9	0.5 PT	10 hr. staggered
Evergreen FRD		1	7	2 PT	12 hr.
Total	8	25	116	13.5	

TC = Telecommunicators.

Other = Administration line, PBX operators and other part time staff

Golden FD dispatched by Golden PD

Mountain Fire dispatched by JCSO, with the exception of Evergreen

4.5.3 Call Handling Methods

All law enforcement agencies in this study are primary PSAPs and all fire and EMS agencies in this study are secondary PSAPs. Most of the primary PSAPs transfer Fire and EMS related calls to the secondary PSAPs. JCSO handles fire and EMS related calls for mountain fire districts other than Evergreen. JCSO provides EMD on all medical related calls, unless it is out of their jurisdiction. Agencies varied from offering full EMD pre-arrival instructions (PAIs) to transferring EMD calls to a secondary or for profit provider to provide EMD PAIs.



4.5.4 Standard Operating Procedures (SOPs)

Every agency has SOPs; however, not all agencies had a specific set of SOPs for their communications center. Since SOPs are an integral part of training, quality control and performance metrics for each agency, each communications center should have a clear and concise set of SOPs specific to their communication center operations and processes.

4.5.5 Hiring

CritiCall® and National Dispatcher tests are most often used as hiring tools by the agencies in this study.

Proper hiring standards and testing, communications staff being involved in the hiring interviews and disclosure of realistic job duties will assist in recruiting and retaining quality telecommunicators.

4.5.6 Telecommunicator Training

New hire telecommunicator training varied significantly between the agencies and appeared to align with national standards. Several agencies were in the process of re-evaluating their existing training programs.

Each agency was found to follow a standardized training protocol, whether it was APCO, NAED, or a modified San Jose or Kaminsky method. All but one agency conducts some type of academy training. The academies are conducted in a classroom setting, away from the communications floor in an effort to teach the basics prior to exposing the new hire to the live environment.

Following the academy, on-the-job training is employed to ensure the new hire has a chance to first observe with a trainer as the trainer performs the daily duties. Slowly, the trainer will allow the new hire to take over these duties with the trainer closely monitoring. Once the new hire is showing effective levels of competency in areas, they will take on more duties. During the last phase of training, the trainer will move away from the new hire and monitor from another room to allow the new hire the freedom to work on their own. This is typically called a “ghost phase.”

During the training period, Daily Observation Reports (DORs) are filled out by the trainer and reviewed daily with the new hire for determining what was done well and what improvements are still needed, as well as progress through the training program.

An effective training program follows best practices for PSAPs of similar size with similar functions. Measuring the results of the training programs will provide the empirical data which can be used for evaluating effectiveness and setting benchmarks. Setting benchmarks based upon empirical data can assist the PSAPs in reducing both attrition and washout rates. Testing should also be used in conjunction with the on-the-job training to ensure mastery of concepts and standard operating procedures.



4.5.7 Quality Assurance/Quality Control (QA/QC)

QA/QC procedures are not used consistently within the PSAPs in this study. Although the PSAPs agree the process is necessary, it should be deemed as mandatory. QA is utilized to ensure personnel have a clear understanding of their responsibilities and job functions as spelled out in departmental SOPs. QA/QC is not meant to be punitive, but rather a check and balance for ensuring policy is followed. Personnel should understand the QA/QC process is to not only ensure guidelines are followed, but protect them legally if any actions are taken against the center or the telecommunicator individually.

The QA/QC process is being used both randomly and with targeted call types across the PSAPs. The process can be used to pull random calls (x number per personnel) or for a targeted group of call types, (typically emergency or in progress calls). One agency uses the Open Records request as a basis for selecting calls to QA/QC.

Although reduced staffing can place strains on the QA/QC process, this process should be deemed mandatory. The need for the QA/QC process is more acute when staffing levels are low and personnel are working long hours.

4.5.8 Performance Measurements

Performance measures are inconsistent across agencies. Most agencies did not have clearly defined measurements for their communications center. Without clearly defined performance measures, the communications staff is unable to achieve common established goals. The department itself is unable to gauge its performance on a monthly, quarterly or annual basis.

4.5.9 Call Loads

A review of the reported 9-1-1 calls from the agencies and a review of the 9-1-1 calls coming across the tandems indicated calls loads are manageable with no indication of above normal levels of abandoned calls or excessive alternate routing.

4.5.10 Call Routing

The agencies in the study have 9-1-1 trunk groups from the Broomfield tandem and the Capitol Hill tandem. The tandems are the systems which allow 9-1-1 calls to be directed to the proper PSAP. The 9-1-1 trunks are the circuits that connect the tandem to the PSAP. A single trunk group can carry many individual 9-1-1 calls.

If an agency must evacuate their communications center, they press a “Make Busy” switch. The switch routes all incoming 9-1-1 calls to a pre-defined PSAP. Discrepancies exist between CenturyLink and the agencies information of the “Make Busy” switch for West Metro FPD and Wheat Ridge PD. MCP recommends an audit be performed to determine the actual “Make Busy” redirect agency for all agencies listed in Table 3.



Table 3 – Trunk Assignments

Agency	9-1-1 Trunk from Broomfield Tandem	9-1-1 Trunk from Denver Tandem	Make Busy Switch Redirect Agency
Westminster PD	6	5	Arvada PD
Arvada PD	4	4	Westminster PD
Arvada FPD	2	2	Arvada PD
Evergreen FPD	2	2	JCSO
JCSO	6	6	Lakewood PD
Golden PD	3	3	JCSO
Lakewood PD	4	4	JCSO with option for sending to Lakewood Backup Center
West Metro FPD	3	3	JCSO
Wheat Ridge PD	4	4	Arvada PD

4.5.11 Technology

4.5.11.1 911 Trunks

A 9-1-1 trunk group connects the PSAP to the tandem office. Each agency has diverse 9-1-1 trunking from both the Denver and the Broomfield tandems.

Each trunk group has a grade of service (GoS) associated with it. The GoS calculates a probability of a call being blocked or delayed for an unreasonable amount of time. In 9-1-1, the acceptable GoS is p.01, which indicates that one percent of calls will be blocked during the busy hour at the PSAP. The Lakewood transfer trunk groups, the Lakewood backup trunk groups, the West Metro trunk groups and the Wheat Ridge PD trunk groups may not have a p.01 GoS, given the configurations provided by CenturyLink. All other trunk groups have a p.01 GoS.

Discrepancies exist between the number of trunk groups provided by CenturyLink and the numbers provided by the agencies into Lakewood PD and West Metro FPD. The configuration of Lakewood PD transfer trunks, trunking to the Lakewood backup facility and the trunking configuration to West Metro FPD are also in discrepancy.

MCP recommends a trunk audit be performed to determine the actual trunking and configurations into these facilities.

4.5.11.2 Network

In an effort to improve communications, information sharing and interoperability, JCECA is funding the implementation of a region-wide high-speed data network (J-FON) based on fiber and microwave



technologies. Public safety entities—including the PSAPs in this assessment—are connected to the network. This network is being built out to interconnect shared systems and fully support a consolidated operation. Arvada PD, Arvada FD, Evergreen Fire and Westminster PD are currently connected and are sharing the Cassidian call taking system. Other PSAPs will be connected, but not operational, by the end of 2013. The J-FON network will be completed by 2016.

The J-FON Committee consists of representatives from local government in both Jefferson and Broomfield Counties; and is responsible for the direction and configuration of the network build out. The J-FON project of running fiber along the Rapid Transit Denver routes and building out microwave sites has been very successful to date.

4.5.11.3 Radio

Evergreen FPD, Golden PD and JCSO utilize Motorola as the primary radio vendor.

Arvada PD, Arvada FPD, Lakewood PD and Wheat Ridge FPD and West Metro FPD use the Harris system, along with Red Rocks Community College and the Department of Energy's National Renewable Energy Laboratory. The Denver Metropolitan area, inclusive of the Denver International Airport, also utilizes the Harris system.

These agencies all have varying levels of interoperability among themselves and share some common talk groups with the state's DTR system users. The DTRS system currently only supports wireless voice communication based on the P25 Phase 1 suite of open standards.

Colorado's DTRS is built upon APCO Project 25 (P25) open standards digital radio technology, operating in the 700/800 MHz band. The DTRS currently consists of 216 active radio repeater sites with over 1,000 agencies operating on four zone controllers. The zone controllers are located in Denver, Grand Junction, Fort Collins, and Colorado Spring. The DTRS allows subscriber radios from different vendors to interoperate on the network. It should be noted that the levels of interoperability exist for any P25 subscriber radio from any vendor, as long as the subscriber radio has a talk group programmed in and the correct current information for the talk group. This interoperability exists only between third party subscriber radios and does not extend to third party consoles.

The challenge with trunked radio systems from different vendors is the integration of different radio consoles. Currently Harris dispatch consoles are not able to support talk groups from Motorola trunked networks. Conversely Motorola dispatch consoles are not able to support talk groups from Harris trunked networks. This lack of support exists even with the current P25 systems, as there are not yet adopted standards to permit system integration between Harris and Motorola consoles.

P25 permits 3rd party subscribers (portables and mobiles) to access P25 systems manufactured by other vendors. P25 allows Motorola and Harris radios the ability to access either Motorola or Harris P25 systems. However, each system only provides coverage over a certain geographic area, making both systems necessary. Even if coverage does exist there will be designated talk groups for each of the



systems not available to the other system. Those talk groups will need to be integrated on a dispatch console in order for a single dispatcher to effectively dispatch users on both radio systems. There are some non-ideal solutions to address this scenario.

Both Motorola MCC7500 and Harris C3 Maestro consoles can be installed at each dispatcher position, permitting dispatcher access to both systems. This solution will require extensive training for dispatchers to be able to switch between the different console systems. Even with both systems installed, the patching features will not be available between talk groups appearing on different consoles. With two consoles, one could listen to the talk groups on both systems at the same time. However, there are considerable operational considerations such as watching two screens, knowing which console to use when a call comes in, and losing functionality provided by having all channels on the same console. Extensive training of dispatchers to switch between the two systems and to be comfortable using two different system interfaces makes this solution operationally dangerous. The cost-per-position for two dispatch consoles at each position also makes this option economically unfeasible.

A second option is to use a control station interface for talk groups from one of the two vendors. This could permit Harris talk groups to be integrated on a Motorola console. However, this integration will require a separate mobile radio for each talk group that will be monitored on the console. For systems with many channels, the additional cost for control station radios may be unreasonable. Control stations must also be located in relative proximity to the radio sites. If the radio units are outside the coverage footprint control stations may not be acceptable. Further, channels integrated with a control station interface will lack pertinent call information such as unit IDs, messaging status and similar features. Control station interfaced channels will be strictly limited to audio. These limitations render this solution operationally unfeasible for emergency communications.

4.5.11.4 Computer Aided Dispatch (CAD) Systems

Lakewood PD and Arvada PD both use Intergraph CAD; Evergreen FPD and Wheat Ridge PD use Logistic Systems. The other agencies are on different CAD systems. Golden PD's IBM SunGard HTE CAD system has reached end-of-life; the operating system is no longer supported by IBM.

While the individual agency CAD systems support their call taking and dispatch needs. Different CAD systems do not allow seamless interoperability between other CAD systems.



Table 4 – CAD System Summary

Agency	CAD
Lakewood PD	Intergraph
Arvada PD	Intergraph
Wheat Ridge PD	Logistic Systems
Evergreen FPD	Logistic Systems
Golden PD	IBM Sungard HTE
JCSO	Tiburon CAD
West Metro FR	TriTech VisiCAD
Arvada FPD	Zoll CommCAD

4.5.11.5 Recording/Logging Systems

All agencies, with the exception of Evergreen FPD in this study use NICE logging and voice recording systems. This system allows multi-site recording and playback capabilities of all radio and telephone traffic. Evergreen FPD uses the Stencil recording platform.

The NICE systems operate effectively for all agencies; however, there were some comments on the lack of tools available for being able to select recordings based on certain criteria for QA tasks.

Agencies should contact their vendor of record to ensure that the NICE system is being utilized to its fullest capability and that all purchased modules are working as designed. The agencies should identify specific use cases that illustrate the challenges being faced with QA selection processes on the NICE system. After these tasks are accomplished, a determination can be made with regard to the need for additional training or for the need to upgrade the system to resolve the challenges.

4.5.11.6 Records Management Systems (RMS)

Multiple diverse RMSs are currently being used by the agencies in the study. Intergraph RMS is used by Arvada PD and Lakewood PD, High Plains RMS is used by West Metro FPD and Evergreen FPD. Other systems being used by a single agency are Zoll, SunGard HTE, Tiburon and LogiSys.

4.5.11.7 CPE Phone Systems

A single call handling and processing solution, Cassidian Sentinel® Patriot®, is being used by everyone with the exception of Wheat Ridge PD. Wheat Ridge PD is scheduled to become part of the Cassidian phone system by the Fall of 2013. The Cassidian system is an Internet Protocol (IP)-based system with an integrated private branch exchange (PBX). The system is geo-diverse with redundant servers, which eliminates a single point of failure.



The Cassidian Sentinel® Patriot® solution is NG9-1-1-capable, meaning the system can transition into a NG9-1-1 environment without having to replace existing hardware. The system appears to be working well for all agencies and satisfies the requirements for effective interoperability.

4.5.11.8 Emergency Notification Systems (ENSs)

All agencies in the study use CodeRED® as their citizen notification system for emergencies and public safety related events. CodeRED® is an emergency notification system that sends recorded messages to wireline and wireless phones.

Whelen outdoor siren systems are utilized by the City of Lakewood and the City of Wheat Ridge to alert citizens of impending severe weather or emergency situations that could affect the public. Postings to agency websites are also widely used for this purpose.

4.5.11.9 Personnel Paging and/or Call-back Systems

CodeRED® and CAD systems are used for personal paging of staff. Personnel paging is used for calling out specialized units such as Tactical, K-9, etc. CodeRED® utilizes respective communications center identified groups to initiate callbacks to communications center and field personnel for high impact incidents where additional staff is needed.

4.5.11.10 Technology Summary

Table 5 summarizes the technology vendor of each participating agency.

Table 5 – Technology Summary

Agency	Call Handling	Mapping	Radio	CAD	RMS	Logging
Arvada FD	Cassidian	GeoLynx and Zoll CommandCAD	Harris	Zoll CommandCAD	Zoll	NICE
Arvada PD	Cassidian	Intergraph	Harris	Intergraph	Intergraph	NICE
Evergreen FR	Cassidian	Geolynx, and Logistic Systems	Motorola	Logistic Systems	High Plains	Stancil
Golden PD	Cassidian	GeoLynx	Motorola	IBM SunGard HTE	SunGard	NICE
JCSO	Cassidian	Marveck	Motorola	Tiburon CAD	Tiburon	NICE
Lakewood PD	Cassidian	Intergraph	Harris	Intergraph	Intergraph	NICE
West Metro FR	Cassidian	TriTech VisiCAD	Harris	TriTech VisiCAD	High Plains	NICE
Wheat Ridge PD	Positron - moving to Cassidian 2013	Logistic Systems	Harris	Logistic Systems	Logistic Systems	NICE



5. REGIONALIZATION – MODELS

Analyzing the current environment with an objective of producing options for regionalization and/or consolidation began with determining which elements of the current architecture, operating processes and technologies would improve in an alternate model. The “Do Nothing” scenario was not included in the assessment as it is known that it does not support a regional model.

Interviews with stakeholders revealed opposition to a single PSAP concept, i.e., all telecommunicators (call taking and dispatch) in one PSAP. The rationale is that a lower level of service would result in the dispatch function given the diversity of the areas within the participating agencies’ jurisdictions. Based on this finding, a single PSAP configuration was not a part of the analysis and dispatch functions are maintained as close to the served areas as possible.

MCP’s analysis focused on the call taking and dispatch functions and how to configure them regionally using multiple locations.

Two models were analyzed – co-location and regionalization. Regionalization is further broken down into virtual technology and physical consolidation.

Co-location involves moving existing agencies and equipment into a common physical environment; management structure and operating procedures remain the same as they were when located in separate locations.

Regionalization is more involved as governance and operating structure changes to align with a new operational environment. A virtual model could be undertaken in which staff remain in their current locations and operates as if they were in the same location. There are significant challenges with this model:

- If staff reporting structures are not changed, it is necessary to apply common SOPs, employment covenants (i.e., benefits, employment policies, etc.) and management philosophies across multiple physical locations.
- If staff reporting structures are changed, then managing staff in multiple physical locations and work environments is necessary.
- Training and the benefit of creating a team environment is exponentially more difficult.
- Cost savings typically realized over time in a regionalized model are reduced or negated by the loss of efficiency from a less cohesive team.

Given this, the virtual model (Regionalization – Virtual Technology) in this assessment is limited to sharing technologies to reduce equipment cost. It does not include common SOPs and employment covenants, which are part of the Regionalization – Physical model.

High-level advantages and challenges of each model are presented side-by-side to aid in comparison.



5.1 CO-LOCATION

Co-location is often used as a transitional step on the path to consolidation when circumstances dictate the time is not right for full consolidation. While co-location allows disparate groups to become familiar with each other, it can significantly delay the effort required to develop common governance and operating structures, normalize employment covenants, train staff, and physically move to a regionalized model. Co-location usually does not address immediate issues such as staffing and improving levels of service.

Co-location is useful where there is a plan to consolidate, but the building or renovations of space soon to be vacated as part of consolidation is required. In these cases, co-locating avoids the expense of renovation of a space that would only be used for a short time.

Co-location can be used as a transitional step on the path to regionalization; however this does not address current operational issues including:

- Minimum staffing levels
- Level of service provided to mountain fire agencies
- Improved training, QA and overall performance

When conditions warrant, co-location can be a positive step. However, based on MCP’s experience, this arrangement should only exist for as short a period of time as possible. Gains in operational efficiency are small and friction between the co-located groups is often high.

Based on discussions with stakeholders and current conditions in the participating agencies, there is no evidence this interim step is necessary.

Table 6 – Co-location Advantages and Challenges

Advantages	Challenges
Minimal change in operating procedures of participating agencies.	There is no gain from establishing SOPs that systematically raise performance levels.
No need to align employment covenants to a common set.	The probability that staff will move to agencies with the most lucrative benefits is increased. This exposes agencies with lower benefits, etc. to even higher turnover rates.
Synergies in operation and level of service tend to permeate via informal daily interactions of staff.	Reduced opportunities to share equipment and reduce costs.
Only minor equipment reconfiguration is required.	Relocation to a shared facility is required.
	Having an adequate backup facility is often difficult



5.2 REGIONALIZATION – VIRTUAL TECHNOLOGY

Virtual consolidation involves configuring and sharing technology to achieve a common operating environment. All staff would remain as they are and there would be no change to operating procedures, employment covenants or call routing.

The primary difference in this model and co-location is the increased opportunity to share equipment and reduce overall cost. Other advantages and challenges are similar to the co-location model as the operational and employment structures remain with each participating agency.

Table 7 – Regionalization – Virtual Advantages and Challenges

Advantages	Challenges
Minimal change in operating procedures of participating agencies.	There is no gain from establishing SOPs that systematically raise performance levels.
There is no need to align employment covenants as original governance structures remain in place.	Cost of tracking capacity, making joint procurement decision and administration yield few substantial advantages.
There is no relocation of staff.	
More opportunity to share equipment and reduce costs, especially as next generation systems as sought.	

5.3 REGIONALIZATION – PHYSICAL

This model requires the most effort and change in the participating agencies. It also requires technology reconfiguration and in some cases may require upgrades or new acquisition. A participative governance model is critical in addressing the need for participating agencies to have a voice in the delivery of service.

On the more positive side, this model provides the best opportunity to increase the level of service across the region through common hiring, training, SOP's, QA/QC and providing a common technology platform.

A physical consolidation, though requiring more preparation, coordination and effort, has a potential to yield improved service levels, positions agencies for the next generation environment and over time saves costs of the equipment necessary to meet next generation requirements. Additional savings are experienced over time as incremental staff increases are lower for the single group than for eight individual groups.



Table 8 – Regionalization – Physical Advantages and Challenges

Advantages	Challenges
Major gain from establishing procedures that systematically raise performance levels.	Extensive change in operating procedures of some staff
Eliminates the probability that staff will move based on benefits. Establishes a common set of employee covenants	Must align employment covenants to a common set. This requires negotiation and compromise
High probability of creating a teamwork environment	Relocation is required
Managing incoming emergency calls for all disciplines under one roof and dropping incidents into a unified CAD system, will reduce call transfers and improve service delivery to the citizens and emergency responders	
Sharing of equipment costs	

6. PHASED OPTIONS

Understanding that the final regionalized configuration may take time, options for addressing some of the issues earlier are provided.

Phase options can be used as transitional steps on the path to regionalization. The phased options presented may be taken independently and allow for immediate addressing of issues, while supporting long range goals. The phase options provide early wins by allowing agency staff to become familiar with each other while addressing immediate issues such as minimum staffing, cross-training and improving overall efficiencies.

The options can be exercised independently of one another, and may be completed as standalone opportunities. Once exercised, MCP cautions the agencies not to allow the forward momentum of full regionalization to cease. The phased options contribute to the recommendation to combine call taking and dispatch in a regional configuration.

6.1 OPTION 1 – GOLDEN DISPATCH TO JOIN JCSO

This option would join the Golden PSAP with the Jefferson County Sheriff’s office PSAP. The option addresses minimum staffing requirements, improving the levels of service to the Mountain Fire agencies and increasing efficiencies by using the JCSO CAD as a shared resource.

By joining these two PSAPs, the total annual call volume would be approximately 155,600. The annual incident volumes are estimated at approximately 276,200, inclusive of Law and Fire/Rescue incidents.



The addition of Golden Fire dispatching techniques to the Jefferson County fire dispatching services provides an opportunity for cross-training of urban and non-urban disciplines. Shared cross training with WMFR and EVFR should be taken full advantage of at the early stages. This will prepare the dispatchers handling both urban and non-urban fire dispatching disciplines for the future regionalization.

The challenges to this option include the integration of the two agencies staffing, schedules, and minor reconfigurations to the Cassidian call handling equipment. Non-communication center related activities currently performed by Golden would also need to be addressed; however, the reduced requirement in call handling staff provides a funding source to address coverage of those activities.

Table 9 – Golden Joining with JCSO

Advantages	Challenges
PSAPs are less than 3 miles apart	Integrating staff and systems
Same E9-1-1 call handling equipment utilized (with minor reconfiguration)	Cassidian system reconfiguration (minor)
Increased coverage of staffing for Golden	Non-Dispatch related activities performed by Golden Communication Center staff must be reassigned.
Shared JCSO CAD system will be an improvement for Golden	Personal service to customer base is perceived to be diminished
Increased level of service to Mountain Fire Departments	
Moves these agencies closer to the long term plan	
Shared radio systems	
Sharing of equipment costs	

Current staffing of Golden PD is 1 manager and 10 telecommunicators; current staffing at JCSO is 1 manager, 5 supervisors/leads, 26 telecommunicators and 3 other staff (PBX).

Using the NENA Staffing model, the combined staffing for joining Golden and JCSO is 1 manager, 30 telecommunicators and 5 supervisors/leads for a total of 36 FTEs.

Table 10 – Golden JCSO Combined Staffing

PSAPS	Manager	Supervisor/Lead	TC	Other	Total
Golden PD	1		10	0	11
JCSO	1	5	26	3	35
Current Total	2	5	36	3	46
Required If Combined	1	5	30	0	36
Increase/(Decrease)	(1)	0	(6)	(3)	(10)



6.2 OPTION 2 – WHEAT RIDGE TO JOIN LAKEWOOD

Another phased option is for the Wheat Ridge PSAP to join the Lakewood PSAP. The option addresses minimum staffing requirements, improves the level of service and improves levels of efficiency for combined training.

By joining these two PSAPs, the total annual call volume is approximately 633,400. The annual incident volumes are estimated at approximately 239,100, inclusive of Law and Fire/Rescue incidents.

The challenges to this option include the integration of the two agencies staffing, schedules, different systems (CAD, RMS). Non-communication center related activities currently performed by Wheat Ridge would also need to be addressed; however, the reduced requirement in call handling staff provides a funding source to address coverage of those activities.

Table 11 – Wheat Ridge Joining with Lakewood

Advantages	Challenges
PSAPs are less than four miles apart	Integrating staff and systems
Shared radio systems	Cassidian system not shared
Increased coverage of staffing for Wheat Ridge	Non-dispatch related activities performed by Wheat Ridge Communication Center staff must be reassigned.
Sharing of equipment costs	Personal service to customer base is perceived to be diminished
Moves these agencies closer to the long term plan	Different CAD system

Current staffing at Wheat Ridge is 1 manager, 1 supervisor, 9 full time and 1 part time telecommunicator. Current staffing at Lakewood is 1 manager, 6 supervisors/leads, 30 telecommunicators, 3 over-hires and 2 part time.

Using the NENA Staffing model, the combined staffing for joining Wheat Ridge and Lakewood is 37 telecommunicators and 5 supervisors/leads for a total of 42 FTEs. Management would be reduced by 1, supervisors/leads would be reduced by 2 and the telecommunicators would be reduced by 2 FTEs.



Table 12 – Wheat Ridge – Lakewood Combined Staffing

PSAPS	Manager	Supervisor/ Lead	TC	Other	Total
Wheat Ridge	1	1	9	0.5	11.5
Lakewood PD	1	6	30	4.0	41.0
Current Total	2	7	39	4.5	52.5
Required If Combined	1	5	37	0	43.0
Increase/(Decrease)	(1)	(2)	(2)	(4.5)	(9.5)

6.3 OPTION 3 – MOUNTAIN FIRE AGENCIES DISPATCHED BY EVERGREEN

This option involves moving the dispatching of Mountain Fire Agencies from Jefferson County Sheriff’s Office to Evergreen Fire Rescue. This option was considered for improving the level of dispatch service to the smaller and largely volunteer fire service agencies.

Currently, the mountain fire agencies are dispatched by JCSO. JCSO’s primary responsibility is the answering of incoming 9-1-1, dispatching the proper emergency responders and providing communication center support to the Jefferson County Sheriff’s department. This support includes monitoring multiple radio talk groups and providing law enforcement personnel support.

JCSO does not have the staff to monitor the mountain fire agency talk groups. When a call comes in requiring mountain fire to respond JCSO only performs the dispatch function.

Moving the mountain fire agencies to Evergreen dispatching will allow JCSO to focus on law enforcement duties. Evergreen has the capability to dispatch the mountain fire agencies and provide radio support to them as well. Evergreen can provide the capability to track the calls and provide time stamps. Time stamps are important to fire agencies when reviewing their performance and equipment hour usage on calls for service. Time stamps such as On-scene, Size-Up information, Fire Under Control, Fire Tapped out, and Units Clear of Scene are beneficial to the agency when supporting staffing studies.

Table 13 – Mountain Fire Joining with Evergreen

Advantages	Challenges
Increase in service to the Mountain Fire Agencies	Funding methods
Dispatching disciplines are the same (rural)	Mountain fire agencies may be unable cover dispatching cost
Shared radio systems	Some agencies may prefer free rather than cost



The Evergreen Fire Chief indicated that he has done preliminary estimates and current staffing is adequate to handle the additional load.

6.4 OTHER OPTIONS CONSIDERED

As part of the evaluation of possible options and overall regionalization, the following were considered; however, were found to be lacking a contribution to address current issues or had constraints which resulted in them being excluded from further consideration.

6.4.1 Golden and Wheat Ridge Join Together

This option was not supported for the following reasons:

- Neither PSAP is currently meeting minimum staffing requirements. Combining them could address this problem though it requires hiring a new telecommunicator.
 - There are currently 2 managers and 20 telecommunicators staffed within the two PSAPs. The staffing model indicates a combined center would need 21 telecommunicators staffed to handle the combined call load. An addition of 1 additional full time telecommunicator would allow the combined center to meet the minimum staffing levels.
- However, interoperability of the radio systems presents a problem; Golden uses Motorola and Wheat Ridge is on Harris. Although the systems are P25 compliant, the radio interoperability issues discussed in Section 4.5.11.3 render this combination unworkable.

Table 14 – Golden Joining with Wheat Ridge

Advantages	Challenges
Sharing equipment and costs	Radio systems are not the same manufacturer
CAD system improvement for Golden PSAP	PSAPs are approximately 11 miles apart
	Minimum staffing challenges will remain without additional staff

6.4.2 Option – Golden Fire Dispatched by WMFR

This option was reviewed as a shared discipline of fire dispatch at West Metro and the current Golden FD dispatching. However, due to the disparate radio systems and the radio interoperability issues discussed in Section 4.5.11.3, this option would not be feasible as a standalone configuration if the full regionalization plan was not completed and therefore is not recommended.

Table 15 – Golden Fire joining with WMFR



Advantages	Challenges
Sharing equipment and costs	PSAPs are approximately 11 miles apart
CAD system improvement for Golden Fire	Radio systems are not the same manufacturer
Dispatching disciplines are the same (city)	

7. RECOMMENDATIONS

7.1 OPTIONS

Jefferson County should review the options presented during the implementation phase and decide which, if any, would provide acceptable benefit in relation to the overall regionalization timeframe.

7.2 REGIONALIZATION

MCP recommends utilizing the Regionalization – Physical model and creating a single primary PSAP dedicated to call handling. The PSAP would be staffed by telecommunicators whose job it is to answer and triage incoming 9-1-1 and 10-digit emergency calls. All non-emergency call handling duties would remain with the respective agency. Any exceptions to this must be vetted via the governance structure described later in this report.

MCP further recommends that dispatch be consolidated into four centers shown in Table 16. The grouping of agencies is based on:

- Type of dispatching (law or fire)
- Radio system used
- Space availability

Table 16 – Recommended Dispatch Centers

Center	Location	Agencies
Law 1	JCSO	Golden PD, JCSO
Law 2	Lakewood PD	Wheat Ridge PD, Lakewood PD, Arvada PD
Fire/EMS 1	West Metro FPD	West Metro FPD, Arvada FPD, Golden FD
Fire/EMS 2	Evergreen FPD	Evergreen FPD, Mountain Fire

Further discussion of key areas follows.

7.3 CALL HANDLING FACILITY

A single PSAP dedicated to handling emergency calls yields the advantages previously listed.

- *Advantage* – Major gain from establishing procedures that raise performance levels



The varied levels of SOPs and compliance would be replaced by a single set of SOPs specifically written to raise the overall performance level of the center. A comprehensive application of QA/QC is recommended such that identifying SOP modifications, training requirements and staff performance issues are identified and corrected.

- *Advantage* – Eliminates the probability that staff will move based on benefits. Establishes a common set of employee covenants
Through carefully planned and executed negotiation and compromise between participating agencies, employee covenants must be established. The plan should address issues contributing to high turnover.
- *Advantage* – High probability of creating a teamwork environment
Common objectives and leadership are key elements to creating the environment to encourage teamwork. Including representatives from participating agency staff in the planning and implementing process has shown to be effective in getting consolidated centers off to a good start. First-responders are to be a part of this via a proactive outreach.
- *Advantage* – Sharing of equipment costs
The immediate, if any, and longer term savings will be identified in the planning and implementation phase, but MCP's experience with Next Generation i3 core service solutions indicate that a shared approach to procurement and operating is a necessity. Purchasing on a regional basis clearly has cost advantages.

Call takers would create CAD events in a joint use CAD system so that the dispatchers have all the information necessary to properly dispatch.

The focus on a specific skillset, handling emergency calls, provides the opportunity for telecommunicators to become highly proficient. Management must work with dispatch center management to create a team environment to prevent the silo mentality from forming within the centers.

Should the call handling facility ever need to evacuate the Calltake Center, JCSO and Arvada are suggested as back-up sites. Call handling equipment and workstations should be left at these sites as necessary. During implementation, a more detailed analysis of backup, overflow and disaster recovery plans is required.

7.4 RE-ALLOCATION OF CURRENT WORKSTATIONS

Currently there are 52 workstations within the participating agencies. The new dispatch centers will need a total of 14 workstations, while the Calltake center will require a minimum of 12 calltake stations.

The current Arvada PD would be used as a dark backup center, which will need 7 workstations. JCSO will retain their 10 workstations, with 4 of these being used for Law 1 dispatch and the remaining 6 will remain as overflow and for the other backup calltake center. This will be a total of 33 workstations being



utilized. The remaining 19 workstations will be available for redistribution throughout the calltake and dispatch centers.

Table 17 – Re-Allocation of Current Workstations

Current Agency	Positions	New Centers	Reassigned	
Arvada Fire	4	Calltake	4	Moved to CT Center
Arvada PD	7	Dark Backup	7	Remain for Dark Backup
Evergreen Fire Rescue (EVFR)	3	Fire 2	3	Remain at EVFR
Golden PD	4	Calltake	4	Moved to CT Center
JCSO	10	Law 1	4	Other 6 for remain for calltake backup site
Lakewood PD	14	Law 2	4	7 remain for overflow and 3 moved to Evergreen for overflow
West Metro Fire Rescue (WMFR)	6	Fire 1	3	Other 3 remain for overflow
Wheat Ridge PD	4	Calltake	4	Moved to CT Center
Totals	52		33	19 reassigned as above

7.5 DISPATCH CENTERS

Telecommunicators in the dispatch center do not answer emergency calls; they are focused on dispatching and the safety of first responders. CAD events created by the call handling center and routed via a jointly used CAD system, the CAD events are then processed by the respective center. If required by SOP, calls may be transferred to the dispatch center by the call handling center, but it is envisioned that this would not be the rule.

Management must work with the call handling center management to avoid silo building.

7.6 CAD SYSTEM

Because the agencies involved in this study interoperate on a daily basis, and to avoid the limitations of current CAD-to-CAD interfaces, it is recommended that the call handling and dispatch centers operate on one CAD system.

7.7 LOGGING/RECORDING SYSTEM

Moving to shared services and centralizing the data stores improves operational and fiscal efficiencies. Today, most recording and logging equipment records only voice. As public safety moves towards NG9-1-1, the ability to easily record, track and reconstruct all multimedia aspects of call handling and dispatch of incidents is of paramount importance.



Next Generation recording and logging systems must be able to collect, consolidate and retrieve large stores of diverse multimedia data, from possibly disparate sources, into a single platform. Being able to recreate incidents from initiation to conclusion means NG9-1-1 logging systems must be able to log and record Session Initiation Protocol (SIP), diverse incoming and outgoing data streams, all voice communications, images, text, and video.

NICE systems have the capability of serving multiple centers from a shared platform. The design will be worked out in the planning and implementation phase.

7.8 EMD

All primary PSAP telecommunicators should be EMD certified. This supports the reduction of call transfers and provides a higher level of service (e.g., by reducing call holding times and caller confusion).

7.9 CPE SOLUTION

The Cassidian Sentinel[®] Patriot[®] system supports the regionalized call handling capabilities by providing a hosted diverse and redundant system, upon being upgraded to the VESTA Sentinel 5 version. MCP recommends this system be retained as the regional call handling solution and upgraded to the hosted solution as part of the normal equipment replacement cycle. This system is capable of migrating into an NG9-1-1 environment and the core components of this system are already in place.

Using the multiple node and geo-diverse capability in the VESTA Sentinel 5 revision allows a reduction in the number of hosts is required. Figure 2 depicts a conceptual architecture.

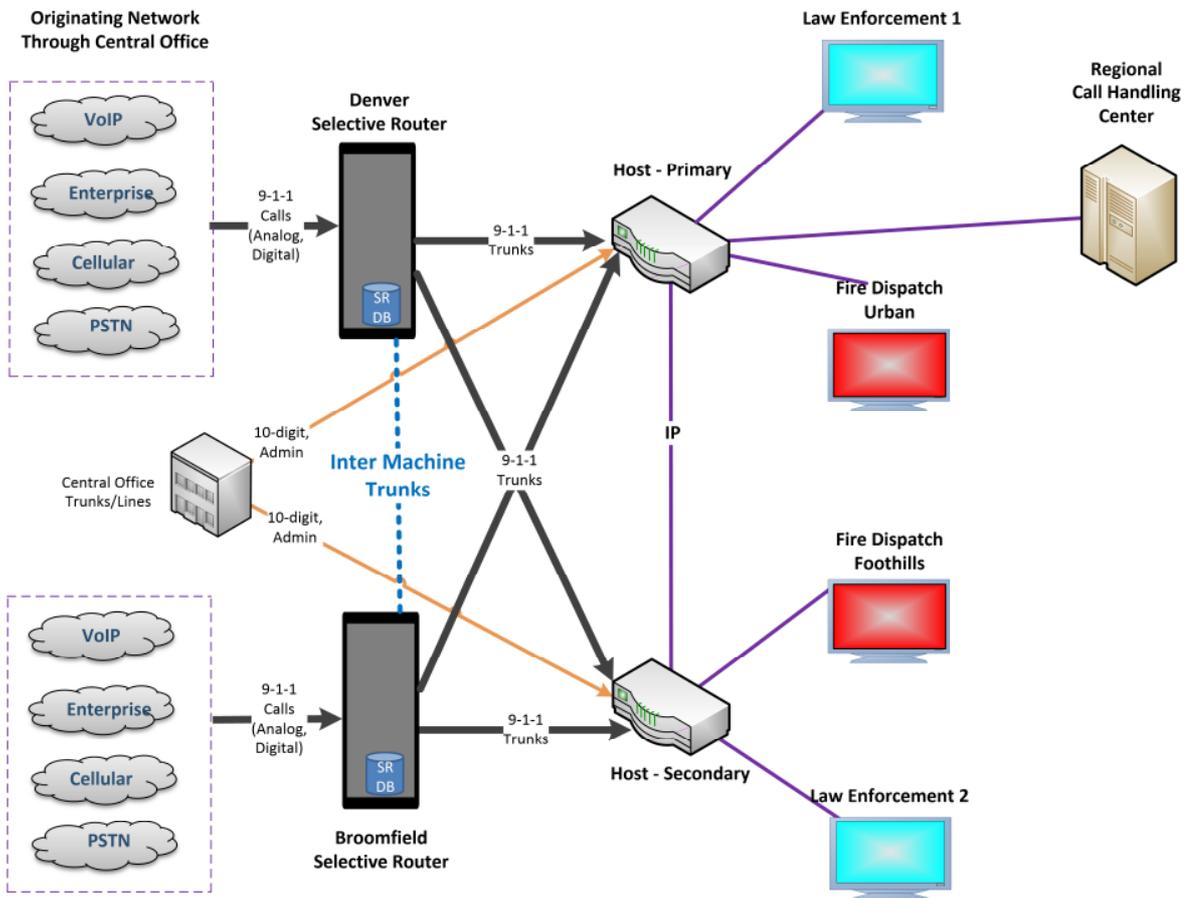


Figure 2 – Conceptual Architecture for Recommended Regional Layout

All emergency calls are routed by the Sentinel hosts to the regional call handling center. The host has the capability to transfer calls to a dispatch center if required, but in the normal case, emergency calls are not routed to dispatch centers.

7.10 RMS

MCP recommends that a separate assessment take place to identify requirements and feasibility for a regional RMS to accommodate all participating agencies within Jefferson County.

7.11 GOVERNANCE

The administration and operation of a regionalized center requires the participation of all agencies involved. To ensure that the common good of the region is kept in the forefront, each participant must have a “voice” in decisions. Obviously, it is not practical for everyone in every agency to attend meetings and vote. A representative-based model is most often used.



Throughout the country, public safety organizations are facing this same challenge. The models MCP has helped develop and others seen by MCP follow a similar structure. In that structure, a board made up of representatives appointed by the participants oversees the administration and day-to-day operations, utilizing an executive-level position for implementing policy and procedures approved by the board.

MCP recommends a similar governance structure based on the conceptual organizational design depicted in Figure 3. Alternate structures are possible; e.g. the managers reporting directly to a Deputy Director. The board should work with the ED to develop the organization which works best given the bylaws established.

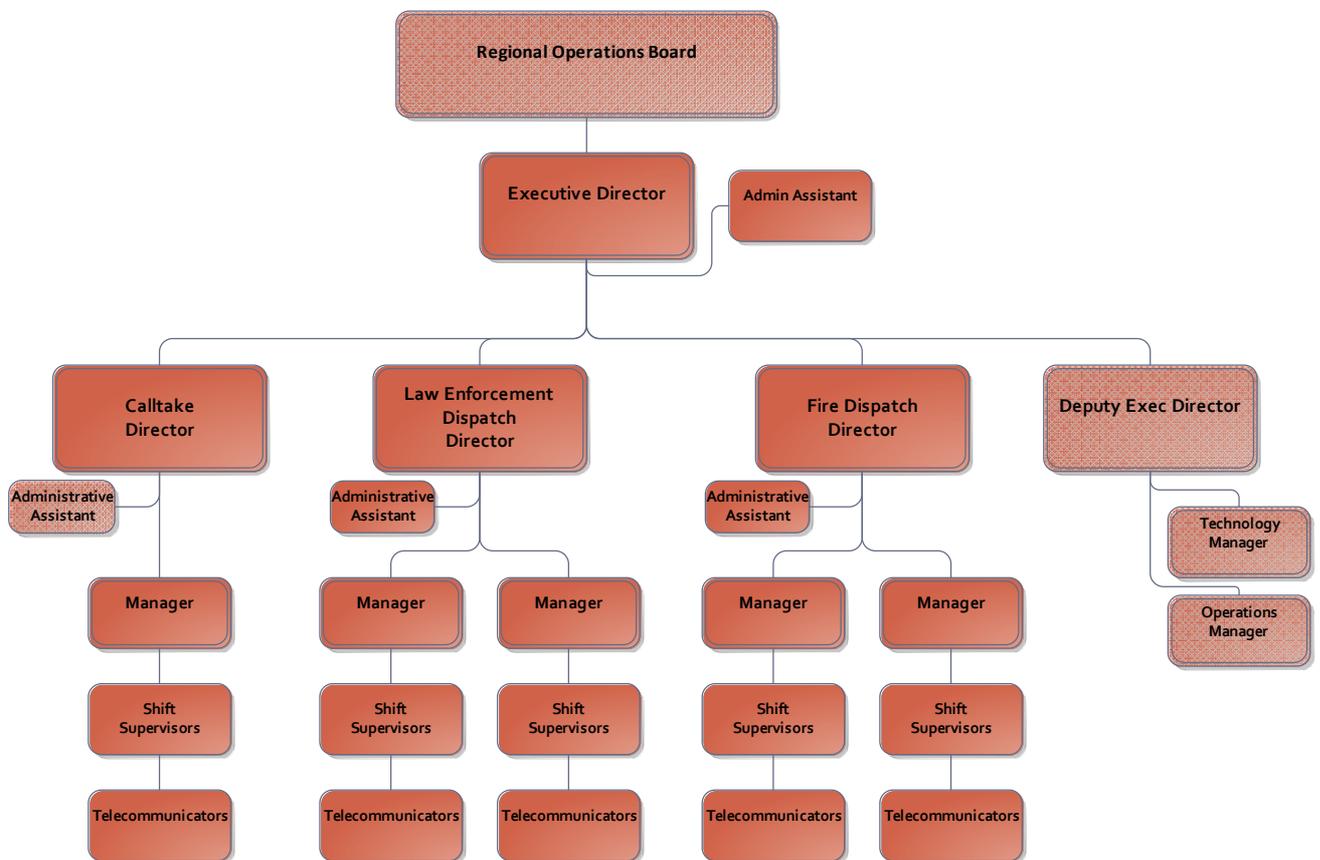


Figure 3 – Conceptual Organization Chart

7.11.1 Regional Operations Board

This board is responsible for the leadership and management of regional operations.



Primary responsibilities are as follows:

- Remain current through active participation in local, state and national organizations that affect emergency services policy and technical specifications
- Employ, evaluate and provide guidance to an executive director
- Monitor emerging user requirements, standards and technologies and establish policy to align the regional system as appropriate
- Contract for operational services
- Provide fiscal accountability for operations
- Oversee operational efficiency through establishing key performance indicators, monitor results and take appropriate action (counseling, reward or correction)

7.11.2 Executive Director

Day-to-day administration and operations of the call handling and dispatch centers is delegated by the board to an executive director. This position is ultimately responsible for hiring and supervising all staff.

7.11.3 Call Handling and Dispatch Center Directors

The directors manage the daily operations of their respective centers, ensuring that activities are compliant with policy and procedures, levels of service are met or exceeded and staff needs are addressed.

7.11.4 Managers, Supervisors and Telecommunicators

These positions have the responsibility typical to similar titles in a PSAP.

7.11.5 Staffing Levels – Recommended Organization

The staffing levels provided are based on high level call data captured in the assessment. A more detailed review must be completed as part of the planning and implementation phase to account for such things as actual shifts, days off, etc.

The NENA 54-501A Staffing Worksheet was used to calculate the number of telecommunicators required (handling call taking and dispatch). Defaults were used for all inputs except 9-1-1 calls and work hours per day. Calls were divided equally between eight hour shifts to be conservative. Annual call growth was calculated based on estimated population growth. Data from 2010 data was provided during the assessment and was used as the base year.

The US Census baseline demographic data shows Jefferson County to increase population at a moderate 0.49 percent annual rate through the year 2040. The population projections in Table 18 are calculated using a growth rate of 0.50 percent annual growth for the population in the study area.



A Next Generation 9-1-1 i3 system will provide the capability for real-time text, images, video relay calls, and other forms of multi-media information to be presented to the call taker. Empirical evidence of the impacts these media rich calls could have on call intake is currently unavailable. Logic suggests there could be an increase in call hold and handling time, but until these systems are brought on-line, objective empirical data will not exist.

Table 18 – Population Growth Based on US Census

Year	Current	2015	2020	2025	2030
Population	534,543	561,270	589,333	618,780	649,714
Incidents	610,480	639,305	671,269	704,810	740,050
Calls*	1,103,720	1,155,875	1,213,668	1,274,310	1,338,026

* Denotes numbers for calls include 7/10 digit emergency and non-emergency calls due to inability to separate out within the data.

Table 19 – Conceptual Organization Staffing Levels

Year	Current	2015	2020	2025	2030
Managers	8	7	7	7	7
Supervisors	25	25	25	25	25
Telecommunicators*	116				
Other	13.5				
Call-takers		32	33	35	37
Law Dispatchers		41	41	41	41
Fire/Rescue Dispatchers		21	21	21	21
Total FTEs	162.5	126	127	129	131

* Current telecommunicators are not broken down into call takers, fire and law dispatchers.

7.11.6 Staff

Given the recommended organization is a standalone entity from the participating agencies, an increased number of executive and manager level staff are required to cover the duties currently performed by like positions in the participating agencies as part of their overall responsibilities. Fewer supervisors and telecommunicators are required due to the economy of scale resulting from bringing these into one organization.

It is understood that the structure of this funding must be worked out in the detail planning and implementation phase. Ancillary duties may need to be retained by the originating agencies and therefore not be part of the regionalization; these ancillary duties also need to be addressed in the detailed planning phase.



7.11.6.1 Technology

The consolidated environment will reduce the number of systems required. This reduction of systems will also allow a reduction of capital and operational cost.

Using redundant hosted systems for Mapping, CAD, logging and RMS reduces the number of different systems down to eight, assuming each system is a redundant pair. The current configuration of three separate hosted call handling systems can be reduced down to two redundant systems, assuming one of those systems will serve those agencies not participating in the regionalization effort. It should be noted that any systems selected for Mapping, CAD, call handling, logging and RMS should have a clearly defined roadmap to Next Generation 9-1-1 compliance.

7.12 FUNDING

The cost of executing the options is low given there are minimal equipment or space modifications required.

The estimated cost associated with renovation of the space to accommodate the Calltake center is shown below. Per square foot (sq. ft.) costs are budgetary estimates compiled from across the US and found to be representative of actual costs.

Table 20 provides an estimate for square footage required for the Calltake center.

Table 20 – Square Foot Estimates for Calltake Center

Description	Unit	Allocation (Sq. Ft.)	Total Sq. Ft.
Operations Floor	12	150	1800
Supervisor Office	2	100	200
Manager Office	1	120	120
Director's Office	1	150	150
Sub Total			2270
Common Space Allocation	1	35% of Sub Total	795
Total Sq. Ft.			3065

Using the square footage estimates from Table 20 and applying low, medium and high per square foot estimates Table 21 shows a budgetary cost range for renovating the space for the Calltake center.

Table 21 – Estimated Calltake Center Renovation Cost



Renovated Cost – 3 Level Estimate	Per Sq. Ft.	Estimate
Low	\$150.00	\$459,675.00
Midpoint	\$175.00	\$536,287.50
High	\$200.00	\$612,900.00

Funding the regional staff and operations will be achieved via IGA's executed per bylaws developed as part of implementation. Call handling and dispatch functions can be covered through transfer of staff and funding from the current agencies. Two specific functions are unique to the regional approach and require a funding source in addition to operational staff. They are 1) new director positions and 2) those non-dispatch functions which must remain with the current agencies. The staff savings between current requirements and regional configuration requirements is a funding source. Based on Table 19 and average telecommunicator fully loaded cost the first year savings of 36.5 FTEs represents a \$1,825,000 funding source (36.5 * \$50,000 median telecommunicator loaded cost). Though this is a budgetary figure it provides a reference point for high level planning.

7.13 SUMMARY

Any change produces risk and challenges. The recommendation made here is no different; however there are operational and financial gains which position stakeholders well to improve service in the short term and move to future standards as they evolve.

8. APPENDIX A

8.1 ARVADA POLICE DEPARTMENT

8.1.1 Overview

The City of Arvada is a home rule municipality located in Jefferson County and a small portion of Adams County in the Denver metropolitan area of the state of Colorado. According to the U.S. Census, the city of Arvada has a land area of 35.14 square miles and a 2010 population of 106,433.

The Arvada Police Department (Arvada PD) Communications Center covers the city of Arvada and is the primary emergency communications call center for the City's police and fire departments. Fire calls are transferred to the secondary PSAP, Arvada Fire Protection District (AFPD). Arvada PD Communications Center provides backup dispatching to Wheat Ridge PD and Westminster PD communications centers.

8.1.2 Operations

8.1.2.1 Certifications



Arvada PD is CALEA accredited; however, the Communications Center does not have stand-alone accreditation. As a requirement, telecommunicators are certified in the following:

- Colorado Crime Information System (CCIS) Advanced Operator
- ICS-100, Incident Command System (ICS)
- ICS-700, National Incident Management System (NIMS)
- ICS-800, National Response Plan – An Introduction
- Crisis Intervention Team training.

Each year all telecommunicators are retrained on Teletypewriter (TTY), COA Sexual Harassment in the Work Place, and various career development courses through the Association of Public-Safety Communications Officials – International (APCO), the National Emergency Number Association (NENA), Power Phone, and other approved sources.

8.1.2.2 Staffing

The Communications Bureau is led by a sworn deputy chief who oversees two other bureaus within the department. The Communications Bureau is led by a civilian communications manager who oversees 4 supervisors and 18 dispatchers.

Communications Center authorized strength is 19 full-time equivalent (FTE) dispatchers. Arvada PD intends to transition one position to a supervisor position, which would reduce authorized strength to 18 dispatchers and 4 supervisors. Current staffing is 16, which is 3 less than authorized. Communications center personnel operate on staggered 10-hour shifts. Shifts are varied in accordance with call load and coverage needs. Currently, there are three supervisors who work two split swing shifts of 10 hours each. The addition of a fourth supervisor would allow split shifts, with a supervisor on duty for each shift. Personnel bid for shifts based on seniority every four months.

The Arvada PD Communications Center uses WhenToWork[®] on-line scheduling software.

The Communications Center has an average of 8.25 years of service per staff member, with a cumulative total of 115.5 years of service. The Arvada PD Communications Center experiences an approximate 17 percent turnover rate.

8.1.2.3 Positions and Duties

Communications Center Manager

The Communications Center Manager works with limited supervision and direction from the operations Deputy Chief of Police. The center manager is responsible for managing day-to-day operations of the center including: personnel administration, the computer aided dispatch (CAD) system, emergency/non-emergency communications calls from citizens, and staff. The manager is responsible for providing advanced technical support and direction for the computer systems and networks in the communications center.



Communications Supervisor

The supervisors provide oversight and leadership to communications center staff and all functions in the communications center to ensure an effective flow of communications between the general public requesting police service and police employees. The supervisors provide 24-hour emergency and non-emergency dispatch services as required.

Police Dispatcher

Police dispatchers provide 24-hour emergency and non-emergency police dispatch services by monitoring and answering multiple phone lines, process, prioritize and utilize the radio system to ensure proper deployment of police and other emergency units, are responsible for the precise and accurate retrieval and dissemination of information, and other administrative support functions.

The Arvada PD Communications Center is also responsible for after business hour calls for all city departments, CCIS and National Crime Information Center (NCIC) file management after business hours, and monitoring security systems and cameras for all city facilities at all times.

8.1.2.4 Call Handling Methods

The Arvada PD Communications Center is the primary 9-1-1 call intake for the city of Arvada. The Arvada Communications Center answers 9-1-1 calls and dispatches Arvada police. Fire and EMS calls are transferred to the AFD PSAP for handling and dispatch as required.

8.1.2.5 Standard Operating Procedures (SOPs)

The Arvada PD Communications Center Operating Guidelines include:

- Administrative Regulations
- Equipment Operation and Maintenance
- Radio Operations and Interoperability
- Telephone Operations
- Computer Operations
- Support Functions
- Emergency Notifications
- Colorado Crime Information System (CCIS) system procedures
- Evacuation Procedures

8.1.2.6 Hiring

CritiCall® scoring, the National Dispatcher Skills Test (NDST), a two hour dispatch sit-a-long, polygraph, psychological screening and a thorough background check are used for initial applicant recruiting. Successful recruits then go through the telecommunicator training process.

8.1.2.7 Telecommunicator Training



Entry level training begins with two weeks of an internal academy for orientation. Graduation from the academy is followed by a formal 18-week training program.

Formal training uses the Communications Training and Evaluation Program (CTEP). CTEP is based on the San Jose model, which is a nationally accepted program. Training consists of hands-on application, ride-along observation, and standardized evaluation and feedback.

CTEP training is divided into four phases, each with a different Communications Training Instructor (CTI). All CTI trainers are required to attend a 40-hour Field Training Officer (sometimes called the San Jose Model program) course prior to becoming a trainer. The CTI fully documents the training on Daily Observation Reports (DORs).

The CTEP phases are broken down as follows:

1. Five weeks of hands-on training in the Communications Center learning basic skills with the assigned CTI.
2. Five weeks working on a different shift, with a different CTI, learning progressively more advanced tasks and learning activities that occur during different times of the day.
3. Five weeks learning advanced skills, including radio, and preparing for the final evaluation.
4. Two weeks of on the job evaluation.

The first three phases include ride-along observations with a patrol officer to develop an understanding of the duties of a police officer and how they relate to the duties of a dispatcher.

Upon successful completion, the trainee is assigned to a shift within the communications center as a fully trained police dispatcher. Trainees are formally evaluated at the end of the one-year probationary period or sooner if necessary by a communications supervisor.

Optional training includes career development and specific special assignment training, such as Special Weapons and Tactics (SWAT), Critical Incident Dispatch Team, and Public Education.

8.1.2.8 Quality Assurance/Quality Control (QA/QC)

A QA program is used to promote adherence to established goals and procedures and provide a framework for continuous improvement.

Recordings are randomly selected from the logging recorder database on a monthly basis. Bi-monthly reviews are conducted for each employee that has call taking responsibilities. These reviews measure call taking and dispatch performance and are used to determine if processes used by the communications center are efficient. Each employee has at least two random selections for review every two months. Critical events, such as a shooting a robbery or in progress calls, are automatically included for review. All complaints are audited.



8.1.2.9 Performance Measures

Performance measures include call answer time, time to transfer and time to dispatch.

8.1.3 Call Loads

Table 22 – Arvada PD Communications Center Call Statistics

			9-1-1 Calls			Non 9-1-1	
		Wireline		Wireless	Inbound	10-Digit	Admin
Year	Wireline	Abandoned	Wireless	Abandoned	Other	Incoming	Outbound
2012	5,945	320	27,037	1,058	2,375	107,798	42,329
2011	6,913		26,161		2,367	160,109	39,378
2010	8,651		23,523		1,041	157,164	35,379
Dispatched Calls for Service							
Year	Law	Fire/Rescue	EMS	Other			
2012							
2011							
2010	46,140	1,411	4,511				

Dispatch statistics for 2011 and 2012 were not available.

The busy day of the week is Friday. The busy time of day is 1:00 p.m. – 7:00 p.m. The busiest month was July.

8.1.4 Call Routing

The Arvada PD Communications Center provides backup 9-1-1 call answering for AFPD and Westminster Police.

Backup 9-1-1 capabilities for the Arvada PD Communications Center are provided by the Westminster Communications Center. The “Make Busy” switch, when activated, routes all incoming 9-1-1 calls to Westminster.

Westminster PD and Arvada PD share a geo-diverse Cassidian phone system. If all Arvada PD incoming 9-1-1 lines are busy, or if there is an outage condition, 9-1-1 calls will be automatically rerouted to the Westminster PD Communication Center. Conversely, if any 9-1-1 outages occur at Westminster PD, or all incoming 9-1-1 lines are busy, 9-1-1 calls will automatically be rerouted to Arvada PD.



8.1.5 Technology

8.1.5.1 9-1-1 Trunks

The Arvada PD Communications Center has four 9-1-1 trunks from the Broomfield tandem and four trunks from the Denver tandem, for a total of eight 9-1-1 trunks.

8.1.5.2 Network

The Arvada PD Communications Center currently is not connected to any of the other PSAPs in this study.

8.1.5.3 Radio

The Arvada PD Communications Center uses Harris P25 radio systems with Harris C3 Maestro dispatch consoles. Most of the radio system is now in transition. Arvada has shared a radio system with Westminster for 20 years, but Westminster is moving to a Cassidian radio system. With Westminster moving to Cassidian radios, Arvada PD is moving to become part of the Harris Metro Core radio system.

The Arvada PD radio system has tower site locations on Eldorado Mountain and near the intersection of 72nd Avenue and Vance Street. There is a repeater site at 68th Avenue and Estes Street.

8.1.5.4 Computer Aided Dispatch (CAD) System

The Arvada PD Communications Center uses an Intergraph CAD system, Version 8.00.02.04.

8.1.5.5 Recording/Logging systems

The Arvada PD Communications Center uses a NICE logging and voice recording system.

8.1.5.6 Records Management Systems (RMS)

The Arvada Communications Center uses an Intergraph I/LEADS RMS, Version 8.0.1.28. IBM's i2 CopLink Version 4.7.0.2 is used as a shared RMS by many law enforcement agencies, including Arvada.

8.1.5.7 CPE Phone System

The Arvada PD Communications Center is part of the shared 9-1-1 geo-diverse Cassidian Sentinel[®] Patriot[®] phone system, with half of the servers for this system located at Arvada PD and the other half located at Westminster PD.



8.1.5.8 Personnel Paging and/or Call-back Systems

The Arvada PD Communications Center provides after-hours emergency notifications of police personnel, other City of Arvada departments, and mutual aid agencies, updating the on-call information when changes are made in the CAD system.

8.1.5.9 Emergency Notification System (ENS)

Arvada uses CodeRED[®] for citizen emergency notifications.

8.1.6 Continuity of Operations Plan (COOP)

Arvada PD has a written COOP, which includes a one-page check list of evacuation procedures for the communications center. Backup communications is provided by the Westminster Communications Center. Additional resources are available from Adams County, Jefferson County, and state and federal agencies. The Communications COOP is separate from PD and specific to that area.

8.1.7 Redundancy and Resiliency

Arvada PD Communications Center has battery backup power and a fuel-powered generator. The Cassidian phone system is geo-redundant. The communications center is in a hardened facility, with multiple 9-1-1 trunks coming into the center.

8.2 GOLDEN POLICE DEPARTMENT

8.2.1 Overview

The City of Golden is a home rule municipality and the county seat of Jefferson County. According to the U.S. Census, the city of Golden has a land area of 9.92 square miles and a current population of 19,200.

The Golden PD Communications Center covers the city of Golden and is the primary PSAP for the city's police and fire departments, as well as the Colorado School of Mines fire and emergency medical services (EMS).

8.2.2 Operations

8.2.2.1 Certifications

The Golden PD is CALEA-accredited; the Communications Center does not have stand-alone accreditation.



All telecommunicators are dispatchers and are certified in the following:

- Colorado Crime Information Computer (CCIC)
- APCO Public Safety Telecommunicator
- APCO or “The Exceptional Trainer” (Core Curriculum) Communications Training Officer

8.2.2.2 Staffing

The Communications Section of the Golden PD is led by a sworn Support Services Section Captain who oversees two other sections within the department. The communications center is led by a civilian communications manager who oversees ten dispatchers. Currently, Golden PD Communications Center is operating with six dispatchers.

Golden PD Communications Center is authorized for one manager and ten FTE dispatchers. If staffing drops below ten FTEs, the center is authorized for two part-time dispatcher positions.

Dispatchers work a mix of 8-hour and 10-hour shifts, with the graveyard shift being 10-hours. Minimum staffing is two dispatchers, although at times there is only one on duty.

Current staffing is six FTE dispatchers and two part-time positions. Golden currently does not use any staffing tools.

The communications center has an average of 14.28 years of service per staff member, with a cumulative total of 128.5 years of service.

8.2.2.3 Positions and Duties

Communications Manager

Duties of the Communications Manager include the following:

- Plans, directs and monitors communications personnel in the performance of daily communications activities.
- Plans and schedules staffing needs for communications section.
- Responsible for development, review, and updating of communications center procedures and operating guidelines, coordinates interface between department policies and procedures, city rules and ordinances and state statutes.
- Responsible for the development and implementation of employee training in communications duties, equipment, operating guidelines, department policy and procedures, and resources.
- Monitors and evaluates subordinates’ job performance through written performance appraisal, employee log entries and personal interaction.
- Keeps personnel briefed on events and issues pertinent to the responsibilities and performance of the communications section.
- Responsible for assisting and/or budget analyses, preparation and presentation of annual assigned budget recommendations; assists in budget implementation; participates in the



forecast of additional funds needed for staffing, equipment, materials, and supplies; assists in administering the approved budget.

- As needed, attends meetings with departmental personnel and dispatchers to discuss operations and provides recommendation for change or improvements; meets with other police supervisors and city personnel to organize and coordinate activities pertaining to daily communications, functions, and operation; and participates with outside organizations and networks for E9-1-1-related information and legal updates.
- Works (or participates) directly with the Jefferson County Emergency Communications Authority (JCECA) in acquiring funding solutions for the communications section as applicable.
- May assist with dispatch duties during times of training, emergency, shortage of personnel and/or skill enhancement.

Dispatchers

Duties of the Dispatcher include the following:

- Receives emergency calls from the public requesting police or other emergency service.
- Dispatches city police units, Colorado School of Mines public safety, city fire units, and contracted ambulance.
- Monitors radio channels and alarm locations throughout the municipal building.
- Responsible for answering police phones and 9-1-1 emergency lines. Responsible for assisting and transferring calls as necessary to other agencies/departments.
- Coordinates emergency calls and relays information and assistance requests involving other law enforcement agencies.
- Maintains contact with all units on assignment; maintains status and location of police field units.
- Answers non-emergency calls for assistance.
- Assists citizens/employees at window with any request. Makes copies as necessary, gives directions, and receives necessary information to dispatch police, fire or ambulance. Provides instructions on counter accident reports.
- Assists court personnel with cancellations of warrants, transport of vehicles and driver's license information/histories on individuals. Completes bonding form and accepts cash/surety for bonds. Confirms warrants via telephone/computer for other agencies.
- Enters updates and retrieves information from teletype networks relating to wanted persons, stolen property, vehicle registration, stolen vehicles, and other information.
- Establishes and maintains daily log of all field calls and units dispatched. Maintains accurate log records, both manual and computerized, of calls for service for police, fire and ambulance.
- Queries, enters and modifies files within the CCIC/NCIC for stolen, missing, and found property. Runs computer reports for various individuals on a daily basis. Enters traffic accident reports into RMS.
- Maintains correct/current information on street closures and hydrant problems within the City. Also acts as emergency contact after-hours for water/sewer emergencies; monitors storms and call out, when necessary, i.e. snow crews. Contacts proper authorities with regard to problems with traffic lights, signs and street signs.



- Monitors situations that involve Clear Creek, up to county line; makes notifications to downstream users of hazardous situations which could affect water supplies.
- Monitors status of, and follows-up as necessary, certain elderly individuals within the city.
- Tests and inspects equipment as required; data entry duties, accepts bonds, and assists the records department as needed.

Other duties may be assigned.

Additional jobs performed by Golden Communications Center personnel include the following:

- Citizen walk-up window – assisting public 24/7
- Hot file confirmations after-hours
- Maintains all warrants
- Provides notary service to officers and others as needed
- Arranges prisoner transports for municipal courts
- Provide bonding of prisoners
- Processes closed circuit television (CCTV) video requests for officers/members of the public district attorney's (DA's) office
- Maintains/monitors security for entire city hall and PD
 - Doors and alarms throughout building
 - Sally port
 - Fire alarms for city hall and FD
 - Evidence vault alarm
- Maintains keys for city buildings, gates, water tower, radio repeater tower
- Issues visitor badges
- Provides security clearances as needed
- Initial phone contact for all members of the department including other city departments
- Maintains CAD files
- Provides weekly response reports to the fire department
- Provides public education for citizens on 9-1-1 and dispatch

8.2.2.4 Call Handling Methods

The Golden PD Communications Center is the primary PSAP for the city of Golden. The Golden Communications Center dispatches the Golden police and fire departments and the Colorado School of Mines FD and EMS agency. Any calls requiring emergency medical pre-arrival instructions are transferred to American Medical Response®.

American Medical Response® currently provides emergency medical dispatch (EMD) when the call is transferred to them. Golden Communications Center personnel ask the six basic EMD questions prior to the call being transferred to American Medical Response® for pre-arrival instructions. Golden PD was using EMD protocols, but staffing did not allow the time to properly perform EMD. Consideration is being given to again use the EMD protocols.



8.2.2.5 Standard Operating Procedures (SOPs)

The Golden Police Communications Center SOP manual covers:

- Administrative
- Equipment
- Call Taking
- Fire and EMS
- Police

8.2.2.6 Hiring

Golden provides an on-line typing test and requires a minimum of 48 words per minute with 90 percent accuracy. CritiCall® and the National Public Safety Dispatcher Selection Inventory (NPSDSI) are also used to assess an applicant's ability to utilize critical dispatch skills. Oral Board Interview, Background (Personal History Questionnaire), an Integrity Interview, Pre-Psychological, Polygraph Examination, and a Chief's Interview are also used. If offered a position, applicants must take a pre-employment psychological and a drug screening test.

8.2.2.7 Telecommunicator Training

Golden PD's entry level communications center training is broken into five phases:

1. Academy – Four weeks covering city and surrounding area geographical boundaries, district boundaries, policies and procedures, operational guidelines, call taking basics, and basic equipment.
2. Call Taking – Four to six weeks focused on call taking techniques, practices, policies/guidelines, equipment, and procedures.
3. Fire Dispatch – Four weeks continuing on call taking techniques and introduction of radio and fire dispatching.
4. Police Dispatching – Four weeks focused on all aspects of police dispatching.
5. Shadow Phase – Two weeks of training in a solo capacity with the dispatch trainer shadowing their performance throughout.

Currently, 50 percent of new hires are not able to complete the Golden PD Communications Center training curriculum.

8.2.2.8 Quality Assurance/Quality Control (QA/QC)

QA checks are performed randomly on each employee on a monthly basis. A minimum of three phone calls are reviewed for processing time, adherence to policy for correct information obtained and call coding.

Call statistics are pulled through the phone system based on the following criteria:

- Answer Time



- Talk Time
- Hold Time

Radio transmissions are randomly reviewed for each employee and critiqued in five areas: Dispatcher Performance, Channel Management, Radio Interaction, Knowledge, and Skills.

All entries made into CCIC/NCIC are checked for completeness, accuracy and timeliness by a designee(s). Any errors are corrected and paperwork is forwarded accordingly when completed. A log is also kept by the CCIC Coordinator for adherence of dispatchers to system policies and procedures.

8.2.2.9 Performance Measures

Performance measures used by Golden PD Communications Center dispatchers are measured and rated for: obtaining address verification, call processing time, dispatch performance, radio channel management, proper CAD entry, radio equipment use, and properly utilizing CCIC and NCIC systems.

8.2.3 Call Loads

The Golden PD Communications Center switched from a Positron Life Line call handling system to a Cassidian Sentinel® Patriot® system in December 2012. Century Link informed Golden that the call statistics prior to December 6, 2012, were not accurate as the Positron System server was down multiple times and calls should be higher than what is reflected below.

Table 23 – Golden PD Communications Center Call Statistics

			9-1-1 Calls				Non 9-1-1	
		Wireline		Wireless	Inbound	10-Digit	Admin	
Year	Wireline	Abandoned	Wireless	Abandoned	Other	Incoming	Outbound	
2012	8,166	**889	6,658	162	419	50,677		
2011	7,968	859	6,635	124	389	50,705		
2010	8,258	788	6,912	121	221	50,976		
Dispatched Calls for Service								
Year	Law	Fire/Rescue	EMS	Other				
2012	39,442	2,470	Combined with Fire					
2011	35,443	2,453						
2010	36,431	2,555						



Administrative Lines							
Year	Admin Inbound	In building	Misc Equipment Inbound	Admin Outbound			
2012	43,418	6,575		17,718			
2011	44,803	5,902		19,480			
2010	45,605	5,371		19,571			

(** denotes estimated)

The busy day is Friday. The busy time of day is 8:00 a.m. to 8:00 p.m. The busiest months are July and August.

8.2.4 Call Routing

The “Make Busy” switch, when activated, routes incoming 9-1-1 calls to the Jefferson County Sheriff’s Office (JCSO) Communications Center. The Cassidian geo-diverse phone system will automatically redirect 9-1-1 calls to Broomfield PD if a 9-1-1 outage is detected at Golden. This geo-diverse Cassidian phone system is shared with Broomfield, Westminster, AFD, and West Metro Fire.

8.2.5 Technology

8.2.5.1 9-1-1 Trunks

The Golden PD Communications Center has three 9-1-1 trunks from the Broomfield tandem and three trunks from the Capitol Hill tandem, for a total of six 9-1-1 trunks.

8.2.5.2 Network

Figure 4 depicts Golden’s network configuration.

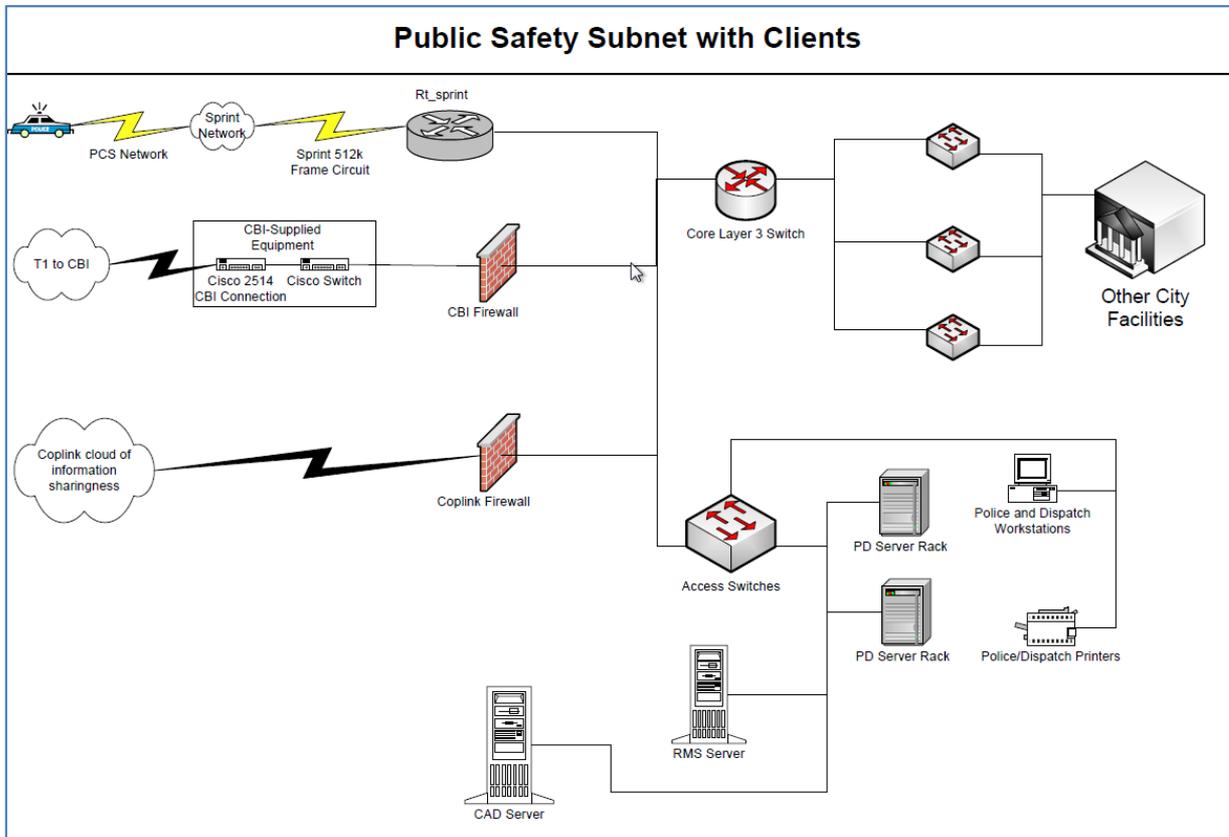


Figure 4 – Golden Network Configuration

8.2.5.3 Radio

The Golden PD operates a P25 radio system using Motorola MCC 7500 Internet Protocol (IP) dispatch consoles, Motorola XTS 5000 digital portable radios and the newer Motorola APX 6000 portable radios. The Jefferson County radio shop provides maintenance and programming for the radios.

8.2.5.4 Computer Aided Dispatch (CAD) System

The Golden PD Communications Center uses the IBM – SunGard HTE AS400 CAD system, Version 7.0.3, with maintenance through SunGard. This CAD system is almost 20 years old; replacement parts are becoming scarce and only offered as refurbished. The CAD system runs on an IBM operating system. Both the IBM operating system and hardware are still in full support. This system does not support mapping. Golden Communications Center uses the GeoLynx™ mapping application.

8.2.5.5 Recording/Logging System

The Golden PD Communications Center uses a NICE logging and voice recording system.



8.2.5.6 Records Management Systems (RMS)

The Golden PD Communications Center uses the SunGard HTE RMS. The center reported the current system is prone to errors and often does not function properly.

8.2.5.7 CPE Phone System

The Golden PD Communications Center is a part of the shared 9-1-1 geo-diverse Cassidian phone system. Golden PD is a remote site on this system, with half of the servers located at Broomfield PD and half of the servers located at the JCSO.

8.2.5.8 Personnel Paging and/or Call-back Systems

The Golden PD Communications Center uses CodeRED[®] and internal notification process for personnel paging and call-back.

8.2.5.9 Emergency Notification System (ENS)

Golden uses CodeRED[®] for citizen emergency notifications.

8.2.6 Continuity of Operations Plan (COOP)

The Golden PD has written documentation to ensure continuity of operations, including procedures for evacuation of the communications center.

8.2.7 Redundancy and Resiliency

The Golden PD Communications Center is in a hardened facility, with diverse and redundant connectivity paths from the center. The electrical system has battery backup power and a diesel generator. The Cassidian phone system is geo-redundant.

8.3 JEFFERSON COUNTY SHERIFF'S OFFICE (JCSO)

8.3.1 Overview

JCSO was founded in November 1859 and today serves 184,640 residents in the unincorporated areas of the county. According to the U.S. Census, Jefferson County has a land area of 764.21 square miles, of which approximately 653 square miles are unincorporated.

The JCSO Communications Center is the primary dispatch center for the unincorporated portions of Jefferson County. JCSO Communications Center provides call handling and dispatch services for five law enforcement agencies and eight volunteer fire districts, and also receives 9-1-1 call overflows from



Evergreen Fire, Golden PD Lakewood PD, and West Metro Fire Rescue. The JCSO Communications Center also provides EMD services to Park County as needed.

8.3.2 Operations

8.3.2.1 Certifications

The JCSO Communications Center has no formal accreditation. They were working towards CALEA accreditation; however, the accreditation manager left before the process was complete.

Accreditation through the International Academies of Emergency Dispatch (IAED) and CALEA are goals the communications center would like to achieve this year.

8.3.2.2 Staffing

The JCSO Communications Center is led by a sworn Division Chief who oversees seven sections, including Informational Services. The Informational Services Director oversees five units, including Communications. A Communications Manager oversees Communications.

Authorized staffing for the center is 35 FTE's, made up of 26 telecommunicators, 1 manager, 2 administrative line operators, 1 resource coordinator and 5 supervisors. According to the JCSO Communications Center, current staffing is creating significant overtime. Supervisor staffing is a significant issue as some shifts have no supervisor on duty. Personnel work 8-hour shifts. Shifts are bid yearly based on seniority.

The JCSO Communications Center uses Schedule Express.

The Communication Center has an average of 11.25 years of service per staff member, with a cumulative total of 315 years of service. The JCSO Communications Center experiences a 35 percent turnover rate.

8.3.2.3 Positions and Duties

Communications Section Manager

The Communications Manager prepares and submits various reports as required by local, state and federal governments and is responsible for filing and maintenance of reports, records and other documents, required by federal, state and local laws and regulations.

The Communications Manager prepares long-range plans for operations and equipment upgrades to ensure delivery of adequate service; and plans, prepares and presents proposed budgets for dispatch and administers approved budgets.



Shift Supervisors

Under limited supervision, supervisors perform supervisory and administrative work on an assigned shift. Work involves coordinating, supervising and participating in activities of telecommunications personnel, including scheduling, assisting, training, evaluating, and disciplining. Work also involves monitoring radio and telephone traffic and informing staff of policy and procedural changes. Supervisors are also responsible for documenting problems with communications equipment and coordinating work with other supervisors to enhance consistency. Shift supervisors report to the Communications Manager.

Communications Dispatcher – EMD

Under general supervision, dispatchers perform specialized radio and communications work, serving as an EMD on an assigned shift. Work involves receiving emergency and non-emergency incoming calls; dispatching applicable resources, including law enforcement, fire and EMS; providing pre-ambulance arrival instructions; and operating a computer terminal to enter and retrieve information for deputies. Dispatchers are responsible for operating the CCIC/NCIC computer terminal. Work also includes preparing briefings for the following shift, responding to inquiries from the general public and locating deputies. Dispatchers report to a Communications Shift Supervisor.

PBX Operators

PBX operators perform specialized communications work for the county, answering non-emergency telephones. PBX operators receive incoming calls, obtaining and evaluating requests and relaying information to the correct location. PBX operators provide information to other agencies, as requested, and are responsible for maintaining a variety of records and logs. PBX operators report to a Communications Shift Supervisor.

The JCSO Communications Center staff is also responsible for county probation, transport probation and traffic court investigations; monitoring of panic buttons and cameras in certain county buildings; dispatching for county park, road and bridge and animal control; and after-hours warrants and records requests for all law agencies served.

8.3.2.4 Call Handling Methods

The JCSO Communications Center uses the Colorado EMD system on every medical call. The ability to provide consistent levels of service and professionalism on all calls and for dispatching of all entities is a 2013 goal for the center. The Communications Center is moving toward implementing the Medical Priority Dispatch System (MPDS) Pro-QA for EMD by July of 2013.



8.3.2.5 Standard Operating Procedures (SOPs)

SOPs are being updated and developed. Current communications center topics include:

- Call Taking
- Communication with Field Units
- Communication with Fire/EMS and Auxiliary Units
- Resources and Special Units
- Mutual Aid Notifications
- Communications Equipment/System Programs

8.3.2.6 Hiring

Hiring is through the JCSO Department of Recruiting

8.3.2.7 Telecommunicator Training

The training of communication center recruits begins with two weeks in their internal training academy.

After the academy, the training process takes six to eight weeks to become a call taker. An additional four to six months is typically required before staff is ready to dispatch on their own.

8.3.2.8 Quality Assurance/Quality Control (QA/QC)

Routine QA procedures require three telephone call/incident audits and one continuous hour of radio transmissions to be audited monthly for each employee. The call handling review evaluates dispatchers on address verification and call processing, call taking procedures, customer service, equipment usage, EMD protocol, CCIC/NCIC data entry, and CAD entry of caution notes and premise history.

The dispatch evaluation includes initial dispatch, dispatch procedures for fire and law, customer service, equipment usage, special procedures, and CCIC / NCIC procedures.

8.3.2.9 Performance Measures

Performance metrics includes:

- Telecommunicators will answer 90 percent of all incoming 9-1-1 calls within 10 seconds
- Telecommunicators will answer 95 percent of all incoming 9-1-1 calls within 20 seconds
- 90 percent of all 9-1-1 calls will be processed and ready for initial dispatch within 60 seconds or less



8.3.3 Call Loads

Table 24 – JCSO Communications Center Call Statistics

		9-1-1 Calls				Non 9-1-1	
		Wireline		Wireless	Inbound	10-Digit	Admin
Year	Wireline	Abandoned	Wireless	Abandoned	Other	Incoming	Outbound
2012	15,353		55,555		Not Available		
2011	11,975		51,165		3,612		
2010	13,162		44,564		1,595		
Dispatched Calls for Service							
Year	Law	Fire/Rescue	EMS	Other			
2012	219,864	3,902*	10,633*				
2011	218,166	3,891	10,522				
2010	192,819	3,887	10,213				

Administration line statistics were not available.

The busy day is Friday. The busy time of day is 1:00 p.m. to 7:00 p.m. The busiest month is July.

8.3.4 Call Routing

Backup 9-1-1 capabilities for the JCSO Communications Center are provided by the Lakewood PD Communications Center. The “Make Busy” switch, when activated, routes incoming 9-1-1 calls to the Lakewood PD Communications Center. The JCSO Communications Center can also have the incoming 9-1-1 calls redirected to their command vehicle.

The JCSO Communications Center is also part of the shared 9-1-1 geo-diverse Cassidian phone system. JCSO houses half of the call handling servers with the other half located at Broomfield PD.

8.3.5 Technology

8.3.5.1 9-1-1 Trunks

The JCSO Communications Center has six 9-1-1 trunks from the Broomfield tandem and six trunks from the Denver tandem, for a total of twelve 9-1-1 trunks.



8.3.5.2 Network

The cable and fiber network used by the JCSO Communications Center is owned and maintained by Jefferson County and includes diverse and redundant paths.

8.3.5.3 Radio

JCSO uses the Colorado Statewide Digital Trunked Radio System (DTRS). The current statewide radio system is nearing its end-of-life, which means the radio network will lose its Criminal Justice Information Services (CJIS) certification. The alternative is for JCSO to fund their own zone controllers and hope to find partners. JCSO provides full in-house support for voice radios.

There is currently one radio channel for five law enforcement agencies, with 40 to 45 deputies typically on the channel.

There is one dispatcher who monitors the 16 radio channels for eight fire agencies. The fire channels are also used for warrants and records as well as for dispatching parks, animal control, and road and bridge crews.

8.3.5.4 Computer Aided Dispatch (CAD) System

The JCSO Communications Center uses a Tiburon™ Command CAD 2.6, with Maverick Map Version 5.2 as the mapping display.

8.3.5.5 Recording/Logging systems

The JCSO Communications Center uses a NICE Inform® with Playback 3.2.1.103 and Enterprise NICE Perform®, release 3.5 logging and voice recording system.

8.3.5.6 Records Management Systems (RMS)

The JCSO Communications Center uses a Tiburon™ RMS.

8.3.5.7 CPE Phone System

The JCSO Communications Center uses the geo-diverse Cassidian system.

8.3.5.8 Personnel Paging and/or Call-back Systems

The JCSO Communications Center uses CodeRED® as their personnel paging and call-back system.



8.3.5.9 Emergency Notification System (ENS)

JCSO uses CodeRED® for citizen emergency notifications.

8.3.6 Continuity of Operations Plan (COOP)

In the event of an evacuation of the Communications Center, Evergreen Fire will monitor the fire channels, Golden PD Communications Center will monitor law enforcement channels, Lakewood PD will be notified that they will start receiving all 9-1-1 calls, and staff will evacuate to Jefferson County Animal Control.

8.3.7 Redundancy and Resiliency

JCSO has battery backup power; backup generators; redundant heating, ventilation and air conditioning (HVAC) systems, and a hardened Communications Center. The Cassidian phone system is geo-diverse. Network and radio systems are both resilient and redundant.

8.4 LAKEWOOD POLICE DEPARTMENT

8.4.1 Overview

The City of Lakewood is the fifth most populated city in Colorado. According to the U.S. Census, the city of Lakewood has a land area of 42.88 square miles and a 2010 population of 142,980.

The Lakewood PD Communications Center is the primary PSAP for police, fire and EMS for Lakewood. In addition, the center dispatches Animal Control, Code Enforcement Officers, Community Service Officers, Park Rangers, volunteers and Court Marshalls. The Communications Center also acts as a 3-1-1 center for Lakewood and is responsible for after-hours emergency contact for many city facilities.

The Lakewood PD Communication Center is led by a sworn Division Chief who oversees three sections: Communication, Records and Community Service. The Communications Section is led by a civilian Communications Manager.

8.4.2 Operations

8.4.2.1 Certifications

The Lakewood Police Department is CALEA Accredited and has submitted their request to become APCO P33 certified. APCO Project 33 (P33) is a recognition program for public safety communications training programs across the nation. The program requires agencies to meet or exceed the APCO ANS 3.103.1-2010: Minimum Training Standards for Public Safety Telecommunicators. .



8.4.2.2 Staffing

Authorized staffing for the Communications Center is 37 FTEs, which includes the manager, 3 supervisors, 3 lead dispatchers and 30 dispatchers. Lakewood is authorized to overstaff by 3 employees and utilizes 2 temporary part time employees. All dispatchers are cross-trained for call take and dispatching. Shifts are based on four 10-hour days. The City uses a work week, rather than a work period for Fair Labor Standards Act (FSLA) calculations, which causes high levels of overtime. With five different shift start times throughout the week, staffing can be an obstacle; however, this allows for better shift coverage. Shift bidding takes place once a year based on seniority.

The Lakewood PD Communications Center uses WhenToWork[®] on-line scheduling software.

The Communications Center has an average of 10.56 years of service per staff member, with a cumulative total of 443.5 years of service. The Lakewood PD Communications Center experiences a 10 percent turnover rate.

8.4.2.3 Positions and Duties

Communications Manager

The Communications Manager is responsible for coordination, planning, managing and administering the communications section for the Lakewood PD and performs a variety of supervisory and administrative duties, and establishes policies and procedures necessary for the protection of life, health, safety, welfare, and property of persons. This position is distinguished from other positions by the broad range of administrative responsibilities assigned, the degree of delegated authority and required job knowledge.

Communications Supervisors

Supervisors are responsible for Communications Center operations supervision and ensuring emergency and non-emergency calls for service are answered quickly and that appropriate police units are dispatched expeditiously.

Dispatchers

Dispatchers are responsible for monitoring, coordinating, and relaying radio and telephone traffic from field units, other law enforcement agencies, and citizens in emergency and non-emergency situations; prioritizing and organizing call load according to nature and type of assistance required; recording and maintaining accurate documentation of all field units' locations and activities; contacting other agencies, citizens or businesses to obtain or relay information pertinent to calls; and documenting information pertaining to criminal activity and other critical events.

Other duties assigned to the Communications Center include:

- Troubleshooting CAD/mobile data terminals (MDT) and radio issues for field personnel
- CodeRED[®] ENS
- Smart911 data updates



- Telecommunications Device for the Deaf (TDD) testing
- Issuing booking numbers and court dates
- Entering pertinent information into the sector logs for patrol roll call briefings
- Entering alerts on addresses in CAD
- Processing Safe To Tell reports
- Providing gun clearances for local gun shops
- Sending CCIC be-on-the-lookouts (BOLOs) to patrol mobile data computers (MDCs)
- Entering and updating Special Address (SPAD) comments
- Skills updates in CAD database management system
- Entering private tows
- Dispatching of all city agencies and departments after normal business hours
- 3-1-1 type information for the citizens of Lakewood
- Monitoring booking areas, all panic buttons and cameras
- Whelen siren activations
- Generator alarm panel
- Monitoring Metro Area Task Force global positioning system (GPS) for bait cars
- Money pack robbery tracking software
- Downloading license plate reader data for CCIS
- MDC troubleshooting guide resource for radios
- Open Records request relating to Communications Center

Dispatchers are responsible for monitoring:

- Four primary Lakewood radio channels
- Four law tactical radio channels
- METRONET
- Street maintenance
- Red Rocks Community College
- Mills security
- Neighboring jurisdictions
- Special Operations for traffic details, SWAT operations
-

8.4.2.4 Call Handling Methods

The Lakewood PD Communications Center is the primary PSAP for police, fire and EMS for Lakewood. The center is also considered the 3-1-1 for the city and is the after-hours emergency contact for many city facilities.

Fire and medical calls are transferred to the proper secondary PSAPs.



8.4.2.5 Standard Operating Procedures (SOPs)

The Lakewood PD Communications Center SOPs are provided to all staff. Major topics documented in the SOP manual include:

- Personnel Issues
- Facilities and Equipment Procedures
- CAD Procedures
- Call Taking Procedures
- Phone Procedures
- Police Radio Procedures
- PD Wants Procedures

8.4.2.6 Hiring

A Police Suitability test is given to the top 100 applicants. Those applicants who score the best have a preliminary interview. The strongest candidates undergo a polygraph test and an oral review board interview. Candidates passing the oral board interview undergo a dispatcher's skill assessment test. Successful candidates then take an initial psychological examination and submit to a background investigation and a reference check.

Upon a contingent job offer, there is a second phase psychological examination, drug screening and hearing and vision tests.

8.4.2.7 Telecommunicator Training

New trainees attend a one-week training academy learning policies, local geography, call taking and CAD skills, customer service, basic dispatch, and other ancillary responsibilities. The academy ends with testing.

After passing the academy, a hands-on training period begins and is scheduled as follows:

- Week 1 Administration
- Weeks 2–9 Call Taking
- Weeks 10–16 Police Wants
- Weeks 16–24 Primary Training

Continuing education is also in place including NIMS, CIT and ICS courses, as well as equipment review.



8.4.2.8 Quality Assurance/Quality Control (QA/QC)

The Lakewood PD Communications Center performs QA through review of logs and recordings as well as supervisor observation. QA includes review of the following:

- Verification of address and telephone number
- Correct information entered into CAD
- Proper event type coding
- Customer service and attitude
- Proper information requested
- Completion time

8.4.2.9 Performance Measures

It was noted that the call taking talk times have increased to provide better customer service. The Lakewood PD Communications Center is measuring call handling and dispatching for quality of service rather than time needed to perform a measured task. The recently upgraded phone system will allow the center to measure average call answering times for incoming 9-1-1 calls and other metrics that could not be measured in the past. Due to this new capability, performance measures are being updated.

8.4.3 Call Loads

Table 25 – Lakewood PD Communications Center Call Statistics

		9-1-1 Calls			Non 9-1-1		
		Wireline	Wireless	Wireless	Inbound	10-Digit	Admin
Year	Wireline	Abandoned	Wireless	Abandoned	Other	Incoming	Outbound
2012	152,301		73,599			246,968	66,027
2011 (Dec not included)	164,490	5,135	51,493	5,822		248,066	82,258
2010	**170,000		48,191			239,456	82,649
Dispatched Calls for Service							
Year	Law	Fire/Rescue	EMS	Other			
2012	206,923						
2011	232,310						
2010	206,157						

(** denotes estimated)

Administrative line statistics are included in the 10-digit statistics.



The busy day is Friday. The busy time of day is 2:00 p.m. to 4:00 p.m. The busiest month of year for 2010 was August, and July for 2011 and 2012.

8.4.4 Call Routing

Backup 9-1-1 capabilities for the Lakewood PD Communications Center are provided by the JCSO Communications Center. The “Make Busy” switch, when activated, routes incoming 9-1-1 calls to the JCSO Communications Center. Lakewood is also part of the shared 9-1-1 geo-diverse Cassidian Sentinel® Patriot® system. If all 9-1-1 lines are busy or if the Lakewood PD is unavailable, the incoming 9-1-1 calls will automatically be redirected to the JCSO Communications Center.

Lakewood also has a backup center.

8.4.5 Technology

8.4.5.1 9-1-1 Trunks

The Lakewood PD Communications Center has four 9-1-1 trunks from the Broomfield tandem and four trunks from the Denver tandem, for a total of eight 9-1-1 trunks. The Lakewood backup facility also has four 9-1-1 trunks from the Broomfield tandem and four trunks from the Denver tandem.

There is a discrepancy with the information provided by CentryLink and that provided by Lakewood. A trunk audit should be performed to determine the correct trunking.



8.4.5.2 Network

Figure 5 depicts Lakewood's network configuration.

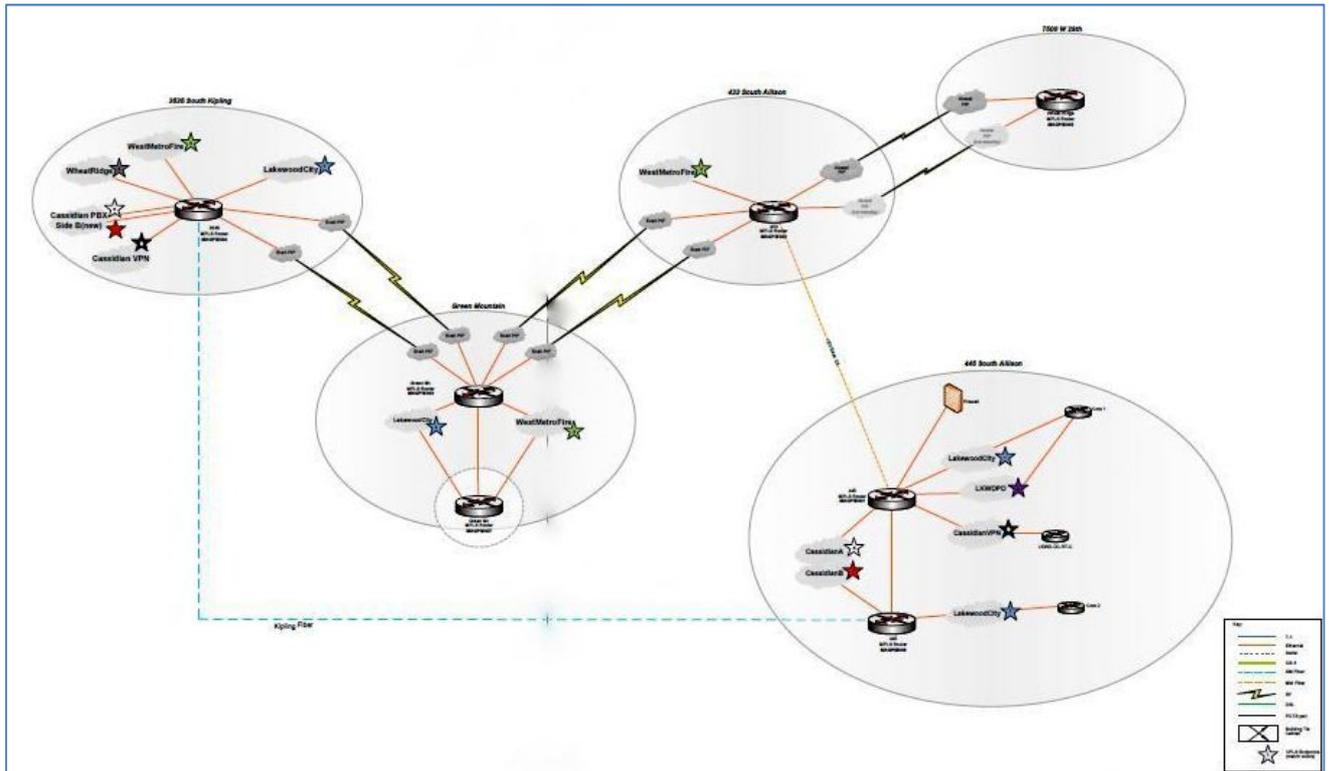


Figure 5 – Lakewood Network Configuration

8.4.5.3 Radio

Lakewood, Denver, Aurora and West Metro are part of the same radio core and the microwave backup.

Lakewood, West Metro Fire Rescue and Wheat Ridge share a hosted Harris P25 radio system. Lakewood uses Maestro IP consoles. Lakewood is the designated radio shop. Information Technology (IT) personnel from the City of Lakewood are authorized and provide Tier 1/2 level support for the radio system.

8.4.5.4 Computer Aided Dispatch (CAD) System

The Lakewood PD Communications Center uses Intergraph CAD iDispatcher with embedded map display, Version 9.2.009.02.00.2207. City IT provides CAD support.



8.4.5.5 Recording/Logging Systems

The Lakewood PD Communications Center uses a NICE logging and recording system. West Metro Fire Rescue and Wheat Ridge PD are remotes on this system, which is housed at Lakewood PD.

8.4.5.6 Records Management Systems (RMS)

The Lakewood PD Communications Center uses an Intergraph RMS.

8.4.5.7 CPE Phone System

The Lakewood PD Communications Center uses a geo-diverse Cassidian Sentinel® Release 3.1, Build 180 and Patriot Release 3.1 system. West Metro Fire Rescue is a remote site on this hosted phone system. Wheat Ridge will be part of this system in the near future.

8.4.5.8 Personnel Paging and/or Call-back Systems

The Lakewood PD Communications Center uses CodeRED® for personnel paging as well as a call down list maintained in the CAD system.

8.4.5.9 Emergency Notification System

Lakewood uses CodeRED® for citizen emergency notifications.

8.4.6 Continuity of Operations Plan (COOP)

The COOP is part of the written Lakewood PD Communication Center SOPs. In event of a catastrophic incident that would prevent normal operations of the Communications Center for an extended period of time, dispatchers would be deployed to the JCSO Communications Center to assist with the 9-1-1 call load. Lakewood PD also has the ability to transfer calls and operate out of the Lakewood Backup facility.

8.4.7 Redundancy and Resiliency

The Lakewood PD Communications Center has battery backup power and a fuel-powered electrical generator, and connections for auxiliary generators to be used. The Cassidian phone system is geo-redundant. The Communications Center is in a hardened facility. There are multiple diverse and redundant paths into the center for 9-1-1 calls and communications systems.



8.5 ARVADA FIRE PROTECTION DISTRICT (AFPD)

8.5.1 Overview

AFPD is an independent governmental entity serving the majority of the city of Arvada through an intergovernmental agreement (IGA) for fire, emergency medical care and hazardous material mitigation. The 41 square mile area served includes 98 percent of the city of Arvada, 33 percent of Wheat Ridge, and some unincorporated areas of Jefferson County. The estimated population served is 120,000.

AFPD is a secondary PSAP, with the majority of their calls transferred from the Arvada PD Communications Center.

The AFPD Communications Center is led by the Support Services Director. Reporting to the Director is a Communications Manager.

8.5.2 Operations

8.5.2.1 Certifications

All AFPD Communication Center dispatchers are required to become EMD and Emergency Fire Dispatch (EFD) certified, which also requires obtaining and maintaining CPR certification.

All AFPD dispatchers are expected to complete NIMS (National Incident Management System) ICS-100, ICS-200, ICS-700 AND ICS-800.

The Communication Center manager and all leads are Communication Training Officer certified.

The center is in the process of becoming accredited by the Commission on Fire Accreditation International (CFAI).

8.5.2.2 Staffing

The AFPD Communications Center has an authorized staffing of eight FTEs (four lead dispatchers and four dispatchers), with five to eight part-time positions, the manager and division oversight by the director. Currently the center has a full staff of 16 dispatchers, which includes four lead dispatchers, four dispatchers, and eight part-time dispatchers. Communications Center personnel work 12-hour shifts. The minimum staffing level was two during the information gathering period. Bidding on shifts follow the steps as outlined in the Standard Operating Guidelines, under the Communication and Shift Bidding section.

The manager and director annually monitor call volume and would increase staffing levels to a third telecommunicator if necessary. Due to the addition of EMS transports, this additional staff may become



necessary during peak times. Additional staffing will be considered if the AFPD Communications Center provides dispatching services for other agencies.

The AFPD Communications Center uses High Plains[®] on-line scheduling software.

The AFPD Communications Center has an average of 8.5 years of service per staff member, with a cumulative total of 85.5 years of service with the AFPD Communications Center.

The AFPD Communications Center experiences a three percent turnover rate; there have been no turnovers in the last five years. There was a large turnover six years ago, due in part to significantly higher salaries being paid to personnel in the nearby Metropolitan Area Communications Center (MetCom). Since that time, the salary disparity has been adjusted to be similar to other fire protection districts.

8.5.2.3 Positions and Duties

Support Services Director

The Support Services Director's primary duty is managing all aspects of the District's Support Services Division, including all aspects of the day-to-day administration and operation of the Communications Center and IT Department and Maintenance Division within the Support Services Division; evaluating, developing and implementing a high-quality, cost-effective and efficient support services program for the District; and, effectively and efficiently coordinating the District's support services, such as telecommunications, dispatch and computer systems and networks. The Support Services Manager supervises all Support Services Division personnel, including Information Support Technicians and all dispatchers.

Communications Manager

The Communications Manager's primary duty is managing the Communications Center, including all aspects of the day-to-day administration and operation of the Communication Center, including evaluating and supervising personnel and participating in the dispatching of public safety personnel, as necessary. The Communications Manager oversees all dispatchers, including lead dispatchers, full-time dispatchers and part-time dispatchers.

Lead Dispatchers

Lead Dispatchers assist in the supervision, assignment and review of work performed by dispatchers. Lead dispatchers provide public safety communication services and participate in the dispatching of public safety personnel. A lead dispatcher may serve as the Communications Manager in their absence on matters for which authority has been expressly delegated. The lead dispatcher supervises all dispatchers on assigned shifts.



Dispatchers

Dispatchers operate communications equipment to receive emergency and non-emergency calls, dispatch personnel, stations and equipment, and provide pre-arrival instructions (PAIs) to callers through the EMD and EFD protocols.

Radio protocols include plain language and repeating back what is said by field personnel.

8.5.2.4 Call Handling Methods

The AFD Communications Center is a secondary PSAP, with the majority of the 9-1-1 calls transferred from the Arvada PD Communications Center. All dispatchers are certified EMD and EFD providers.

8.5.2.5 Standard Operating Procedures (SOPs)

The AFD Standard of Operations covers the following:

- Communications Center Chain of Command
- Communications Center Staffing Requirements
- Communications Center Shift Coverage
- Communications Center On-Call Rotation
- Communications Center Radio & Phone Responsibilities
- Communications Center General Responsibilities & Duties
- Communications Center New-Hire Training Program
- Communications Center Employee Training Classes
- Communications Center Meetings & Trainings
- Communications Center Personal Media Standards
- Communications Center Time Off Requests
- Communications & Shift Bidding
- Personal Appearance

8.5.2.6 Hiring

The AFD Communications Center uses CritiCall® for pre-employment testing, employing 12 of the 15 modules within the software testing program. A CritiCall® acceptance rating of 95 percent is the base for new recruits. AFD also uses background checks, motor vehicle records check, psychological testing and an interview panel. The interview panel may include members from outside the agency. Once a candidate is admitted to their training process, there is a zero “wash out” rate.



8.5.2.7 Telecommunicator Training

Training is currently being updated due to new EMS operations. Currently, there is a four-month program to become certified for EMD and EFD. AFPD is exploring the development of additional in-house classroom training and will be upgrading to Pro-QA Paramount software in the near future.

Blue Card Command is part of the training program. This program teaches NIMS Fire Command and ensures everyone is interoperating efficiently on all incidents.

All lead supervisors and the manager completed the Association of Public Safety Communications Officials (APCO) Supervisor's course. The manager has also the Communication Center Manager Course through NAED (National Academies of Emergency Dispatch) in collaboration with Fitch & Associates.

8.5.2.8 Quality Assurance/Quality Control (QA/QC)

QA metrics are being put in place as part of the CFAI accreditation process. This process should be complete within 18 months. Emergency Medical Dispatcher Quality Assurance (EMD-Q) and Emergency Fire Dispatcher Quality Assurance (EFD-Q) programs are also used for QC measurements.

8.5.2.9 Performance Measures

The AFPD Communications Center follows the National Fire Protection Association (NFPA) standards for call answer times and times to dispatch. Some of the performance measures include the following:

- Answer calls within 15 seconds, 95 percent of time and 40 seconds, 99 percent of time
- First unit dispatched within 60 seconds of answering the call
- Determine appropriate EMD/EFD determinant code within 90 seconds, 90 percent of the time, within 120 seconds, 99 percent of the time.

8.5.3 Call Loads

The AFPD Communication Center moved to a new call handling system in 2010. Call statistics prior to 2010 are not available. The call statistics for 2010 are also not available due to the change of systems.



Table 26 – AFD Communications Center Call Statistics

			9-1-1 Calls			Non 9-1-1
		Wireline		Wireless	Inbound	10-Digit
Year	Wireline	Abandoned	Wireless	Abandoned	Other	Incoming
2012	39,028		3,155		931	
2011	41,454		2,704		909	
2010	New System		New System			
Dispatched Calls for Service						
Year	Law	Fire/Rescue	EMS	Other		
2012		2,321	8,050	607		
2011		1,938	8,714	950		
2010		2,280	7,516	458		

Administrative line statistics were not available.

8.5.4 Call Routing

The AFD Communications Center is a secondary PSAP, with the majority of the calls transferred from the Arvada PD Communications Center. Arvada Fire is a remote site on the Westminster PD and Arvada PD geo-diverse Cassidian phone system.

Backup 9-1-1 capabilities for the AFD Communications Center are provided by the Arvada PD Communications Center and the Jefferson County Sheriff’s Office (JCSO).

8.5.5 Technology

8.5.5.1 9-1-1 Trunks

The AFD Communications Center has two 9-1-1 trunks from the Denver tandem and two trunks from the Broomfield tandem, for a total of four 9-1-1 trunks.

8.5.5.2 Network

ComCast® is the leased transport network provider. Routers in this network were purchased and are maintained by AFD. Station 6 and the main office both have a digital subscriber line (DSL) backup through CenturyLink™. AFD also has three sites with microwave broadband connections. The phone system is running over leased CenturyLink™ fiber. AFD is not part of the southern fiber system.



Figure 6 depicts AFPD's network configuration.

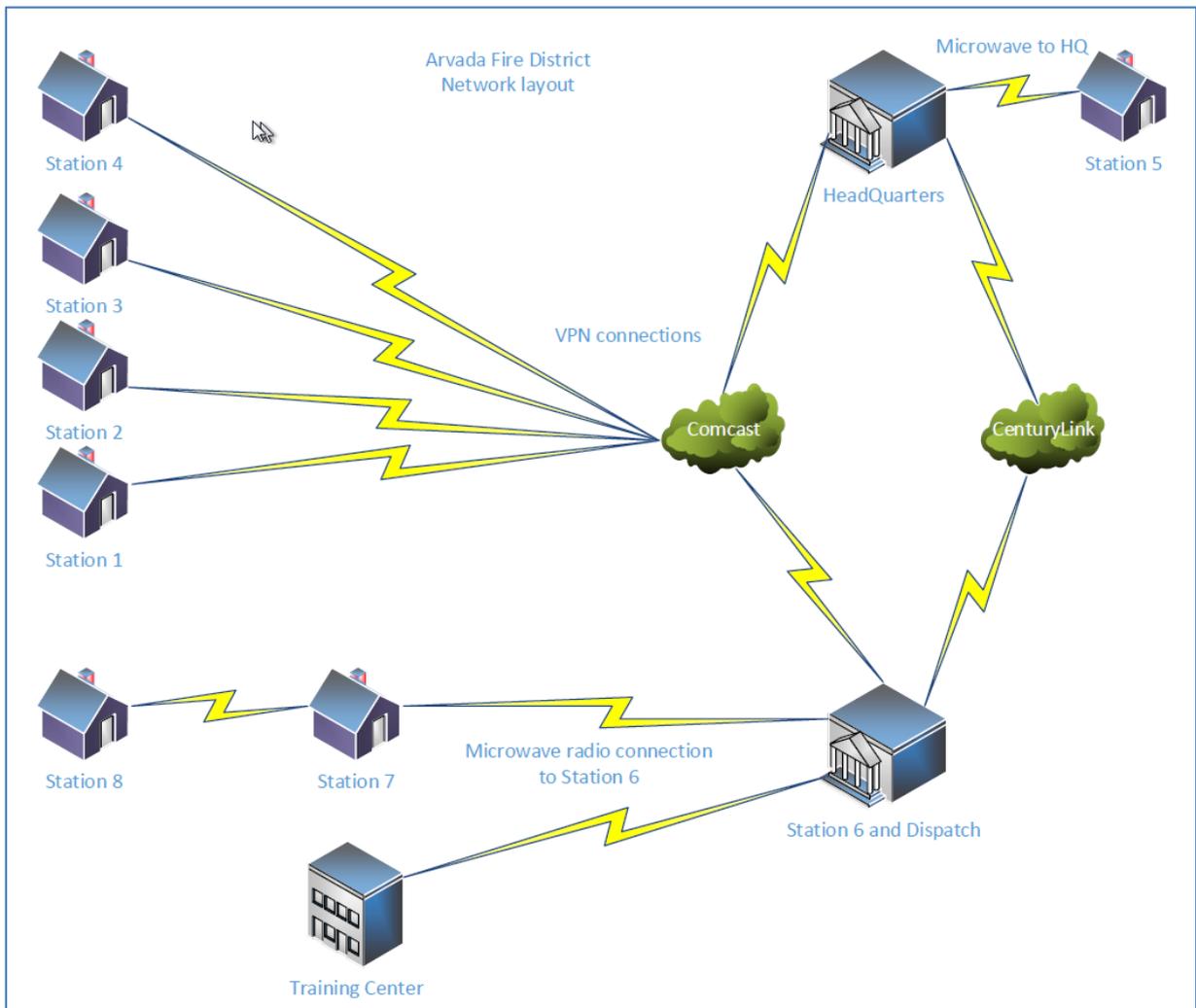


Figure 6 – AFPD Network Configuration

8.5.5.3 Radio

AFPD is on the Harris radio system with Arvada PD and Westminster. AFPD is moving to a P25 radio system and is currently working on a governance model to be part of the Harris Core with Lakewood and Denver. Frontier Radio currently maintains AFPD radios; however, AFPD plans to work with Lakewood for radio maintenance once the move to the Harris P25 radio system is complete. AFPD intends to enter into an IGA with Lakewood for this service.

The AFPD Communications Center uses Maestro Version R6 dispatch consoles and Harris portable units. Radio talkgroups include AF FIRE, AF TAC2, AF TAC3, AF TAC4, FERN and METRONET which



are monitored at all times by communications personnel. There are also talkgroups for triage, a direct to vehicle group, the Arvada PD tactical group, and 14 Network First talkgroups.

8.5.5.4 Computer Aided Dispatch (CAD) System

The AFPD Communications Center uses a Zoll CommandCAD system with automatic vehicle location (AVL) and integrated mapping. AFPD has AVL units in all their fleets, which allows dispatch of the closest available unit to the incident location. The Zoll CommandCAD system is also used for station alerting through their network, rather than their radio system.

8.5.5.5 Recording/Logging Systems

The AFPD Communications Center uses a NICE logging and voice recording system.

8.5.5.6 Records Management Systems (RMS)

The AFPD Communications Center uses a Zoll RMS.

8.5.5.7 CPE Phone System

The AFPD Communications Center shares a geo-diverse Cassidian call handling system with Westminster and Arvada PD.

8.5.5.8 Personnel Paging and/or Call-back Systems

The AFPD Communications Center uses their Zoll CommandCAD system for internal notifications.

8.5.5.9 Emergency Notification System (ENS)

AFPD Uses CodeRED[®] as their ENS provider. AFPD is trained and equipped to use CodeRED[®] for emergency notifications and can do so for fire or hazardous material related incidents however since Arvada PD has more staffing they often assist AFPD with the actual notification launch.

8.5.6 Continuity of Operations Plan (COOP)

The AFPD Communications Center has written procedures for evacuation of the center.

8.5.7 Redundancy and Resiliency

The AFPD Communications Center is in a hardened facility with battery backup and electrical generator backup power. The communications network and radio network are fully redundant. The shared phone system is redundant.



8.6 WEST METRO FIRE RESCUE

8.6.1 Overview

The West Metro Fire Protection District (WMFPD) is a special district organized under Colorado Revised Statutes Title 32 to provide fire protection to approximately 110 square miles within Jefferson and Douglas Counties, including the city of Lakewood and the town of Morrison. Portions of the cities of Golden and Wheat Ridge, as well as parts of unincorporated Littleton County are also covered by West Metro Fire Rescue (WMFR). WMFR serves a population of 247,585 according to U.S. Census Bureau and is the largest single fire district and fire-based EMS provider in the state.

The WMFR Communications Center is a secondary PSAP receiving all fire and rescue calls from the JCSO Communications Center, Douglas County, Wheat Ridge PD Communications Center and Lakewood PD. Each primary PSAP passes full location data to WMFR including Phase 1 and Phase 2 wireless calls.

Administrative staff consists of a Division Chief and a civilian Assistant Communications Manager.

8.6.2 Operations

8.6.2.1 Certifications

Certification that must be completed during a new employee's probation period includes:

- Cardiopulmonary Resuscitation (CPR)
- Priority Dispatch EMD
- Priority Dispatch ProQA
- NIMS ICS-100, ICS-200 and ICS-700
- Driving Class
- Diversity Training

8.6.2.2 Staffing

The WMFR Communications Center is authorized one communications manager plus 16 FTEs. Each 12-hour shift has two dispatchers, a lead dispatcher and a supervisor. WMFR currently is at full staffing with 1 manager, 4 supervisors and 12 telecommunicators.

Minimum staffing is three dispatchers, one of which is either a lead dispatcher or supervisor. The WMFR Communications Center recently began rotating shifts every six months. Personnel bid vacation time and assign time slots for shift bid by seniority.

The WMFR Communications Center uses TeleStaff for scheduling.



The WMFR Communications Center has an average of 14.29 years of service per staff member, with a cumulative total of 243 years of service.

8.6.2.3 Positions and Duties

Dispatchers

Dispatcher responsibilities include the following:

- Attend training necessary to maintain all required certifications including CPR and EMD
- Establish and maintain control as situations develop
- Effectively and efficiently interview and calm callers in state of crisis via telephone or TTY to obtain accurate information
- Act quickly and calmly in emergency situations
- Make quick and effective decisions

Other duties include:

- Maintaining and preparing map books
- Data entry for other divisions
- Fire department call “tickers”
- Radio programming assistance

8.6.2.4 Call Handling Methods

The WMFR Communications Center uses priority dispatching for medical calls and is certified by the National Academy of Emergency Medical Dispatch (NAED). NAED EMD is followed on all appropriate 9-1-1 calls. Location of the incident is always verified when calls are transferred to the center. The WMFR Communications Center is considering using EFD protocols.

Attempts are made to answer all calls on the first ring; all calls must be answered by the third ring.

8.6.2.5 Standard Operating Procedures (SOPs)

The WMFR SOPs include the following topics:

- Telephone Answering Protocol
- Emergency Medical Dispatch
- Radio Procedures
- Evacuation Procedure
- Health Insurance Portability and Accountability Act (HIPAA)
- CAD System
- Fire Alarm Systems
- Major Storm Plan
- Radio Equipment
- Call Types



- Auto Aid
- Mutual Aid
- Dual Response Area
- Special Notifications
- Air Ambulance Support
- Hospital Diverts
- Hazardous Materials
- Technical Rescue
- Incident Command
- Lockout/Lockdown Procedure
- Mobile CAD
- Live Routing
- Bariatric Medic
- Recording Equipment
- West Strike Team/Task Force

8.6.2.6 Hiring

The WMFR Communications Center uses CritiCall® a typing test, interview panel, background checks, and psychology test during the hiring process.

8.6.2.7 Telecommunicator Training

Training is three to six months of on-the-job training. It is not a phased approach and there is no ghost phase. Training starts with call taking and radio. Task books are used to assist with learning the job duties for the next level.

8.6.2.8 Quality Assurance/Quality Control (QA/QC)

QA metrics are in place as part of the CFAI accreditation process for all incident types. These metrics are gathered and managed by the Accreditation Manager with accountability from the chief of the department. All medical calls use ProQA for evaluating their established protocols for PAIs and medical dispatching.

8.6.2.9 Performance Measures

The WMFR Communications Center uses ProQA to evaluate consistency of call handling, EMD, dispatching, station alerting, and CAD entry.



8.6.3 Call Loads

Table 27 – WMFR Communications Center Call Statistics

			9-1-1 Calls			Non 9-1-1	
	Wireline	Wireline	Wireless	Wireless	Inbound	10-Digit	Admin
Year	Abandoned	Abandoned	Abandoned	Abandoned	Other	Incoming	Outbound
2012	8,999	4	7,780	4			30,320
2011	9,196	18	7,207	23	N/A	32,227	21,733
2010	9,305	40	6,347	13	N/A	31,876	
Dispatched Calls for Service							
Year	Law	Fire/Rescue	EMS	Other			
2012		12,403	17,603				
2011		11,202	17,185				
2010		10,612	16,672				
Administrative Lines							
Year	Admin Inbound	In building	Misc Equipment Inbound	Admin Outbound			
2012	3,710	N/A	30	19,380			
2011	4,872	N/A	25	19,782			
2010	5,071	N/A	29	19,202			

The busy hour is from 1:00 p.m. to 2:00 p.m.

8.6.4 Call Routing

The WMFR Communications Center is a secondary PSAP. Fire and rescue calls are transferred from four primary PSAPs. The “Make Busy” switch, when activated, routes all incoming 9-1-1 calls to the Jefferson County Sheriff’s Communications Center.

WMFR is a remote site on the Lakewood geo-diverse Cassidian phone system.

If the WMFR Communications Center experienced a 9-1-1 outage or all incoming 9-1-1 trunks were busy, incoming 9-1-1 calls would automatically route to the Lakewood PD Communications Center. If the “Make Busy” switch was activated all incoming 9-1-1 calls would be routed to JCSO.



8.6.5 Technology

8.6.5.1 9-1-1 Trunks

The WMFR Communications Center has three 9-1-1 trunks from the Denver tandem and three trunks from the Broomfield tandem, for a total of six 9-1-1 trunks. There are two additional 9-1-1 trunks from the Broomfield tandem and two trunks from the Denver tandem that are part of the Lakewood transfer trunk group.

8.6.5.2 Network

Figure 7 depicts the WMFR network configuration.

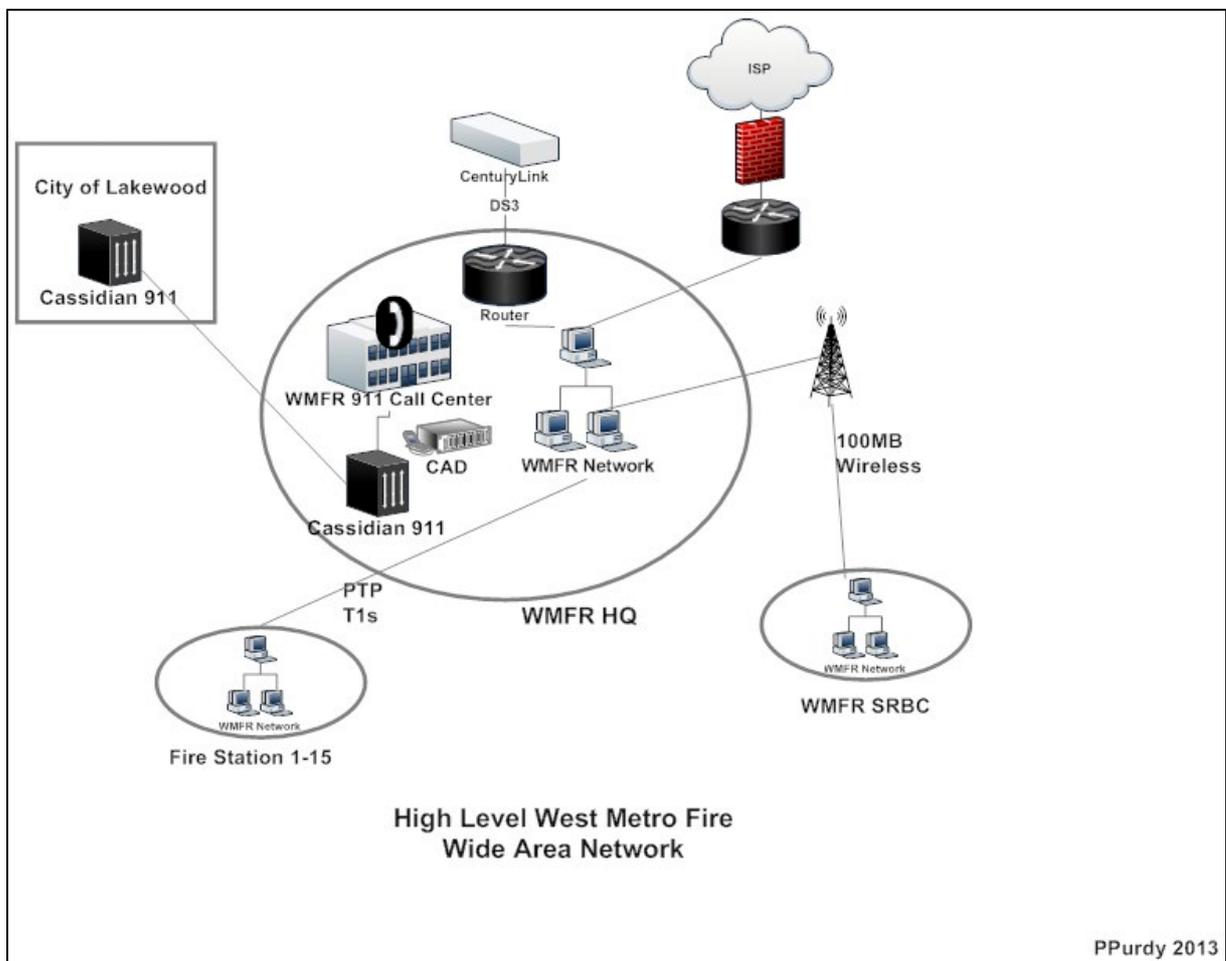


Figure 7 – WMFR Network Configuration



The WMFR Communications Center is connected to all their fire stations through T1 circuits and is connected to other PSAPs by cable. WMFR is part of the Jefferson County microwave system.

8.6.5.3 Radio

Lakewood, Denver, Aurora and West Metro are part of the same radio core, as well as with the microwave backup. This allows the Harris radio system to tie in with the Colorado DTRS.

Dispatch consoles are Harris P25 Maestro C3 IP Version R4D13. Mobile radios are M7100 and have been programmed to interoperate with the State DTRS. WMFR provides ground support through shared talkgroups. The most commonly used radio talkgroups are as follows:

- TAC2 – Normal response traffic
- TAC3 and TAC4 – Major incidents such as structure fires
- TAC5 – Responses in the WMFR/Pleasant View dual response area
- FMT – Fairmount calls
- TAC 8 – Special events
- Red SW – Mutual/Auto Aid
- GREEN 1 – Auto Aid to Denver paramedics
- MCOM2 – Auto Aid requests from METCOM

8.6.5.4 Computer Aided Dispatch (CAD) System

The WMFR Communications Center uses a TriTech VisiCAD system, 4.5.6 Patch 20, with VisiCAD Command mapping.

8.6.5.5 Recording/Logging Systems

The WMFR Communications Center uses a NICE logging and voice recording system.

8.6.5.6 Records Management Systems (RMS)

The WMFR Communications Center uses a High Plains RMS.

8.6.5.7 CPE Phone System

The WMFR Communications Center uses Cassidian with geo-diverse systems in West Metro and Lakewood.

8.6.5.8 Personnel Paging and/or Call-back Systems

Personnel paging and alerting system is part of the internal systems within WMFR.



8.6.5.9 Emergency Notification System (ENS)

WMFR is an authorized entity to send emergency notifications to the citizens.

8.6.6 Continuity of Operations Plan (COOP)

The WMFR Communications Center evacuates to the South Regional Backup Center. Call backup is provided by the JCSO Communications Center.

Written documentation on the evacuation procedures and COOP is part of the WMFR Communications Center SOPs. A one-page evacuation process checklist is also available in the center.

8.6.7 Interoperability

Interoperability is provided through a robust digital radio system capable of connectivity to every department in the Denver Metro Area. The current 800 MHz radio system is part of the Denver and Aurora radio core allowing full interoperability with the State DTRS System. Connectivity with other PSAP's, local hospitals and local law enforcement agencies is in place as well.

8.6.8 Redundancy and Resiliency

The WMFR Communications Center has a direct current (DC) power battery backup and a wired port for a mobile generator if needed. The Green Mountain radio repeater site has a 100KW generator and DC battery backup.

8.7 EVERGREEN FIRE AND RESCUE

8.7.1 Overview

The Evergreen Fire Rescue (EVFR) is one of the largest volunteer fire departments in Colorado, with their district covering 125 square miles and approximately 40,000 citizens.

In addition to serving the citizens in the Evergreen fire district, EVFR provides backup fire and rescue dispatch services for agencies in Jefferson County and the fire departments of Highland Rescue, Indian Hills, Intercanyon, Elk Creek, Genesee, and Foothills. EVFR also provides EMD for Clear Creek County, and is the backup EMD provider for Jefferson County.

EVFR has an Automatic and Mutual Aid agreement with the Clear Creek Fire Authority a limited Automatic Aid agreement with the Elk Creek Fire Protection District. In addition, EVFR has mutual aid agreements with Foothills, Genesee, Intercanyon, and Indian Hills, with limited auto-aid with each of these.

The Fire Chief has supervisory authority over the Communications Center Supervisor.



8.7.2 Operations

8.7.2.1 Certifications

Each dispatcher is required to obtain EMD certification with the Colorado program and remain certified through continuing education. National Incident Management System (NIMS) IS100, IS200, IS700, IS800 and Basic Cardiac Life Support is also required for each dispatcher.

8.7.2.2 Staffing

The EVFR Communications Center has an authorized staffing of eight FTEs, which includes one supervisor and seven dispatchers. Shifts are 12-hours, working three days on, four days off followed by four days on and then three days off. The EVFR Communications Center is fully staffed and has had not had a position open for almost three years.

8.7.2.3 Positions and Duties

Communications Supervisor

The supervisor directs, manages and provides administrative support to the activities and employees of the Communications Division, specifically items related to personnel matters and the day-to-day operation of the Communications Division. This position is responsible for managing resources; developing and reviewing SOPs, policies, practices and all other guidelines pertaining to the Communications Division; as well as the assigned personnel duties and shared duties.

Additional duties include the following:

- Maintaining map data
- Creating map books
- Data entry for other divisions
- Radio programming assistance
- Fire Department call “tickers”

8.7.2.4 Call Handling Methods

The EVFR Communications Center is considered a secondary PSAP with 9-1-1 calls transferred by Jefferson County or Clear Creek County 9-1-1 communications centers. Local emergency calls are also often received via a ten-digit number.

EVFR Communications Center staff follows NFPA and EMD of COLORADO™ call processing standards. Calls are answered based on priority and priority order. On calls requiring EMD, the dispatcher remains on the line with the caller until emergency trained personnel arrive on scene.



8.7.2.5 Standard Operating Procedures (SOPs)

The Emergency Dispatch SOPs include the following major topics:

- Daily Operations
- Radio and Technical Information
- Fire Prevention
- Mutual Aid and Other Resources
- EMD
- National Weather

8.7.2.6 Hiring

CritiCall® and personality tests are used to screen applicants. Top candidates interview with a panel and are scored. Top candidates from this process undergo reference, background and criminal history checks. The top candidate is extended a job offer.

8.7.2.7 Telecommunicator Training

The training program is two to four months, depending on previous experience. For new hires with little to no experience, the training is at least four months. It is a comprehensive program of cross-training on call handling and dispatch. Upon completion, the new recruit is able to take emergency and non-emergency calls and dispatch any type of fire, rescue, and/or medical call for service. The new recruit will also be able to provide EMD PAIs using Colorado EMD protocols. Evergreen based the training program on APCO CTO and the San Jose model.

Each dispatcher is required to complete monthly continuing education to maintain good standing with the EMD of COLORADO™ program. Evergreen administers quarterly competency quizzes for the programs/SPG's that are not commonly used.

8.7.2.8 Quality Assurance/Quality Control (QA/QC)

Two dispatchers are tasked with reviewing every call for service to ensure correct procedures are followed. Each active instructional EMD call is automatically reviewed for conformity to EMD of COLORADO™ protocols.

8.7.2.9 Performance Measures

The EVFR Communications Center uses NFPA-1221 standards for performance metrics, which includes call answer and call to dispatch times.



8.7.3 Call Loads

Table 28 – EVFR Communications Center Call Statistics

Year	9-1-1 Calls		Non 9-1-1				
	Wireline	Wireless	Wireline Abandoned	Wireless Abandoned	Inbound Other	10-Digit Incoming	Admin Outbound
2012	749	730			222		?
2011	837	730			189		5,976
2010	1,215	467			65		3,856

Dispatched Calls for Service				
Year	Law	Fire/Rescue	EMS	Other
2012		600	1,533	33
2011		524	1,537	53
2010		502	1,526	61

Administrative Calls				
Year	Admin Inbound	In building	Misc Equipment Inbound	Admin Outbound
2012*	15,452			6,548
2011	21,942			5,976
2010	25,057			3,856

*from 01/01/2012 to 09/01/2012

8.7.4 Call Routing

The “Make Busy” switch, when activated, routes incoming 9-1-1 calls to the JCSO Communication Center. The EVFR Communications Center is also physically connected to Arvada PD and Westminster PD via Ethernet as part of the Cassidian call handling system.

8.7.5 Technology

8.7.5.1 911 Trunks

The EVFR Communications Center has two 9-1-1 trunks from the Denver tandem and two trunks from the Broomfield tandem, for a total of four 9-1-1 trunks.



8.7.5.2 Network

The EVFR Communications Center has T1 lines, fiber and microwave as part of their network. The EVFR Communications Center is also physically connected to Arvada PD and Westminster PD via Ethernet.

8.7.5.3 Radio

EVFR is on the Motorola system with ModuComm radio dispatch consoles. EVFR is in the process of switching from wide to narrowband radios and from UHF to VHF.

8.7.5.4 Computer Aided Dispatch (CAD) System

The EVFR Communications Center uses a LogiSys CAD system, Version 4.4.0.101 with LogiSys Map Version 4.4.0.22.

8.7.5.5 Recording/Logging Systems

The EVFR Communications Center uses a Stancil logging and voice recording system.

8.7.5.6 Records Management Systems (RMS)

EVFR uses a High Plains RMS.

8.7.5.7 CPE Phone Systems

The EVFR Communications Center uses the Cassidian call handling system.

8.7.5.8 Personnel Paging and/or Call-back Systems

The EVFR Communications Center uses CAD paging and CodeRED[®] to page their personnel.

8.7.5.9 Emergency Notification Systems (ENS)

EVFR uses CodeRED[®] for citizen emergency notifications.

8.7.6 Continuity of Operations Plan (COOP)

The EVFR Communications Center has a COOP and an evacuation procedure to be followed should it become necessary to evacuate the center. All calls for service are directed to the JCSO Communications Center if evacuation is necessary.



8.7.7 Interoperability

Interoperability is provided through interoperable radio channels, connectivity to other PSAPs, and on the Cassidian call handling system.

8.7.8 Redundancy and Resiliency

The EVFR Communications Center has redundant network paths, battery and generator backup and multiple 9-1-1 trunks coming into the center.

8.8 WHEAT RIDGE POLICE DEPARTMENT

8.8.1 Overview

According to the U.S. Census, the City of Wheat Ridge has a land area of 9.30 square miles and a 2010 population of 30,166. Wheat Ridge is a home rule municipality located in Jefferson County, and mainly bordered by Denver, Lakewood, Arvada and unincorporated Jefferson County. The City is served by the Wheat Ridge Police Department which is the primary 9-1-1 answering point. Wheat Ridge is covered by four fire protection districts; Wheat Ridge, West Metro, Arvada and Fairmount, two of which are secondary PSAPs. EMS service is provided Rural/Metro Ambulance (PrideMark).

8.8.1.1 Certifications

Wheat Ridge PD is CALEA-accredited; however, the Communications section does not have stand-alone CALEA accreditation.

All communication center call takers and dispatchers are certified ICS 100 and ICS 700 certified, as well as certified with Colorado's Integrated Criminal Justice Information and the National Crime Information Center systems.

8.8.1.2 Staffing

The Communications Bureau falls under the Support Services Division of the department, which is led by a Division Chief. The Communications Bureau is led by a civilian Communications Manager who reports directly to the Support Services Division Chief. The manager oversees a lead emergency services specialist, nine emergency services specialists and one part-time dispatcher.

Authorized staffing for the bureau is 11 FTEs, with current staffing at nine FTEs. Communications personnel work 10 hour shifts. Shift bidding is every four months based on seniority. Once a year, staff must rotate off a shift.

An APCO Project RETAINS study conducted five years ago indicated the need for five additional FTEs. The desire is to have 12 dispatchers, 2 supervisors and 1 manager.



8.8.1.3 Positions and Duties

Communications Manager

The Communications Manager is responsible for the overall operation of the Communications Bureau, including administration, planning, budget, policy and procedure, establishing attainable goals and expectations for subordinates, counseling, disciplinary measures as required, direction, training and coordination. The manager also represents the Communications Bureau and the department at in-house and offsite meetings and functions.

Lead Emergency Services Specialist

The Lead Emergency Services Specialist is a supervisory position in the communications center. This position provides technical support in the communications center as well as limited administrative duties, such as scheduling, supervision and evaluation of communications personnel, in conjunction with public safety dispatching. This position performs all the duties of an Emergency Services Specialist and assists the Communications Manager as directed.

Emergency Services Specialist

Emergency Services Specialists provide administrative technical support in the communications center and process emergency and non-emergency calls.

Additional duties include processing calls for code enforcement, parks enforcement and animal control within the City of Wheat Ridge. Communications staff also takes telephone reports on repossessions and private tows and enter supplemental reports on recovered stolen vehicles, license plates, returned runaways and missing persons.

Dispatchers monitor various video cameras and security and panic alarms both inside and outside eight city buildings as well as the municipal building fire alarm system. The alarm and video feeds from all buildings are accessed from the communications center to a server in the municipal building. Communications personnel are responsible for monitoring the alarms and dispatching officers to appropriate locations in alarm status.

Emergency kick plates located in the booking area set off a visual alarm in the center when activated. Dispatchers are responsible for monitoring this visual alarm and dispatching additional officers to the location and unlocking the doors into the area by remote control.

8.8.1.4 Call Handling Methods

Wheat Ridge PD Communications Center is the primary PSAP for the City of Wheat Ridge, answering calls for police, fire and EMS. Police calls are handled in the Wheat Ridge PD Communications Center. Fire calls are transferred to the secondary PSAP at the Arvada FPD Communications Center or to the West Metro Fire Rescue Communications Center, depending on fire jurisdictions. EMS calls are transferred directly to Rural/Metro Ambulance (PrideMark) for responses coordinated through with Arvada FPD or WMFR communications centers by the Wheat Ridge Communications Center.



8.8.1.5 Standard Operating Procedures (SOPs)

Wheat Ridge PD Communications Center utilizes an SOP manual that includes specific direction for daily procedures within the center. Topics covered include the following:

- 911 Procedures
- Amber Alert
- Bank Robbery
- Bomb Threat
- Building Inspector Notification
- CAD Addressing
- City Building Security/Panic Alarms
- City Facilities Closure
- City Website Emergency Alert Activation
- Civil Trespass Notice
- Criminal Histories
- Dispatch Electrical Failure
- Emergency Warning System (Sirens)
- Fire and EMS Notifications
- Citizen Notification System
- Foothills Animal Shelter
- Hazmat Cleanup
- Immigration Procedures
- Language Line
- LogiSys CAD Support
- Municipal Building Fire Alarm
- Mutual Aid Procedures
- Pursuits (Vehicular)
- School/Business Closure Procedures
- Telephone Procedures
- Terrorist Screening Codes
- Tow Companies
- Water Rescue
- Weather Message Information/Procedures

8.8.1.6 Hiring

Wheat Ridge PD Communications has a defined hiring process in use which includes pre-hire screening software, CritiCall, for use in identifying qualified candidates for the position of Dispatcher. Applicants are also given an integrity test, oral board, polygraph, psychological tests, background and medical eye and hearing exam. The City of Wheat Ridge Human Resources department manages the hiring process.



8.8.1.7 Telecommunicator Training

Wheat Ridge PD Communications Center utilizes the San Jose (Kaminski) model for communication center dispatch training. Training Officers attend a minimum of 40 hours initial Field Training Officer (FTO) training and can attend additional classes when offered. The training program consists of 4 phases over 16 weeks which includes the duties of the telephone call taker and radio position duties; overall functionality of equipment utilized in the center; local geography; Colorado Revised Statutes; Colorado Criminal Investigation Center; Policies and Procedure; and related training.

8.8.1.8 Quality Assurance / Quality Control (QA/QC)

The Wheat Ridge PD Communications Center is in the process of creating measurable QA procedures.

8.8.1.9 Performance Measures

Currently, performance is documented and evaluated throughout the year through feedback from patrol officers and supervisors on the street, observed performance by communications supervisory personnel, other department members, reported complaints and compliments, citizen surveys and through listening to recorded call taking and radio dispatching by communications supervisory personnel when making audio copies of calls for service for municipal and county court proceedings.

8.8.2 Call Loads

Table 29 – Wheat Ridge PD Communications Center Call Statistics

			9-1-1 Calls			Non 9-1-1	
		Land Line		Wireless	Inbound	10 Digit	Admin
Year	Landline	Abandoned	Wireless	Abandoned	Other	Incoming	Outbound
2012	6,117	544	18,194	3,256		52,206	14,144
2011	6,038	411	17,929	2,998		6,171	15,276
2010	6,734	616	16,177	2,342		7,199	14,507
Dispatched Calls for Service							
Year	Law	Fire/Rescue	EMS	Other			
2012	27,833	3,000	Included in Fire	1,351			
2011	29,958	2,963		1,239			
2010	23,938	2,834		1,351			

Administrative line statistics were not available.



8.8.3 Call Routing

The Wheat Ridge PD Communications Center is the primary PSAP for 9-1-1 calls for the city of Wheat Ridge. Police calls are handled by Wheat Ridge; fire and EMS calls are transferred to the appropriate secondary PSAP for dissemination to field units. The “Make Busy” switch, when activated, routes incoming 9-1-1 calls to the Lakewood PD Communications Center.

8.8.4 Technology

8.8.4.1 9-1-1 Trunks

The Wheat Ridge PD Communications Center has four 9-1-1 trunks from the Denver tandem and four trunks from the Broomfield tandem, for a total of eight 9-1-1 trunks.

8.8.4.2 Network

Wheat Ridge has connectivity to their in vehicle Mobil Data Terminals (MDT's), CBI, Videocomm and Coplink systems. They also have microwave connectivity to West Metro Fire Headquarters for radio consoles and the NICE audio recorder. This microwave will eventually provide connectivity through West Metro Fire to Lakewood PD and the South Regional Backup Center (SRBC).

Wheat Ridge is connected to all other PSAPs in this study.

8.8.4.3 Radio

Through an IGA with the City of Lakewood and WMFPD, Wheat Ridge shares in the Harris P25 800 MHz multi-site trunked radio system. Both mobile and portable radios have 15 resource groups with 174 talkgroups for the ability to communicate locally, regionally and across the state if necessary.

8.8.4.4 Computer Aided Dispatch (CAD) System

The Wheat Ridge PD Communications Center utilizes Logistic Systems (LogiSys) for CAD, RMS and field reporting. CAD mapping is updated on a daily basis through an interface to the City's geographic information system (GIS) server.

8.8.4.5 Recording/Logging Systems

Wheat Ridge, along with JCEA, the City of Lakewood and West Metro FPD have a MOU for sharing a NICE logging recording solution for multi-site recording and playback capabilities of all radio and telephone traffic.



8.8.4.6 Records Management Systems (RMS)

The RMS is interfaced with the CAD system provided by Logistic Systems. Wheat Ridge PD also employs field reporting with the RMS through an interface to the mobile computers.

8.8.4.7 CPE Phone System

Wheat Ridge PD is in the process of moving from Intrado's (Positron) Lifeline100 E-911 ANI/ALI controller with Power911 positions and Positron IAP backroom equipment to Cassidian Communications Patriot® call handling equipment with Sentinel® positions.

8.8.4.8 Personnel Paging and/or Call-back Systems

Wheat Ridge utilizes CodeRed® for paging of personnel by either recorded message or e-mail using selected groups or individuals in the CodeRed® database.

8.8.4.9 Emergency Notification System (ENS)

Wheat Ridge utilizes CodeRED® the Early Warning Outdoor Siren System and the City Website Alerting System for citizen emergency notifications.

8.8.5 Continuity of Operations Plan

If the communication center must be evacuated, other agencies are notified and the 9-1-1 lines and CCIC terminal are rerouted. In case of a complete failure of 911 services, calls are routed to the Arvada Communications Center. Arvada dispatch will need to be advised that this is occurring prior to throwing the switch so they will be prepared for the additional call load.

8.8.6 Interoperability

Interoperability is provided through the use of shared logging systems and shared radio systems.

8.8.7 Redundancy and Resiliency

Wheat Ridge communication center has multiple redundant and diverse 9-1-1 trunks, battery backup and a generator. The communications center is hardened.



September 4, 2013



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Final Report Presentation
Jefferson County Emergency
Communications Authority
Regionalization Study

Public Safety Communication Consultants

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JCECA's Request

- A full operational assessment of participating PSAPs to include:
 - Call routing, handling and load
 - Staffing – to include training
 - Equipment
 - Future paths for E9-1-1 and NENA i3 / Industry compliance
 - Optimization of systems, funding, facilities and personnel

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MCP Approach

- Stakeholder Interviews
 - Face-to-face, telephone interviews and reports available from PSAP staff to gather information
 - Gain an understanding of day-to-day operations, performance and issues
 - Identify stakeholder objectives & issues



Project Implementation

- Initial draft recommendation addressed the final configuration
- JCECA requested options rather than a single recommendation
 - Resulted in the same final configuration
 - Three options identified may be undertaken as standalone initiatives
 - Regionalization phases are interdependent
 - Once commenced they must be completed to achieve the advantages

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Overview of Key Findings

- Improved level of service is a key objective
 - Minimum Staffing
 - Staff turnover
 - Supervision
 - Call transfer volume
 - EMD
 - QA/QC
- Stakeholders are not supportive of a single PSAP concept call taking and dispatch center
 - Highest level of concern is that dispatch would be inefficient
 - Facility cost of a large center
 - City and rural fire dispatch differences

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Regional Model Options Overview

- Do Nothing
- Single PSAP Concept
- Co-Location
- Regionalization Plan
 - Virtual Technology
 - Physical Regionalization
 - Phased Plan

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Regional Models

- Do Nothing
 - Does not address service improvement
 - Does not support regionalization concept
- Single PSAP Concept
 - Level of fire dispatch service
 - Facility Funding concerns
 - Radio system and coverage
 - Backup site

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Regional Models

- Co-Location
 - Transitional step on the path to Regionalization
 - Does not address operational issues
 - Minimum staffing levels in smaller PSAPs
 - Level of service to Mountain Fire Agencies
 - Agency hopping for benefits
 - If Agencies co-located with current backup site, another backup would need to be identified
 - Avoidance of change rather than definitive gains

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Regional Models

- Virtual Consolidation
 - Equipment
 - Sharing
 - Overall reduced cost
 - Supports regionalization but does not address service improvements on a long term basis
 - Managing across multiple locations
 - Minimal staffing
 - Consistent quality of service
 - Supervision

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Regional Models

- Physical Regionalization
 - Overall increased level of service
 - Common SOPs
 - Shared Hiring, Training and QA/QC
 - Common Technology platform
 - Meets operational needs
 - Minimum staffing
 - Mountain Fire service level
 - Definitive Gains

Public Safety Communication Consultants



Regional Models

- Phased approach to Physical Regionalization
 - Three optional steps
 - Supports Regionalization Concept
 - Addresses Operational Issues
 - Options can be taken independently
 - No dependencies on other movement
 - Options may be implemented without taking the step to Physical Regionalization

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Phased Options

- Option 1
 - Golden PD (GPD) combines with Jefferson County SO (JCSO)
- Option 2
 - Wheat Ridge PD (WRPD) combines with Lakewood PD (LPD)
- Option 3
 - Mountain FD/EMS dispatch from JCSO combines with EVFR

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Option 1 – GPD / JCSO Combined

- Staffing
 - Combined based solely on call volume.
 - Current - 41
 - Combined - 42
- Consoles/Technology
 - Existing GPD consoles will handle the combined call volume



Option 1 - GPD / JCSO Combined

- Advantages
 - Close proximity of locations
 - Same radio systems used (Motorola)
 - Same E911 telephone systems used
 - Increased level of service for FDs dispatched by JCSO with increase of staff from GPD
 - Increased staffing options for covering GPD channel
 - CAD for GPD improved
 - Enhanced working environment

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Option 1 - GPD / JCSO Combined

- Disadvantages and Mitigation
 - Cassidian systems not shared on same diverse path*
 - **Cassidian systems reconfiguration is minimal*
 - Personal Service to customers diminished
 - *Proactive measures to maintain relationships*
 - *Our experience - changed but not diminished*
 - Non-dispatch activities at GPD reassigned
 - *Less than one (1) FTE per shift*
- Funding
 - IGA between GPD and JCSO

Public Safety Communication Consultants



Option 2 – WRPD / LPD Combined

- Staffing
 - Combined based solely on call volume
 - Current - 46
 - Combined - 35
- Consoles/Technology
 - Existing LPD consoles can handle the combine call load



Option 2 – WRPD / LPD Combined

- Advantages
 - Close proximity of locations
 - Same radio systems used
 - Increased staffing options for covering WRPD channel
 - Enhanced working environment
 - Works into long term plan



Option 2 – WRPD / LPD Combined

- Disadvantages Mitigation
 - Cassidian systems not shared
 - *Plan to join LPD and WMFR in Fall 2013*
 - Personal Service to customers diminished
 - *Proactive measures to maintain relationships*
 - *Our experience - changed but not diminished*
 - Non-dispatch activities at WRPD reassigned
 - *Less than one (1) FTE per shift*



Option 3 – Mountain Fire to EVFR

- Staffing
 - Evergreen Fire Chief analysis indicates current staffing can handle additional call load
- Consoles/Technology
 - Use existing consoles and systems



Option 3 – Mountain Fire to EVFR

- Advantages
 - Increased levels of service to Mountain Fire Agencies
 - Mountain Fire Agencies being dispatched by dedicated fire and rescue dispatchers
 - Works into long term plan



Option 3 – Mountain Fire to EVFR

- Disadvantages
 - Funding
 - JCSO dispatching to Mountain Fire at no cost
 - Evergreen may require a funding mechanism



Calltake Center

- Start renovation process at WMFR location
- Start process of CAD RFP
 - Meet with each agency for needs assessment
 - Develop specifications to meet those needs
 - Develop evaluation criteria
- Establish governance model
- SOP development
- Hiring, Training and QA/QC development

Public Safety Communication Consultants



Calltake Center

- Advantages
 - Increased performance levels
 - Minimizes call transfers
 - Combined operations eliminates staff hopping
 - Teamwork environment
 - Sharing of equipment costs

Public Safety Communication Consultants



Regionalization Phases

- Dispatch Consolidation
 - 2 Law Dispatch Centers
 - Shared equipment, policies, governance
 - Backup to one another
 - 2 Fire/EMS Dispatch Centers
 - Shared equipment, policies, governance
 - City Dispatching
 - Rural Dispatching
 - Backup to one another

Public Safety Communication Consultants



2 Law Dispatch Centers

- Dependencies
 - Calltake function is now at Calltake Center
 - Golden PD has joined JCSO
 - Golden FD now at Fire 1 (WMFR location)
- Improvement in service provided
- Shared governance, policies, training
- Shared equipment and costs
- Provides backup site to one another

Public Safety Communication Consultants



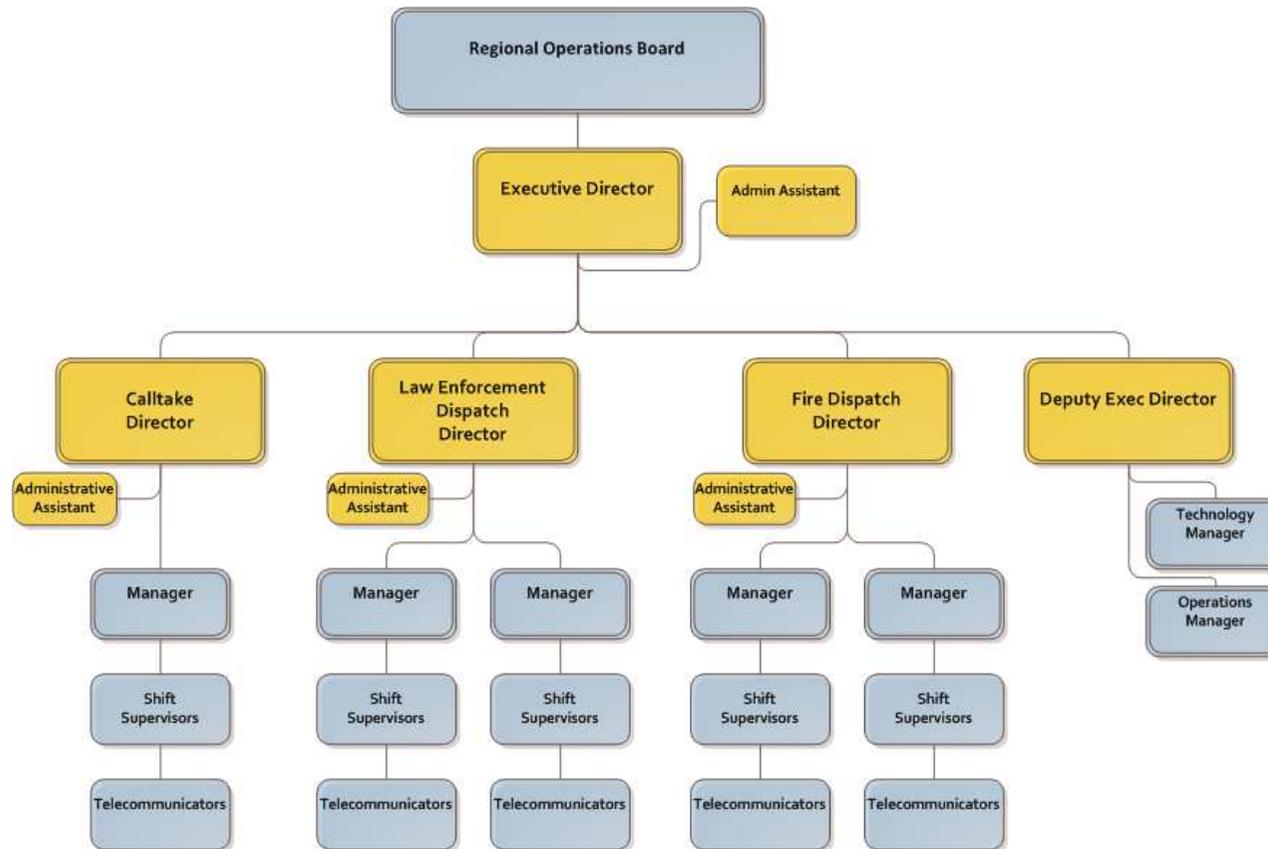
2 Fire/EMS Dispatch Centers

- Dependencies
 - Calltake function is now at Calltake Center
 - Golden FD is now at Fire 1 (WMFR location)
 - Rural Fire is now at Fire 2 (EVFR location)
- Increase in service provided
- Shared cross-training of city/rural dispatch
- Shared governance, training
- Shared equipment costs
- Provides backup site to each other

Public Safety Communication Consultants



Conceptual Governance Model



- Gold are new positions
 - Call taking & dispatch staff reductions estimated at \$1.8M annually
 - Salary and benefits of new positions estimated at \$900K based on area salary survey.

Public Safety Communication Consultants



Calltake Center Renovation

Renovated Cost – 3 Level Estimate	Per Sq. Ft.	Estimate
Low	\$150.00	\$459,675.00
Midpoint	\$175.00	\$536,287.50
High	\$200.00	\$612,900.00

- West Metro Fire Rescue Location
 - Existing space
 - Workstations relocated from other sites (Table 17, page 32)

Public Safety Communication Consultants



Summary

- 1 – GPD to JCSO
- 2 – WRPD / LPD Combined
- 3 – Mountain Fire from JCSO to EVFR
- Regionalization Phases
 - Single Calltake Center
 - 2 Law Dispatch Centers (w/ dependencies)
 - 2 Fire/EMS Dispatch Centers (w/ dependencies)

Public Safety Communication Consultants



Questions



Public Safety Communication Consultants

Your Life Safety Mission Is Our Passion

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MINUTES OF THE
JEFFERSON COUNTY EMERGENCY COMMUNICATIONS AUTHORITY
September 17, 2013

The Jefferson County Emergency Communications Authority Board met in regular session in the Evergreen Fire Rescue Training Room, 1802 Bergen Pkwy, Evergreen, CO.

Present: Director Lynn Johnson
Director Mark Krapf
Director Chris Ambrosio
Director William Rush
Dennis Tharp, Attorney

Excused: Director Casey Tighe

Also Present: Jeff Irvin, Executive Director
Vicki Pickett, Arvada PD
Lisa Sorrentino, Golden PD
Jen Sliemers, Arvada Fire
Diane Culverhouse, Jefferson County Sheriff's Office
Matt Jackson, Jefferson County Sheriff's Office
Scott Hunter, Jefferson County Sheriff's Office
Scott Pocsik, Jefferson County Sheriff's Office
Monty Heffner, Broomfield PD
Larry Stodden, Wheat Ridge PD
Steve Kabelis, City of Lakewood IT
Mike Weege, Evergreen Fire Rescue
Christy McCormick, Evergreen Fire Rescue
Jodi Malpass, Lakewood PD
Scott Rose, Lakewood PD
Karyn Kretzel, West Metro Fire
Pat Purdy, West Metro Fire
Michael Murphy, West Metro Fire
Karin Marquez, Westminster PD
Nelson Martinez, Westminster PD
Ryan Tharp, Fairfield & Woods P.C.
Emery Carson, Indian Hills Fire
Brian Zoril, Foothills Fire
Michael Murphy, West Metro Fire
Rich Snelling, MiTec via WebEx
David Halstead, Fairmount Fire Rescue

Director Johnson called the meeting to order.

APPROVAL OF MINUTES

The Board upon motion of Director Krapf, duly seconded by Director Ambrosio, and by majority vote, approved the Minutes of August 15, 2013.

TREASURER'S REPORT

Jeff Irvin presented the Treasurer's Report. The Board upon motion of Director Rush, duly seconded by Director Ambrosio, and by majority vote, approved the Treasurer's Report.

ADVISORY COMMITTEE REPORT

Monty Heffner, Broomfield PD, presented the Advisory Committee Report.

- GeoComm - monthly status report was given. Procedure has been established for ECN (CodeRED) to export Citizen Notification Enrollment (CNE) portal data from the system to GeoComm for validation of geo-coding on a monthly basis. First validation pass indicated a 98% accuracy level. Approximately 45,000 records are in the CNE database.
- ECN (CodeRED) – have requested that ECN provide a training session to explain reports/call statistics are derived.
- NICE – status report, three open cases they are working through. Lakewood, NICE and Graybar are meeting to discuss support services.
- CenturyLink – gave report re: new procedures handling response.

EXPENDITURE REQUESTS

Jeff presented the agency expenditure requests for amounts of \$10,000 or less.

The Board upon motion of Director Krapf, duly seconded by Director Ambrosio, and by majority vote, approved the expenditure items under \$10,000 in the amount of \$54,464.26.

Jeff then presented the major expenditure requests over the \$10,000 amount. The Board upon motion of Director Krapf, duly seconded by Director Rush, and by majority vote, approved the expenditure requests for items over \$10,000.00 in the amount of \$196,673.94.

EXECUTIVE DIRECTOR'S REPORT

Jeff presented the Executive Director's Report.

- Regionalization Study Presentation – presentation to stakeholders held in Hearing Rm 1 at the JeffCo Courts & Admin building on September 4, 2013 and was well attended. Some discrepancies were noted during the presentation in the Mission Critical Partners (MCP) power point presentation and in the final report. It is expected that MCP will respond to the noted errors with corrections. There was a discussion regarding the final discretionary payment of \$12,500 to MCP. It was decided that the decision as to the final payment will be deferred until the October meeting.
- Update on status of Gold Line on US Hwy 36 BRT fiber optic collaborations with RTD. Will prepare overall map showing existing J-FON fiber, fiber projects in progress and other needs for fiber matrix in order to present to CDOT and others to see what possibilities there might be for further collaboration.
- CO 9-1-1 Summit – event sponsored annually by the CO 9-1-1 Resource Center to be held September 9, 2013 in Hearing Rm 1 at the JeffCo Courts & Admin bldg.
- NENA Critical Information Forum to be held in Denver in October.
- CO APCO-NENA State Conference to be held Longmont in October.
- Flooding – service areas of some JCECA agencies effected by flooding. 9-1-1 not impaired in JCECA service area not impaired by flooding.
- Dennis Tharp discussed ongoing discussions with RTD and GSA regarding license needed for West Corridor fiber handover to JCECA. Expect to complete in next 30 to 90 days.

PUBLIC COMMENT

There was no public comment.

ADJOURNMENT

The Board upon motion of Director Rush, duly seconded by Director Ambrosio, and by majority vote, adjourned the meeting.

PLANNING SESSION

The Board of Directors present participated in a Planning Session for the remainder of the day discussing topics below as the might affect the 2014 budget and the 5 year budget projection. Director Tighe joined the Planning Session later in the afternoon.

JCECA Planning Session 09-17-2013 Topics for Discussion

- Radio & Logging Subcommittee
 - a. Technology Roadmap Discussion
 - i. Consoles
 - ii. Annual Radio Software Maintenance
 - iii. Network Systems
 - iv. Applications
 - v. Microwave
 - vi. J-FON Projects
 - vii. Logging Recorder
 - viii. Logging Recorder Maintenance
 - ix. Licenses
 - x. Gateways
 - xi. Other Projects
- Regional CAD System Discussion
 - a. JCISO
 - b. WMFR
 - c. CAD to CAD connections
- Fiber Projects
 - a. Gold Line
 - b. US Hwy 36 BRT
 - c. North Metro Line
 - d. Fiber map layer
- Funds
 - a. AOF

- b. CAD Maintenance Program Fund
 - c. Wireless Data Program Fund
 - GIS
 - a. Pictometry
 - b. DRCOG-DRAPP orthogonal imagery
-

RECONVENED

After discussion of the planning session topics the Board of Directors reconvened the board meeting and upon motion of Director Krapf, duly seconded by Director Ambrosio, and by majority vote, approved funding console replacements for Arvada Fire Rescue, Arvada Police Department and Westminster Police Department in the amount of \$819,593.00.

ADJOURN

The Board upon motion of Director Krapf, duly seconded by Director Ambrosio, and by majority vote, adjourned the meeting.

NOTICE OF MEETING

FOR THE JEFFERSON COUNTY EMERGENCY COMMUNICATIONS AUTHORITY

OCTOBER 17, 2013 AT 9:00 A.M.

**JEFFERSON COUNTY COURTS & ADMINISTRATION BUILDING
1ST FL, HEARING ROOM 1
100 JEFFERSON COUNTY PKWY, GOLDEN, CO**

1. Call to Order
2. Public Comment
3. Approval of September 17, 2013 Minutes
4. Treasurer's Report
5. Advisory Committee Report
6. Expenditure Requests
7. Executive Director Report
8. Regional CAD Presentation
9. Preliminary Budget Presentation/Discussion
10. New Business
11. Adjournment

MINUTES OF THE
JEFFERSON COUNTY EMERGENCY COMMUNICATIONS AUTHORITY
OCTOBER 17, 2013

The Jefferson County Emergency Communications Authority Board met in regular session at the Jefferson County Government Center, 100 Jefferson County Parkway, Golden, Colorado.

Present: Director Lynn Johnson
 Director Mark Krapf
 Director Chris Ambrosio
 Director Casey Tighe
 Dennis Tharp, Attorney
 Tracy Emerson, Clerk

Excused: Director Rush

Also Present: Jeff Irvin, Executive Director
 Vicki Pickett, Arvada PD
 Jen Sliemers, Arvada Fire
 Diane Culverhouse, Jefferson County Sheriff's Office
 Jodi Malpass, Lakewood PD
 Scott Hunter, Jefferson County Sheriff's Office
 Karyn Kretzel, West Metro Fire
 Ryan Tharp, Fairfield & Woods P.C.
 Emery Carson, Indian Hills Fire
 Brian Zoril, Foothills Fire
 Michael Murphy, West Metro Fire
 Dan Roozen, Golden Gate Fire
 Christy L. McCormick, Evergreen Fire & Rescue
 Bill McLaughlin, Elk Creek Fire
 Mike Weege, Evergreen Fire & Rescue
 Eric Simmons, Fairmount Fire Rescue
 Clint Fey, Jefferson County Sheriff Emergency Mgmt.
 Craig Howe, Jefferson County Sheriff's Office
 Pat Purdy, West Metro Fire & Rescue
 Scott Pocsik, Jefferson County Sheriff's Office
 Matthew Mogl, Highland Rescue

Director Johnson called the meeting to order.

PUBLIC COMMENT

There was no public comment.

APPROVAL OF MINUTES

The Board upon motion of Director Krapf, duly seconded by Director Ambrosio, and by majority vote, approved the Minutes of May 18, June 20 and July 18, 2013.

TREASURER'S REPORT

Jeff Irvin presented the Treasurer's Report. The Board upon motion of Director Ambrosio, duly seconded by Director Krapf, and by majority vote, approved the Treasurer's Report.

ADVISORY COMMITTEE REPORT

Vicki Pickett, Arvada PD, presented the Advisory Committee Report.

- The Committee held their monthly GeoComm conference call. They gave a status of validation of the Emergency Notification System Citizen Notification Portal records which they review on a monthly basis.
- Vicki mentioned how some businesses in Jefferson County have installed micro-cell towers. These mini cell towers may provide misleading location information during an emergency call. They will be working on this issue specifically how the information is coming through to the call-taker.
- One of the GeoComm employees gave a brief presentation asking the Committee if there was a PSAP willing to be a test site for an upgraded version of the GeoLynx software being developed. No PSAP's were interested.
- NICE discussed their outstanding tickets. There was another failure at both Lakewood and Golden due to server issues. Jefferson County participated in a beta-version of their new upgraded software which will now be available to other customers.
- Quotes for phone system maintenance have been received from both Cassidian and CenturyLink.
- Regarding the Pictometry fly-over, Vicki mentioned that they are in agreement that they will continue to use Pictometry during odd years and DRCOG Imagery during even years. Jeff is waiting for costs from DRCOG.
- Next Vicki spoke about the mountain fire agencies requesting the Board to fund the dispatching fees that would be involved with having Evergreen Fire provide that service. The Committee could not come to a consensus on whether or not to ask the Board to pay for the fees. One of the concerns discussed was other agencies coming forward to ask the Board to pay for the same type of dispatching service.
- Lastly, Vicki informed the Board that Shawn Cullingford with the City of Lakewood has resigned. The RFP for the logging recorders has now been stalled due to his resignation. They will be asking him to consider working as a consultant for the project.

EXPENDITURE REQUESTS

Jeff presented the agency expenditure requests for amounts of \$10,000 or less. The Board upon motion of Director Krapf, duly seconded by Director Tighe, and by majority vote, approved the expenditure items under \$10,000 in the amount of \$48,610.75.

Jeff then presented the major expenditure requests over the \$10,000 amount. The Board upon motion of Director Tighe, duly seconded by Director Ambrosio, and by majority vote, approved the expenditure requests for items over \$10,000.00 in the amount of \$606,362.62 with the omission of items number 253 and 258.

EXECUTIVE DIRECTOR'S REPORT

Jeff presented the Executive Director's Report.

- First Jeff requested the Board approve payment to Mission Critical Partners for the remaining \$12,500 at the discretion of the Board.

Following general discussion, the Board upon motion of Director Krapf, duly seconded by Director Ambrosio, and by majority vote, approved final payment to Mission Critical Partners for the regionalization study in the amount of \$12,500.00.

- Jeff discussed the West Metro Fire request of \$50,000 for additional costs incurred during their 9-1-1 upgrade project. Karyn Kretzel came forward to explain what the costs were in order to re-categorize the funds so it doesn't affect their AOF this year. Jeff clarified that the request is to not exceed \$50,000 in phone system hardware rather than AOF West Metro Fire.

Following general discussion, the Board upon motion of Director Ambrosio, duly seconded by Director Krapf, and by majority vote, approved to move \$50,000 from AOF to the Phone System Hardware Fund.

REGIONAL CAD PROJECT

Mike Murphy with West Metro Fire and Scott Hunter with the Jefferson County Sheriff's Office came forward to the Board to discuss the consolidation of CAD systems. They specifically came forward to request that the Board allocate funds in 2014 for the two separately.

PRELIMINARY BUDGET DISCUSSION

- Mountain Dispatch Issue:
Jeff discussed the request for recurring cost for the mountain fire dispatching services in 2014 through 2019. An amount of \$99,500 was included in the preliminary budget worksheet. Jeff requested direction from the Board in consideration of this amount. It was decided that this topic would be discussed at the upcoming work session in September.
- Radio Software Maintenance Issue: This will be discussed in upcoming meetings.

ADJOURNMENT

The Board upon motion of Director Krapf, duly seconded by Director Ambrosio, and by majority vote, adjourned the meeting.

NOTICE OF MEETING

FOR THE JEFFERSON COUNTY EMERGENCY COMMUNICATIONS AUTHORITY

**NOVEMBER 21, 2013 AT 9:00 A.M.
JEFFERSON COUNTY COURTS & ADMINISTRATION BUILDING
FIRST FLOOR, HEARING ROOM 1
100 JEFFERSON COUNTY PARKWAY, GOLDEN, CO**

1. Call to Order
2. Public Comment
3. Approval of October 17, 2013 Minutes
4. Treasurer's Report
5. Advisory Committee Report
6. Expenditure Requests
7. Executive Director Report
8. New Business
9. Adjournment

MINUTES OF THE
JEFFERSON COUNTY EMERGENCY COMMUNICATIONS AUTHORITY
November 20, 2013

The Jefferson County Emergency Communications Authority (JCECA) Board of Directors (BOD) held a 2014 Budget Study Session in the Board Room of the West Metro Fire Protection District, 433 S. Allison Pkwy, 1st FL, Lakewood, CO.

Present: Director Lynn Johnson
 Director Mark Krapf
 Director Chris Ambrosio
 Director Casey Tighe
 Dennis Tharp, Attorney

Excused: Director William Rush

Also Present: Jeff Irvin, Executive Director
 Jodi Malpass, Lakewood PD
 Don Lombardi, West Metro Fire
 Michael Murphy, West Metro Fire
 Patrick Purdy, West Metro Fire
 Ryan Tharp, Fairfield & Woods P.C.
 Emery Carson, Indian Hills Fire
 Brian Zoril, Foothills Fire
 Richard Bartlett, Foothills Fire
 Juliann Courim, Foothills Fire
 Mike Weege, Evergreen Fire
 Christy McCormick Evergreen Fire
 Daniel Hatlestad, Inter Canyon Fire
 Randy Simpson, Inter Canyon Fire
 Eric Simmons, Fairmount Fire
 Alan Fletcher, Fairmount Fire

Director Johnson called the meeting to order at 12:15 PM.

PUBLIC COMMENT

There was no public comment.

2014 BUDGET STUDY SESSION

Director Johnson clarified that the purpose of the Study Session was to provide an opportunity for the Board to discuss how to proceed with current funding requests.

Executive Director Irvin summarized the issues discussed at the Advisory Committee at their November meeting and presented the BOD with three handouts (copies attached):

- 1) Attachment A - Page 6 of the Advisory Committee Meeting Minutes dated 11/12/13 detailing the result of voting by the Advisory Committee with regard to:

JCECA 2014 Budget Study Session 11/20/13

- a. CAD program funding in general,
 - b. CAD program funding specifically with respect to the Regional Fire CAD and Regional Law Enforcement CAD projects that have been presented by West Metro Fire and the Jefferson County Sheriff's Office respectively.
 - c. Funding to facilitate the effort to establish Mountain Fire Dispatch at Evergreen Fire.
- 2) Attachment B - CAD Status Survey Summary 112013
 - 3) Attachment C - JCECA Preliminary Budget Worksheet rev 112013 0641

Director Krapf presented and discussed, with respect to funding priorities and program funding, two handouts (copies attached):

- 1) Attachment D - E911 Budget Parameters
- 2) Attachment E - Level Two Funding Questions
- 3) Attachment F - JCECA Best Business Practices rev 111811

A discussion ensued regarding the benefits of the proposed Regional CAD Projects contrasting the needs of Fire/EMS and Law Enforcement. The following topics were touched upon:

- Benefits of Regional CAD with respect to Consolidation of PSAPs.
- Single CAD platform vs. Fire CAD/Law Enforcement CAD.
- Elimination of secondary PSAP transfer.
- Fire CAD ability to connect beyond JCECA service area into other regions for resource management.
- JCECA Advisory Committee positions regarding funding CAD projects.

A discussion ensued with regard to the Mountain Fire Dispatch request for funding. The document entitled Funding Request for Dispatch Services 111113 (Attachment G) which includes a presentation prepared by Chief Brian Zoril, Foothills FPD and a letter from Chief Weege Evergreen FPD was discussed at length.

Further discussion regarding the status of Law Enforcement CAD systems and the CAD funding need asserted by the Jefferson County Sheriff's Office (JCSO) occurred. Director Johnson articulated the need for additional information in order to fully assess funding of regional CAD for Law Enforcement not only in light of the JCSO need but also with respect to the larger Regionalization discussion.

Director Johnson advised that as a result of Regionalization discussions that have taken place among the Law Enforcement CEOs, the Board of County Commissioners, the County Manager and the City Managers; Chief Wick, Arvada PD, has reached out to the University of Denver, Daniels College of Business for a proposal for assistance in determining the cost of creating a combined regional communications center.

Director Johnson advised those from the fire community present that their information was very helpful to the decision making process. Attorney Tharp mentioned that in

funding programs the current board cannot obligate future boards so while the board will adopt a budget for 2014, it cannot not commit to funding beyond that budget year.

West Metro Fire Chief Don Lombardi commented in support of funding of the regional Fire CAD project.

ADJOURNMENT

The Board upon motion of Director Krapf, duly seconded by Director Ambrosio, and by unanimous vote, adjourned the meeting at 2:23 PM

CAD Program Fund

	YES	NO
Arvada Fire	X	
Arvada Police		
Broomfield	X	
Evergreen	X	
Golden	X	
JCSO	X	
Lakewood	X	
Westminster		
West Metro	X	
Wheat Ridge	X	

2014 WMFD & Jeffco Projects

	YES	NO
Arvada Fire	X, As long as Board gets what info they need	
Arvada Police		
Broomfield	X	
Evergreen	X	
Golden	X	
JCSO	X	
Lakewood		X, Would like to see cost analysis comparisons for 1 project vs 2
Westminster		
West Metro	X	
Wheat Ridge	X	

Mountain Fire Agency Dispatching Request

	YES	NO
Arvada Fire	X	
Arvada Police		X
Broomfield		X
Evergreen	X	
Golden		
JCSO		X
Lakewood		X
Westminster		X
West Metro	X	
Wheat Ridge		X

JCECA - CAD Status Survey Summary 11/19/13

	ARPD	BRO	GOL	LPD	JCSO	WES	WRPD	ARFD	EVFR	WMFR
CAD Vendor	Intergraph	Sungard	Sungard	Intergraph	Tiburon	Integraph	Logisys	Zoll	LogiSys	TriTech
Yrs in service			10	10	5	12	14	4	7	12
Yr of last upgrade			2013	2012	2008	2012	2008	2013	2012	2011
No of operating postions			No Ans	18	10	14	No Ans	4	3	7
Next upgrade anticipated			No Ans	2017	No Ans	2015	No Ans	2014	2014	2013
Estimate cost of upgrade			No Ans	230,000	800,000	150,000	No Ans	0	0	No Ans
Comments			No Ans	No Ans	No Ans	4	No Ans	1	2	1

Comments:

- 1) \$100,000.00 for equipment + Priority Dispatch upgrade costs (unknown what those are).
- 2) CAD upgrade is factored in with our maintenance agreement. One of the key points to me is the ability to have a back-up location if evacuated with the same CAD in place.
- 3) Our current CAD vendor (Zoll) doesn't charge us for upgrades or updates.
- 4) I appreciate the support of the board reimbursing the upgrade costs. Should we choose a new vendor I believe the Department is responsible for majority of costs related to such project. there are so many interfaces outside of the comm center that the system touches and do not feel the board should fund those types of costs. Using AOF has allowed us to continually upgrade but I'm hesitant to ask that the board fun full blown replacement projects.. a portion I would agree with but not with a 100% line item since each agency is different with responsibility, license costs etc.

SUMMARY

JCECA 2014 Budget Wkb rev 112013 0641

	2012	2013 ALL CLASSES				2014	2015	2016	2017	2018	2019
	Actual	Jan-Oct	Budget	%	Est Yr End	Budget	Projection	Projection	Projection	Projection	Projection
Income											
Grant Revenue	47,308										
9-1-1 fee (ETC)	4,637,612	3,407,641	4,816,922	71%	5,111,462	4,543,494	4,543,494	4,543,494	4,543,494	4,543,494	4,543,494
Total Income	4,684,920	3,407,641	4,816,922	71%	5,111,462	4,543,494	4,543,494	4,543,494	4,543,494	4,543,494	4,543,494
Expense											
Administrative expense											
Accounting	20,273	23,029	25,000	92%	27,635	29,017	30,467	31,991	33,590	35,270	37,033
Bank Charges	256	2,070	0	100%	2,500	0	0	0	0	0	0
Executive Director (ED)						0	0	0	0	0	0
Wages & Salaries	96,605	72,421	97,490	74%	86,905	91,250	95,813	100,604	105,634	110,916	116,461
Payroll tax	7,494	5,875	7,115	83%	7,050	7,403	7,773	8,161	8,569	8,998	9,448
401k & benefits	15,836	12,067	15,004	80%	14,480	15,204	15,965	16,763	17,601	18,481	19,405
Mileage reimbursement	1,177	662	1,349	49%	794	834	876	920	966	1,014	1,065
Executive Director (ED) - Other	0	---	---	---	---	---	---	---	---	---	---
Total Executive Director (ED)	121,112	91,025	120,958	75%	109,230	114,692	120,426	126,447	132,770	139,408	146,379
Insurance	5,814	6,148	6,000	102%	6,148	6,000	6,300	6,615	6,946	7,293	7,658
Legal	71,016	43,270	68,035	64%	51,924	54,520	57,246	60,109	63,114	66,270	69,583
Meeting & misc											
Phone/Web conferencing	3,433	1,914	3,690	52%	2,297	2,412	2,532	2,659	2,792	2,931	3,078
Admin Web/Listserve	633	687	725	95%	824	866	909	954	1,002	1,052	1,105
Meeting & misc - Other	2,085	1,915	2,379	80%	2,298	2,413	2,534	2,660	2,793	2,933	3,080
Total Meeting & misc	6,151	4,516	6,794	66%	5,419	5,690	5,975	6,273	6,587	6,916	7,262
Office rent	0	2,700	7,560	36%	2,700	2,835	2,977	3,126	3,282	3,446	3,618
Office supplies & postage	1,707	871	1,132	77%	1,045	1,097	1,152	1,210	1,270	1,334	1,401
Payroll Expenses	578	1,625	0	---	1,950	2,048	2,150	2,257	2,370	2,489	2,613
Administrative expense - Other	58	---	---	---	---	---	---	---	---	---	---
Total Administrative expense	226,965	175,254	235,479	74%	208,551	215,898	226,693	238,028	249,929	262,426	275,547
Agency Operating Fund (AOF)											
AOF carry-forward	153,978	53,765	0	---	0	0	0	0	0	0	0
Agency Operating Fund (AOF) - Other	737,818	481,181	1,500,000	32%	1,250,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000
Total Agency Operating Fund (AOF)	891,796	534,946	1,500,000	36%	1,250,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000
Capital Acquisiton Fund (CAF)											
CAF carry-forward		0	0	---	0	0	0	0	0	0	0
Capital Acquisiton Fund (CAF) - Other		0	0	---	0	0	0	0	0	0	0
Total Capital Acquisiton Fund (CAF)	0	0	0	---	0						
Consultants											
Technical consultant	98,985	80,470	97,540	82%	96,564	101,392	106,462	111,785	117,374	123,243	129,405
Consultants - Other		---	---	---	---	---	---	---	---	---	---
Total Consultants	98,985	80,470	97,540	82%	96,564	101,392	106,462	111,785	117,374	123,243	129,405
Disaster & recovery plan (DRP)											
BRO backup center		0	0	---	0	0	0	0	0	0	0
Logging data backup		0	0	---	0	0	0	0	0	0	0
SRBC (S Regional Backup Center)		0									
SRBC recurring costs	19,481	0	12,926	0%	12,926	13,572	14,251	14,963	15,712	16,497	17,322
SRBC Phase II costs		0	0	---	0	0	0	0	0	0	0
SRBC - Other		735	0	---		0	0	0	0	0	0
Total SRBC (S Regional Backup Center)	19,481	735	12,926	6%	12,926	13,572	14,251	14,963	15,712	16,497	17,322

JCECA 2014 Budget Wkb rev 112013 0641

	2012	2013 ALL CLASSES				2014	2015	2016	2017	2018	2019
	Actual	Jan-Oct	Budget	%	Est Yr End	Budget	Projection	Projection	Projection	Projection	Projection
Disaster & recovery plan (DRP) - Other	0	0	0	0%		0	0	0	0	0	0
Total Disaster & recovery plan (DRP)	19,481	735	12,926	6%	12,926	13,572	14,251	14,963	15,712	16,497	17,322
Emergency Medical Dispatching	10,157	89,286	104,571	85%	104,571	30,000	31,500	33,075	34,729	36,465	38,288
GIS system											
GeoLynx Server	13,770	73,877	73,877	100%	73,877	77,571	0	81,449	0	85,522	0
DRCOG photogrammetry	0	0	0	---	0	18,000	0	18,900	0	19,845	0
GIS system support						173,158	177,487	181,925	186,473	195,797	205,586
GIS system other	0	0	0	---		---	---	---	---	---	---
Pictometry support	124,370	124,374	124,624	100%	124,374	---	150,000	150,000	150,000	150,000	150,000
Pictometry hardware	0	0	0	---	0	---	---	---	---	---	---
Regional map data maintenance		84,700	84,700	---	84,700	---	---	---	---	---	---
GIS system - Other	0	0	0	---		---	---	---	---	---	---
Total GIS system	138,140	282,951	283,201	100%	282,951	268,729	327,487	432,274	336,473	451,164	355,586
Line charges											
Call Box MRC	1,935	3,374	2,000	169%	3,524	2,000	2,100	2,205	2,315	2,431	2,553
Transport (MOE, T-1)	50,345										
ARFD		20,801	7,938		24,962	26,210					
ARPD		20,801	7,938		24,962	26,210					
BRO		20,801	4,444		24,962	26,210					
EVFR		20,801	7,938		24,962	26,210					
GOL		20,801	4,444		24,962	26,210					
JCSO		20,801	4,444		24,962	26,210					
WES		20,801	7,938		24,962	26,210					
WRPD						720					
Total Transport Costs		145,610	45,084	---	174,732	184,189	-	-	-	-	-
ANI/ALI SR charges	357,251	237,593	382,473	62%	285,112	299,367	314,336	330,052	346,555	363,883	382,077
Lines-other		68,923									
Total Line charges	409,531	455,500	429,557	106%	463,368	485,556	316,436	332,257	348,870	366,314	384,629
Logging systems											
Logging system hardware	172,443	204,879	50,000	410%	204,879						
ARFD						-	140,000	-	-	-	-
ARPD						-	160,000	-	-	-	-
BRO						257,428	-	-	-	-	-
EVFR						-	-	-	-	-	-
GOL						-	-	-	-	-	-
JCSO						-	-	-	-	-	-
LPD						250,000	-	-	-	-	-
WES					243,139	-	-	-	-	-	-
WMFR						184,569	-	-	-	-	-
WRPD						32,954	-	-	-	-	-
Total Logging system hardware		204,879			448,018	724,951	300,000	0	0	0	0
Logging system repair	0	250	0	---	250	0	0	0	0	0	0
Logging system support	25,774	76,487			76,487						
NICE 3 yr maint - 7 agencies	0	0	0	---	0	0	0	0	0	0	0
JCSO Motorola-NICE support			64,951	0%	64,951						
ARFD						20,000	20,000	20,000	20,000	20,000	20,000
ARPD						23,000	23,000	23,000	23,000	23,000	23,000
BRO						31,000	31,000	31,000	31,000	31,000	31,000
EVFR						10,000	10,000	10,000	10,000	10,000	10,000

JCECA 2014 Budget Wkb rev 112013 0641

	2012	2013 ALL CLASSES				2014	2015	2016	2017	2018	2019
	Actual	Jan-Oct	Budget	%	Est Yr End	Budget	Projection	Projection	Projection	Projection	Projection
GOL						31,000	31,000	31,000	31,000	31,000	31,000
JCSO						62,000	62,000	62,000	62,000	62,000	62,000
LPD						13,183	13,183	13,183	13,183	13,183	13,183
WES						33,000	33,000	33,000	33,000	33,000	33,000
WMFR						54,035	54,035	54,035	54,035	54,035	54,035
WRPD						10,000	10,000	10,000	10,000	10,000	10,000
Logging system support - Other			0	---	0	0	0	0	0	0	0
Total Logging system support	25,774	281,616	64,951	434%	141,438	287,218	287,218	287,218	287,218	287,218	287,218
Logging system other	0	0	0	0%		0	0	0	0	0	0
Logging systems - Other	0	0	0	0%		0	0	0	0	0	0
Total Logging systems	198,217	281,616	114,951	245%	589,706	1,012,169	587,218	287,218	287,218	287,218	287,218
MSAG maintenance											
Wireless Consulting		22,875	22,875	100%	22,879	---	---	---	---	---	---
MSAG maintenance - Other		46,800	46,800	100%	46,802	---	---	---	---	---	---
Total MSAG maintenance	0	69,675	69,675	100%	69,681	---	---	---	---	---	---
Notification system (ENS)											
VoIP record extract	0	3,000	5,000	60%	5,000	5,250	5,250	5,513	5,788	6,078	6,381
ALI Database Extract (ADE)	18,080	10,250	17,343	59%	12,300	12,915	13,561	14,239	14,951	15,698	16,483
ENS Layer Maint (GeoComm)		20,160	20,160	100%	20,160	---	---	---	---	---	---
FirstCall	31,119					---	---	---	---	---	---
CodeRED (ECN)											
Weather Warning Services		0	42,000	0%	42,000	87,400	91,770	96,359	101,176	106,235	111,547
ENS Services		150	87,400	0%	87,400	42,000	44,100	46,305	48,620	51,051	53,604
Notification system other	287	2,236	0	100%	2,236	---	---	---	---	---	---
Notification system (ENS) - Other	133,990	200				---	---	---	---	---	---
Total Notification system (ENS)	183,476	35,996	171,903	21%	169,096	147,565	154,681	162,415	170,536	179,062	188,015
Phone systems (911)											
Headset-headset	12,544	17,454	20,000	87%	20,000	20,000	20,000	20,000	20,000	20,000	20,000
Phone system hardware											
N interop system	41,944										
EVFR upgrade project	135,377	30,129	0	---	149,115						
S interop system	637,909										
BRO portion		17,833	0	---	17,833						
GOL portion		10,856	0	---	10,856						
JCSO portion		145,026	0	---	145,026						
Total GOL/BRO/JCSO upgrade project		173,715	0	---	173,715						
WMFR upgrade project	174,699	112,736	0	---	112,736						
WRPD upgrade project						165,000					
Total Phone system hardware		316,580									
Phone system repair	173,107	48,340	48,846	99%	58,008	60,908	63,954	67,152	70,509	74,035	77,736
						-60,908	-63,954	-67,152	-70,509	-74,035	-77,736
Phone system support	10,509	33,146	0	---	33,146						
N interop sys-Cass 27 pos					288,070						302,474
N interop system-CTL 27 pos						44,991	44,991	44,991	44,991	44,991	47,241
S interop system-Cass 29 pos						319,000					
S-interop system-CTL 29 pos						43,440	43,440	43,440	43,440	43,440	45,612
C interop sys-Cass 31 pos					24,000	0	341,000				
C interop sys-CTL 31 pos						0	52,700	52,700	52,700	52,700	52,700
Total Phone system support					345,216	407,431	429,431	88,431	88,431	88,431	395,326
Phone systems (911) - Other	177	0	0	---	0	0	0	0	0	0	0

JCECA 2014 Budget Wkb rev 112013 0641

	2012	2013 ALL CLASSES				2014	2015	2016	2017	2018	2019
	Actual	Jan-Oct	Budget	%	Est Yr End	Budget	Projection	Projection	Projection	Projection	Projection
Total Phone systems (911)	1,186,266	415,520	68,846	604%	858,790	592,431	502,131	161,131	161,131	161,131	468,026
Public education											
Public Web	558	0	1,000	0%	250	1,000	1,050	1,103	1,158	1,216	1,276
Public education - Other	36,297	26,900	60,000	45%	32,280	60,000	63,000	66,150	69,458	72,930	76,577
Total Public education	36,855	26,900	61,000	44%	32,530	61,000	64,050	67,253	70,615	74,146	77,853
Program fund											
CAD maintenance recurring	525,618	460,537	683,907	40%	683,907	718,102	521,094	547,149	574,506	603,231	633,393
CAD-regional systems											
JCSO multi agency						1,125,000	375,000				
WMFR multi agency											
-first yr hdwr/lic						817,000					
-transport costs						150,000	50,400	50,400	50,400	50,400	50,400
-recurring mtce						325,000	325,000	325,000	325,000	325,000	325,000
Total CAD-regional systems		0	0	---	0	2,417,000	750,400	375,400	375,400	375,400	375,400
Mobile Data Computers (MDC)											
MDC hardware	379,211	---	---	---	---	---	---	---	---	---	---
MDC support (GeoLynx Server)		0	37,490	0%	37,490	37,490	39,365	41,333	43,399	45,569	47,848
Mobile Data Computers (MDC) - Other		---	---	---	---	---	---	---	---	---	---
Total Mobile Data Computers (MDC)	379,211	0	37,490	0%	37,490	37,490	39,365	41,333	43,399	45,569	47,848
Radio Consoles											
ARFD					184,000	-	-	-	-	-	-
ARPD					321,557	-	-	-	-	-	-
BRO						363,363	-	-	-	-	-
EVFR						285,232	-	-	-	-	-
GOL						-	-	-	-	-	-
JCSO					112,194	336,582	-	-	-	-	-
LPD						-	-	600,000	-	-	-
WES		220,383			383,563	-	-	-	-	-	-
WMFR						-	300,000	-	-	-	-
WRPD						-	150,000	-	-	-	-
Total Radio Consoles		220,383	0	---	1,001,314	985,177	450,000	600,000	0	0	0
Radio Annual S/W Maintenance											
ARFD						0	0	0	0	0	0
ARPD						38,833	38,833	38,833	38,833	38,833	38,833
BRO						125,000	25,000	25,000	25,000	25,000	25,000
EVFR						65,000	65,000	65,000	65,000	65,000	65,000
GOL						125,000	25,000	25,000	25,000	25,000	25,000
JCSO					320,000	0	64,000	64,000	64,000	64,000	64,000
LPD						21,167	21,167	21,167	21,167	21,167	21,167
WES						58,500	58,500	58,500	58,500	58,500	58,500
WMFR						29,250	29,250	29,250	29,250	29,250	29,250
WRPD						0	0	0	0	0	0
Total Radio Annual S/W Maintenance					320,000	462,750	326,750	326,750	326,750	326,750	326,750
Wireless data recurring	269,065	124,861	249,945	50%	249,945	262,442	275,564	289,343	303,810	319,000	334,950
Program fund - Other	0	0	0	0%	0	0	0	0	0	0	0
Total Program fund	1,173,894	805,781	971,342	83%	2,292,656	4,557,961	2,038,172	1,854,974	1,298,865	1,344,950	1,393,341
Reconciliation Discrepancies	(160)	(3,898)	0		(3,898)						
Recruiting	9,593	19,848	15,000	132%	20,000	20,000	20,000	20,000	20,000	20,000	20,000

	2012	2013 ALL CLASSES				2014	2015	2016	2017	2018	2019
	Actual	Jan-Oct	Budget	%	Est Yr End	Budget	Projection	Projection	Projection	Projection	Projection
Special Projects											
Capitalized Expenses	(521,020)	0	0	---	0						
J-FON O&M	2,923	12,654	5,000	253%	18,981	20,000	20,000	20,000	20,000	20,000	20,000
Portable Radio Replacement	722,000	0	7,500	---	0	---	---	---	---	---	---
CIDT	11,006	372	---	---	446	---	---	---	---	---	---
Last Mile Fiber Project											
Inside Plant Segment A		0	80,000	0%	0	80,000					
Inside Plant Segment B		0	18,000	0%	0	18,000					
Inside Plant Segment F		0	18,000	0%	0	18,000					
AHEC-DUS segment		121,874	82,500	148%	109,477						
ROW Engineerng/PM contingency		9,365	25,000	37%	50,000	25,000					
Gold Line segment		34,473	0	---	40,000	650,000					
US Hwy 36 BRT segment		1,137	0	---	2,000	300,000					
North Metro Line segment		883	0	---	2,000						
Last Mile Fiber Project - Other	382,973	33,713	---	---	---						
Total Last Mile Fiber Project	382,973	201,445	223,500	90%	203,477	1,091,000	0	0	0	0	0
AJCHRA pager/cell recurring	10,762	5,473	11,441	48%	15,000	15,750	16,538	17,364	18,233	19,144	20,101
Call Box Project	6,972	3,627	0	---	4,352	2,000	2,000	2,000	2,000	2,000	2,000
Coplink recurring charges	44,333	27,360	46,416	59%	46,146	90,000	94,500	99,225	104,186	109,396	114,865
Regionalization Study	1,403	78,625	100,000	79%	78,625	---	---	---	---	---	---
RTD WC Fiber Project	177,018	116,871	0	---	81,381	---	---	---	---	---	---
Smart911	93,743	565	89,600	1%	90,165	89,600	89,600	89,600	89,600	89,600	89,600
Mountain Dispatch Service Fees						99,500	99,500	99,500	99,500	99,500	99,500
Special Projects - Other	0	---	---	---	---	---	---	---	---	---	---
Total Special Projects	932,113	446,992	483,457	92%	538,573	1,407,850	322,138	327,689	333,519	339,640	346,067
Training expense (TE)	169,643	97,962	210,000	47%	117,554	210,000	210,000	210,000	210,000	210,000	210,000
Translation services (LLS)	11,435	7,910	15,000	53%	9,492	15,000	15,000	15,000	15,000	15,000	15,000
Total Expense	5,696,387	3,823,444	4,844,448	53%	7,113,111	10,639,124	6,436,218	5,768,062	5,169,970	5,387,256	5,706,298
Net Ordinary Income	(1,011,467)	(415,803)	(27,526)	11%	(2,001,650)	(6,095,630)	(1,892,724)	(1,224,568)	(626,476)	(843,762)	(1,162,804)
Other Income/Expense											
Other Income			2,268,663								
Other		0	0	0%		0					
Interest Income	15,124	8,846	0	100%	13,269	0					
Miscellaneous Income	120	37	0	0%	37	0					
Other Income - Other		0	0	0%	0	0					
Total Other Income	15,244	8,883	0	100%	13,306	0					
Total Other Income	15,244	8,883	0	100%	13,306	0					
Other Expense											
Interest Expense		0	0	100%	60	0					
Total Other Expense	0	0	0	100%	60	0					
Net Other Income	15,244	8,883	0	100%	13,246	0					
Net Income	(996,223)	(406,920)	(27,526)	10%	(1,975,038)	(6,095,630)	(1,892,724)	(1,224,568)	(626,476)	(843,762)	(1,162,804)
Fund Balance, Beginning	10,693,629				9,697,406	7,709,002	1,613,373	(279,352)	(1,503,920)	(2,130,396)	(2,974,158)
Restrict - NexGen Reserve Fund	(2,000,000)				(2,000,000)	(2,000,000)	(2,000,000)	(2,000,000)	(2,000,000)	(2,000,000)	(2,000,000)
Restrict - 40% General Operating Fund Res	(2,250,000)				(2,250,000)	(2,250,000)	(2,250,000)	(2,250,000)	(2,250,000)	(2,250,000)	(2,250,000)
General Operating Balance	6,443,629				5,447,406	3,459,002	(2,636,627)	(4,529,352)	(5,753,920)	(6,380,396)	(7,224,158)

JCECA 2014 Budget Wkb rev 112013 0641

	2012	2013 ALL CLASSES			2014	2015	2016	2017	2018	2019
	Actual	Jan-Oct	Budget	%	Est Yr End	Budget	Projection	Projection	Projection	Projection
Income	4,684,920				5,111,462	4,543,494	4,543,494	4,543,494	4,543,494	4,543,494
Income - other	15,244				13,246	0	0	0	0	0
Less total expense	(5,696,387)				(7,113,111)	(10,639,124)	(6,436,218)	(5,768,062)	(5,169,970)	(5,387,256)
Unrestricted fund balance	5,447,406				3,459,002	(2,636,627)	(4,529,352)	(5,753,920)	(6,380,396)	(7,224,158)
Add NexGen Reserve Fund not used	2,000,000				2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
Add 40% General Op Fund Res not used	2,250,000				2,250,000	2,250,000	2,250,000	2,250,000	2,250,000	2,250,000
Ending Fund Balance (cash)	9,697,406				7,709,002	1,613,373	(279,352)	(1,503,920)	(2,130,396)	(2,974,158)

E911 Budget Parameters - Draft

Level One

Level Two

Basic E911 Services/Equipment

Extended E911 Services/Equipment

E911 Phone Systems
 Logging Recorders
 Comm Center Network Infrastructure
 Head Sets
 Network Time Servers
 Maintenance of Above
 MSAG
 Language Line
 Priority Dispatch
 Training
 Public Education
 "Criticall"
 EMD
 "CopLink"
 CID - Critical Incident Dispatching
 Backup/Disaster Recover/Redundancy
 Generator, UPS
 Center to Center Networking

Mapping Projects
 Mobile CAD
 AVL
 GIS
 CAD
 CAD Interfaces
 Radio Infrastructure
 Station Alerting

Level Three

Technical Enhancements

Addresses Agency Specific Needs

Level One funding is for the primary, critical use equipment necessary to operate the 911 Centers. These are generally placed in the annual budget and are cycled based on life expectancy.

Level Two funding are for products and service that are less critical to the operations of a 911 Center, however, are necessary to the functionality and workflow throughout a 911 Call. These may be funded with a (%) percentage off set as determined by the Authority Board.

Level Three funding: The Authority Board budgets a fixed amount, per agency, on an annual basis to provide funding for Technical Enhancement. These funds allow for flexibility to address agency specific needs.

Level Two Funding Questions:

Mobile CAD

What to Fund?

Fund (%)?

Hardware: MDC, AVL, Wireless Connectivity (802.11, Cellular), Servers, Chargers, Inverters

Software: Server LIC, Mobile LIC, Cellular Costs

CAD

What to Fund?

Fund (%)?

Hardware: Servers, Redundant Servers, Work Stations

Software: CAD, Interfaces, Maintenance

Alerting

Station Alerting, Siren Systems, Paging Systems

Disaster Recover/Business Continuity

What to Fund?

Fund (%)?

Network Connectivity, Generator, UPS, Security, HVAC, Backup Radios, Grounding, Phones, Loggers,

Backup CAD,

Radio

What to Fund?

Fund (%)?

System/Infrastructure, Interoperability, Console Workstations, Software Maintenance

GIS

What to Fund?

Fund (%)?

GeoCom, Mapping Services, Analytics

Furniture

What to Fund?

Fund (%)?

Console Ergonomics, Chairs, Desks,

Personnel

Consolidated Center

Call takers

Director

Support Functions

CAD Administration

IT Support

Jefferson County Emergency Communications Authority (JCECA)

Best Business Practices

(rev 011811)

Fund Balance Reserve Guidelines

It is the goal JCECA to maintain fiscal year end fund balances as set forth in the following guidelines.

GENERAL FUND

Multi-Year Financial Obligation Reserves will be maintained for contractual and other multi-year financial obligations approved by the JCECA board of directors.

Unreserved Fund Balances of the General Fund will have a goal of 50% with a minimum requirement of 20% of anticipated general fund revenues. Budgetary policies will direct service level and program reductions to maintain the 20% minimum required unreserved fund balance. The components of the Unreserved Fund Balance are as follows:

- ***Contingency*** These funds allow the JCECA to authorize unanticipated expenditures and to take advantages of opportunities that may arise. Unanticipated expenditures include emergencies and other exposures as well as increases in costs.
- ***Economic Uncertainties Funds*** This is the portion of the fund balance that will be used to maintain service levels in the event an economic downturn causes revenue shortfalls. Budgetary policy will guide the use and restoration of these funds.

Budget Guidelines

Funding for the continued operation of E9-1-1 systems in the State of Colorado has been provided for by the ability to form Authorities for collection and dissemination of an Emergency Telephone Charge (ETC). It is the goal of JCECA to set and subsequently collect an ETC that provides sufficient funding to facilitate the continued of operation of E9-1-1 systems in Jefferson and Broomfield counties..

- The reserve goal should be maintained at levels deemed acceptable with the available revenues. Consideration will be given to the expansion of services/funding when the board established reserve goal is obtained. Temporary fee refunding and fee rate reduction will also be considered when service levels and reserves are considered satisfactory.
- The Authority may need to consider lowering service levels or take other necessary measures in the adopted budget before the dropping below the established reserves fund balance.
- Long-term financial forecast should also be considered. It may be necessary to curtail spending in any economic environment if future budget years may be jeopardized by current program expansions of other budgetary decisions.

Procurement and Purchasing Guidelines

The Jefferson County Emergency Communications Authority is funded by telephone surcharge fees. As such, the Authorities purchasing procedures are established to ensure that all procurements are completed in an appropriate manner.

I. Delegation of Approval Authority:

- A. The JCECA Board of Directors, through its Bylaws, shall approve all contractual obligations of the Authority. The Board has delegated general purchasing authority for routine supplies, services, and expenditures to the Executive Director.
- B. The following delegation of authority applies to the Executive Director and should be followed for the procurement of goods and services in compliance with the procedures set forth herein.

\$0 - \$5,000	Small Equipment Purchases
\$5,001 - \$25,000	Executive Director
\$25,000- +	Board of Directors

II. Expenditure Request:

- A. An Expenditure Request shall be used for all procurement of goods and non-professional services. In any case, an Expenditure Request will be issued for any purchase over \$500. All Expenditure Requests will be forwarded to the Executive Director for the generation of a Purchase Order or check.
- B. The requestor is the individual who has identified a specific purchase need. It is the requestor's responsibility to assure that the proper approval, based on the Delegation of Approval Authority, is obtained prior to forwarding an Expenditure Request for consideration.

III. Purchase Order:

- A. A Purchase Order will be generated and either forwarded to the supplier or returned to the originator, based on the originator's requirements. Purchase Orders are required for the procurement of all products and services over \$500 except in cases where the suppliers will not accept a Purchase Order and requires payment via a check.
- B. Exceptions to the requirement for a Purchase Order are ongoing expenditures such as utilities, other contractual obligations and professional consultants or other expenditures pre-approved and directed by the Board of Directors to be paid.
- C. Generation of an Expenditure Request does not constitute the authority to place an order prior to a check or purchase order being produced. The concurrence of Purchasing shall be obtained for any rush or emergency order placements.
- D. Purchase Order Changes: Changes in the quantity, price, or vendor to an issued Purchase Order require that a new Expenditure Request be generated with the appropriate changes and clearly marked as "Change to P.O. # xxx.
- E. Open Purchase Orders: Open Purchase Orders may be requested on the Expenditure Request form for ongoing purchases. Open Purchase Orders will generally not be established for more than a one-year period. The Open Purchase Order is intended to reduce administrative time and costs and shall only be used to cover routine purchases from

a frequently used supplier for items of minimal cost or essential items purchased on a routine and periodic basis.

IV. Check Request:

- A. The issuance of a check may be requested on the Expenditure Request form. Checks will be issued for the purchase of goods and services in cases where the supplier will not accept a Purchase Order and for other requirements such as subscriptions, dues, personal reimbursement, and travel expenses.

V. Receipt Process:

- A. The Executive Director will not authorize payment to the supplier until proof of receipt has been received. If a packing slip or shipping documents are not available, a memo indicating that the product has been received or services completed will be prepared by the individual authorizing the procurement.
- B. Agencies seeking reimbursement for goods and/or services approved within a Purchase Request must provide documentation to the Executive Director evidencing the expenditure of agency funds before a reimbursement check will be issued to the agency.

VI. Purchase Methods:

- A. The dollar value of the purchase transaction generally determines the method used to make the purchase.

\$1 - \$500	No formal quote required
\$500 - \$2,500	If the product or service can be obtained from several sources, it is expected that the buyer will comparison shop and attempt to obtain the goods or services at the best competitive price.
\$2,500 - \$25,000	The buyer is to obtain a minimum of two informal written or electronically submitted quotes. The buyer will submit an expenditure request to the Executive director that includes copies of the quotes and a brief narrative explaining which vendor the buyer has selected and the reasoning for the choice.
\$25,000 +	Formal written bids are required following the process established.

- B. The Executive Director will be involved and assist with all formal bids over \$25,000. Executive Director will also maintain a master file of all bids and awards.
- C. The following items are exempted from competitive bidding:
 1. Purchases made cooperatively with other units of government such as the State of Colorado and governmental cooperative groups utilizing extended awards from other governmental agencies.
 2. Services of individuals possessing a high degree of professional skill who have exclusive knowledge.
 3. Purchases from federal, state or other local government units.
 4. Supplies, products or services indispensable to the individual Agencies, which are obtainable, only from a single or sole source. Purchasing agents are authorized to

negotiate with a single or sole source regarding price, delivery, and other relevant factors.

5. **Sole/Single Source:** Some common reasons for sole brand/model justifications are:
 - a. The Agency and or Authority want to standardize on a particular brand/model because it best suits operational needs for stated reasons. (Detailed research must be included.) The standardization process can achieve savings by reducing supply/parts inventory and training efforts.
 - b. The Agencies requires supplies/parts compatible with existing equipment.
 - c. A specific brand/model is required to maintain warranty coverage on associated equipment.

Some common reasons for sole source justification are:

- a. The vendor is the only supplier located near our facilities and staff makes frequent trips to the vendor's location to pick up repair parts.
- b. The vendor maintains a piece of equipment critical to operations and is the only vendor in the immediate area.
- c. Another agency processed a competitive proposal and recommended the professional service firm with which we wish to contract.
- d. The firm is uniquely qualified through previous involvement on the project.
- e. The vendor offers goods that are proprietary to that vendor.

VII. Capital Construction Projects:

- A. If possible, capital projects must have a minimum of three competitive bids. For projects over \$25,000, the Executive Director will arrange presentations to and approval from the Board of Directors.
- B. The Agency project manager will ensure that the project is completed in a satisfactory manner and will provide payment directions, with supporting documentation, to the office of the Executive Director for payment to the supplier.

VIII. Establishing Business Accounts:

- A. Usual business practice requires that an account be opened with a business the JCECA wishes to establish credit with for the purpose of purchasing goods or services on a non-cash basis. These accounts, depending on the company, may be opened as follows:
 - a. General commercial accounts that can only be used with a Purchase Order or Purchase Order number. This type of account offers maximum control, as a Purchase Order number is required prior to placing an order with the supplier.
 - b. Credit accounts which allow persons authorized by JCECA to make a purchases.

IX. Emergency Requirements:

- A. Goods or services required in an emergency situation may be ordered immediately, given approval by the Executive Director and One Board Member or in the absence of the Executive Director, Two Board Members. An Expenditure Request will be submitted to the JCECA Board of Directors as soon as practicable after the goods and/or services are ordered. A memo should be attached explaining the emergency need. The definition of "emergency" is "the emergency procurement of supplies, services, or construction items when there exists a threat to the public or Agency health, welfare, or safety; (i.e. prohibits a normal emergency response or if left alone would result in more damage being done to

Communications Agency property); provided that such an emergency procurement shall be made with such competition as is practicable under the circumstances."

X. Professional Conduct:

- A. The Jefferson County Emergency Communication Authority Mission Philosophy is to strive to create working relationship with its suppliers; open and fair in its dealings, reflecting trust and respect; and wants its suppliers to feel a partnership in its mission and goals.
- B. Individuals shall avoid situations where personal interests or those of family members conflict, or appear to conflict, with Authority interests. Conflicts exist if improper gain or advantage either to the individual, family members or others outside
- C. Other than small "marketing tokens", the Authority prohibits its members receiving gifts, products, or other incentives from suppliers.
- D. All purchases shall be in conformity with all statutory requirements set forth in Sec. 24-18-101, et seq., CRS, and all applicable Authority policies regarding conflicts of interest and standards of conduct.

XI. Definition of Terms:

- A. **Formal Bid:** A written sealed proposal from a supplier generally in response to a Request for Quote (RFQ) or Request for Proposal (RFP).
- B. **Informal Quote:** A procurement of at least \$2,500. but less than \$25,000. must obtain a minimum of two written quotes. These are to be submitted with the Purchase Order Request.
- C. **Open Purchase Order:** A purchase order assigned to one supplier to cover purchases made with that supplier over a specific period of time.
- D. **Packing Slip:** A document accompanying shipments, which indicates items, shipped as well as backorders. It is not an invoice and payments cannot be made with it.
- E. **Purchase Order:** A binding agreement between the Authority and supplier to purchase goods or services.
- F. **Requestor:** The individual who has determined a need for the Authority to obtain goods or services.
- G. **Expenditure Request:** The Expenditure Request, with the proper approval, is the authorizing document used by the Authority for the purchase of goods and services.

Asset Inventory Guidelines

Equipment valued at \$5,000 or greater shall become a General Fixed Asset of the receiving agency after purchase by JCECA or grant funding or reimbursement to the agency by JCECA. Agencies receiving General Fixed Asset equipment from JCECA shall maintain an inventory of said equipment. Such inventory shall be subject to review by the Executive Director.

Surplus Categories:

Obsolete – Material that is of no use because its useful life is over and it is not fit for its original purpose.

Excess – Material that has no useful purpose for use, but may have some residual value.

Disposal – specific agency policy will be used for disposal of assets.

Funding Request for Dispatch Services

Page	Description
2	Funding Request for Dispatch Services – 12 PowerPoint slides
14	Letter of Support – Elk Creek FPD
15	Letter of Support – Foothills FPD
16	Letter of Support – Golden Gate FPD
17	Letter of Support – Indian Hills FPD
18	Letter of Support – Inter-Canyon FPD
19	Letter of Support – North Fork FPD
20	Expenditure Request for Dispatch Infrastructure Improvements
21	2014 Budget Request for Reimbursement of Recurring Dispatch Costs to Evergreen FPD



Funding Request for Dispatch Services

Elk Creek Fire



Foothills Fire



Golden Gate Fire



Indian Hills Fire



Inter-Canyon Fire



North Fork Fire





Who We Are

- ❖ We are staffed primarily by **VOLUNTEERS**... Your family, friends and co-workers.
- ❖ We survive on **LIMITED** tax revenue, **fundraisers** and **donations**.
- ❖ We **DEPEND** on timely, accurate and consistent dispatching.



Areas We Service

Combined, we provide service to major routes of travel:

- ❖ **9 Miles** of Interstate 70
- ❖ **31 miles** of U.S. Highway (U.S. 40 and U.S. 285)
- ❖ **31 miles** of State Highway (CO-46, CO-67 and CO-74)

We service public lands and recreation destination, including:

- ❖ **Pike National Forest**
- ❖ **Arapahoe National Forest**
- ❖ **2 States Parks**
- ❖ **18 Jefferson County Open Space Parks**
- ❖ **17 City and County of Denver Parks**

We cover 543 of Jefferson County's total 778 square miles.

Geographically... That's 70% of Jeffco!



Services We Provide

- ✓ MOTOR VEHICLE CRASH RESCUE
- ✓ STRUCTURE FIREFIGHTING
- ✓ WILDLAND FIREFIGHTING
- ✓ HAZARDOUS MATERIALS RESPONSE
- ✓ EMERGENCY MEDICAL SERVICE
- ✓ ALS AMBULANCE TRANSPORT
- ✓ BACK COUNTRY RESCUE



Significant Events

- ❖ May 18, 1996: Buffalo Creek Fire; 18 homes.
- ❖ July 12, 1996: Buffalo Creek Flood; all infrastructure destroyed in the area; North Fork Station 1 destroyed.
- ❖ November, 1999: I-70 Eastbound at milepost 255; 84 vehicle chain reaction crash; the **largest** single crash in Colorado history.
- ❖ June 13, 2000: High Meadow Fire; 30+ homes lost.
- ❖ June 8, 2002: Hayman Fire; 133 homes lost; one of the **largest** wildfires in Colorado history.
- ❖ March 26, 2012: Lower North Fork Fire; 25 homes lost; three fatalities.



By the Numbers

Our **six** departments provide service to **70% of Jefferson County** and yet receive **LESS** than **5%** of tax revenue.

COMPARE THIS TO:

West Metro Fire: **\$37.4 million**

Arvada Fire: **\$18.5 million**

Westminster Fire: **\$12.5 million**

Wheat Ridge Fire: **\$2.1 million**

Golden Fire: **\$1.46 million**



Our Situation

We are currently dispatched by the JeffCo Sheriff.

- The total annual calls for service for all **six** departments totals **+/-2,700**.
- We **DO NOT** have a dedicated fire dispatcher.

The JeffCo “fire” dispatcher is also responsible for:

- Clearing wants, warrants and any other Deputy requests.
- Dispatching and monitoring:
 - Probation Units
 - JeffCo Open Space Rangers
 - Denver Mountain Parks Rangers
 - Animal Control Officers after hours
 - Road and Bridge after hours
 - Monitoring of Air Emergency Channel



Our Problem

We have tried to resolve our issues through **communication** and numerous meetings over a period of **YEARS**.

ISSUES INCLUDING:

- ✓ Problems with notification
- ✓ Difficulties with calls for assistance
 - ✓ NO dispatcher response to emergency traffic
- ✓ CAD data incorrect or missing
 - ✓ Lack of unit tracking
- ✓ Unavailability of automatic aid

*The Jefferson County Sheriff's Department has done its best to meet our needs, **but...***

**Times have changed.
We're busier. We have larger,
more complex calls.**

**WE NEED A FIRE BASED, FIRE
DEDICATED DISPATCH SYSTEM!**



Our Problem

The services we currently receive from the Sheriff's department are **limited**:

- ✓ We receive a radio notification (tone).
- ✓ We receive **basic** and **limited** information about the call.
- ✓ We may receive **limited** on scene support from dispatch.

There are **major** concerns about the service we receive:

- ❖ There is a **serious** time delay from call receipt to call dispatch.
- ❖ Secondary notification (text) is sent **late, or not at all**.
- ❖ There is **little** to **no** tracking of units responding, or on scene.
- ❖ Fire channels are often **unmonitored** for either routine or emergency traffic.
- ❖ Only **very limited** report information is available post-call.



Our Solution

Evergreen Fire Dispatch

- ❖ Capacity and willingness to dispatch for the mountain agencies.
- ❖ Common operating practices and frequent mutual aid partners.
- ❖ Dedicated, fire trained dispatchers.
- ❖ Detailed CAD notes and dispatch times.
- ❖ Response zone dispatching for auto-aid implementation.
- ❖ Detailed response information including hydrant info, premise history and mapping.
- ❖ Single point of contact for resource ordering.
- ❖ **AGREEMENT** by all six departments that this move is the **right move at the right time**.
- ❖ **Recommended and endorsed** by JCECA's own consolidation and regionalization study.



Everyone's Risk

Responder and Public Safety

- ✓ Lack of funding will further segregate the mountain departments.
- ✓ 4 of 8 departments will be unable to change dispatch providers without funding assistance.
- ✓ Inter-dispatch communication will be required for routine calls for service.
- ✓ Further complications of the already complex call transfer process.



Our Commitment

**Responder and public safety
is our “skin-in-the-game”.**

- ❖ All of the agencies represented are committed to providing the best service possible.
- ❖ We provide a high-value service to the majority of Jefferson County.
- ❖ We have proven record of high-risk, high loss events.
- ❖ We operate on **LIMITED** revenue.
- ❖ We are 100% dependent on timely, accurate dispatch information.



Elk Creek Fire Protection District

P.O. Box 607

11993 Blackfoot Rd.

Conifer, Colorado 80433

303-816-9385 303-816-9376 – fax

JCECA Board
PO Box 16184
Golden CO 80402

November 7 2013

Dear Board Members,

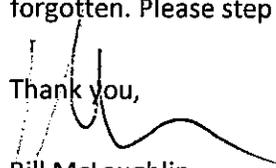
In the recent months, a proposal has been made to fund the portion of dispatch center ongoing operations for the mountain fire districts to facilitate their consolidation of dispatching. Elk Creek Fire District is in full support of the proposal to consolidate dispatching of the mountain fire agencies into a single fire dispatch center.

The recent regionalization study recommended consolidating dispatch to improve 911 capability and responder safety. That consolidation is necessary to bring the dispatching for the mountain fire departments into the 21st century. With extremely limited funding and primarily volunteer staffing, most of the departments simply cannot afford the cost of funding dispatch services.

Without JCECA support, we will continue to have a fractured, ineffective system. The lack of modern capabilities in this part of the county has already led to the loss of property and lives. It is time to recognize that we are as much a part of this county as the urban departments, and to fund our minimal needs. Even a simple house fire here requires the response from multiple departments. When we cannot even get our closest neighbors dispatched to help us, we put our volunteers at risk on every incident.

Having served for nearly 30 years in departments where a single, countywide fire dispatch agency provided effective, modern 911 processing and dispatching, I am fully aware of just how inadequate and substandard the current Jefferson County capability is. You have the chance now to help rectify that inadequacy. While the urban departments have been supported, the rural departments have been forgotten. Please step up and do the right thing.

Thank you,


Bill McLaughlin
Fire Chief



Foothills Fire Protection District

(In case of Emergency call 911)

November 7, 2013

JCECA Board of Directors,

This letter serves as formal request by the Foothills Fire Protection District for funding to change dispatch centers from Jefferson County Sheriff's Department to Evergreen Protection District dispatch. We are asking for both the cost of the transition and on-going service charges to be covered.

There are many benefits to this change. Most notably, there will be an improvement in the service provided to our community, and an increase to the safety of our volunteers.

The FFPD board would like to point out that FFPD is an original signer to the JCECA agreement, signed in 1983, and has never sought any direct funding from the JCECA.

Sincerely Yours,

Richard Bartlett,
Treasurer, FFPD Board
On behalf of the Foothills Fire Protection District Board of Directors



GOLDEN GATE FIRE PROTECTION DISTRICT

P.O. Box 843 - Golden, CO 80402-0843

(303) 279-3538

Golden Gate History and concerns:

Golden Gate for the year 2013 to date(10-26) has responded to 62 calls which have included requests for mutual aid.

The largest call volume in the history of Golden Gate was achieved last year with 89 calls, the average being low 70 for call volume.

Golden Gate is looking and weighing the options of having Evergreen dispatch for multiple reasons as I will state below:

1. Responder safety, The current dispatch center does not follow the standard fire fighter communication model and has shown that break downs can and do happen.
2. Response time reduction, The current paging system to let responders know a call is there is not working well with in the system and takes up to five minutes for notification.
3. Inter agency response, with the proposed move to Evergreen Dispatch Center the notification process will be fluid providing for the proper response and capabilities of responding apparatus.
4. Reporting consistency, There is no reporting system that is being used by dispatch to provide information to the department. The current system does not do "time stamping" in a form that we are able to access and accurate information is lost.
5. Standard Operating SOGs, It is with great concern that I would like to see the departments work together and aid in the consistency of call responses and working together. This is a major task but the benefits well out weigh any time that this will take.

While some of the 911 board may feel that they are changing and paying for our dispatch request, which of course is due to there own study they completed. It is fact that while we don't have a yearly fee for dispatch it has been built into and lost in the Jefferson County Dispatch budget. The request that is made by the mountain departments follows there guidelines.

As a Chief of a mountain district I investigate the changes to provide for high quality service to the fire department and to my citizens who call for help. I currently am frustrated with quality of service and response to general concerns. The safety of everyone should not be overlooked.

Chief Dan Roozen
Golden Gate Fire Protection District

November 1, 2013

**Jefferson County Emergency Communication Authority
433 South Allison Way, Ste. 231
Lakewood, CO 80226-3133**

RE: Emergency Dispatch Change

Dear Board of Directors:

The Indian Hills Fire Protection District Board of Directors is asking for your financial support in helping our department move its emergency dispatching services from Jefferson County Sheriff to Evergreen Fire/Rescue.

The change is needed in order to provide enhanced emergency response services in the mountain area. Our present dispatch call center does not have a dispatcher dedicated to emergency calls, which can create delays and problems in providing service.

We hope that you will seriously consider funding this dispatching move for the safety of our fire and EMS responders as well as the benefit of our residents.

Sincerely,

Emery Carson, Chief

Paul Pettit, Board President



INTER-CANYON FIRE PROTECTION DISTRICT

November 7, 2013

To Members of the JCECA

This letter shall serve as notification to the Board of Directors of the JCECA of the following. With funding provided by the JCECA, Inter-Canyon Fire Protection District is in favor of changing dispatch services from Jeffco to Evergreen Dispatch center.

A handwritten signature in black ink, appearing to read "Randy Simpson".

Randy Simpson
Fire Chief ICFPD



North Fork Fire Protection District

P O Box 183

Buffalo Creek, CO 80425-0183

Phone: 303-838-2270

Fax: 303-838-0412

November 6, 2013

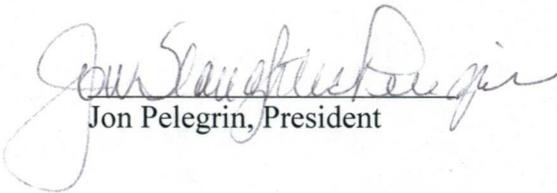
To: Jefferson County Emergency Communications Authority Board

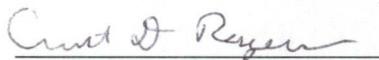
Subject: Mountain Area Dispatch Funding

Dear Board Members,

On behalf of the of the North Fork Fire Protection District we would like to request that the Jefferson County Emergency Communications Authority cover the costs associated with moving dispatching services to the Evergreen Fire Protection District, as recommended in the recent consolidation study. North Fork Fire Protection District, along with several other mountain area agencies, intends to move dispatching services to Evergreen in 2014. It is our understanding that monies raised by phone 911 sur charges and administered by the Jefferson County Emergency Communications Authority may be used for this request.

Thanks for your Consideration,


Jon Pelegrin, President


Curt D. Rogers, Chief

EXPENDITURE REQUEST

Jefferson County Emergency Communications Authority

Date submitted

Submitted by

Budget Category

Executive Summary (Briefly describe below the reason for the expenditure request. attach additional supporting documentation as appropriate. If requesting that the vendor be paid directly, include instructions i.e.: issue PO, pay on receipt of invoice, etc..)

Request use of AOF funds for Infrastructure improvement for Dispatch Project:

Engineering
Design: 40 hours @ \$140/hour (Singer 2013 rate) = \$5,600
Project Management: 160 hours @ \$140/hour = \$22,400
FCC Licensing: \$40 hours @ \$140/hour (Singer or Voige) = \$5,600

Installation and Materials (Assuming Frontier or similar contractor)
\$5000 labor + \$1500 for console card = \$6,500
Subtotal = \$40,100

Contingency at 20% = \$8,020.00

Estimate for Budgeting Purposes = \$48,120

Provided by
Jay M. Jacobsmeyer, P.E.

Total not to exceed (NTE) amount requested

Payment preference

Evergreen Fire Rescue 911 Communications

10/21/2013

Facility:

- 1802 Bergen Parkway, Station 2
- 4 consoles

Personnel:

- 8 full time and 5 part time Emergency Communications Specialists
- Communications Center may be staffed by up to 4 on duty Specialists
- 2 personnel on 24/7, 12 hour shifts
- All personnel are Emergency Medical Dispatch certified by EMD of Colorado

Hardware/Software

- LogiSYS (Logistic Systems Inc.) computer aided dispatch
 - Integrated Geographic Information System (GIS)
 - Pictometry mapping for 3-D visual
 - Response zone, nearest cross street, hazards, previous history, map page associated with each address
 - Call notes entered in including response times by personnel and apparatus
 - Apparatus status board
 - Water source information available including hydrant numbers dependent on water district information
 - Capable of measuring building heights, driveway lengths or hydrant distance
 - Phase 2 cellular telephone locator
 - Paging feature for run times, equipment status, notifications
- CassidianSentinal Patriot 911 Telephone System
 - IP based
 - Phase 2 cellular telephone locator
 - ANI/ALI retrieval capabilities
 - Aurora//report and record keeping
- XMap contour mapping system
 - Triangulation capabilities for locating smoke checks or wildfires
 - Landscape contours with elevations
- GeoCommGeoLynx Mapping
 - Phase 2 cellular telephone and landline locator
 - Linked to incoming 911 calls
 - Pictometry 3-D visual
 - Regular flyovers for updated information

- Moducom radio console
 - Network First access
 - Interoperability
- Code Red reverse notification system

Services provided for a typical medical emergency include:

- Emergency Medical Dispatching using EMD of Colorado
- Response tone including address, map page, staging location if applicable, directions (time permitting), hospital status and apparatus availability.
- Computer Aided Dispatch tracks response times, apparatus status, any responding personnel, call notes, hazards and previous history.
- CAD provides messaging system, which can send run times and ending miles to the transporting personnel for reporting.
- CAD data can be transferred to Report Management Systems (RMS) for reporting and billing.
- Helicopter transport coordination.

Services provided for a typical fire call:

- Information gathering by the call taker to determine general fire requirements.
- Response tone including address, map page, staging recommendation if applicable, directions (time permitting), nearest water source and apparatus availability
- Auto-aid determination and initiation
- Mutual-aid activation under the direction of Incident Command
- CAD tracking of response times, suppression milestone times, apparatus status, any responding personnel, call notes, hazards and previous history.

Cost for services provided:

EFR researched cost structures employed by other agencies nation wide to determine a fair and balanced cost structure for communications services. We have determined that a cost per call structure is the most balanced.

Most fixed were not included in the cost analysis. We did not completely rule out current costs as we felt it was fair that those agencies joining EFR Communications could share the costs of our IT support for dispatch, utilities for the communications center, increased insurance and the radio equipment maintenance. We also added projected overtime for high-risk days where we would staff three dispatchers rather than our normal two. These would include red flag days and bad weather days like snow storms.

We included an administrative costs associated with increased non-emergent telephone calls including burn permits, general questions, digital mapping updates, map book updates, RMS data gathering and call logging access.

If all the departments participated, including Elk Creek, Inter-Canyon, Indian Hills, Foothills, Genesee, Highland Rescue, North Fork and Golden Gate, the call volume total, including EFR, would be approximately 5400 calls. Each departments call volume was separated out as a percentage of that total. EFR comprises 41% of that total. The balance of 59% is made up of the additional agencies and the \$99,407.41 is divided up between them by % of calls against the total.

Calculating the cost structure in this manner reduces the impact on the other agencies if some decide not to participate. For example, if Elk Creek chooses not to participate, the loss of the 1100 calls, which is one half of the additional calls to EFR, would only raise the cost per call to the rest of the agencies to \$39 from \$31. The cost to JCECA would drop to \$82,000 because the % of calls EFR is paying for would be higher. 2200 calls out of 4300.

Costs are based on the previous year's operating costs and call load. The call load is the total of all calls handled by the Evergreen Fire/Rescue Communications Division.

Costs shall be based on the following formula:

PERCENT X (OPERATING COSTS) + (ADMIN COSTS PERCENTAGE (10%)) =TOTAL COSTS

Estimated Call Totals

EFR Annual Calls	2,200
Elk Creek	1,100
Indian Hills	200
Foothills	550
Highland Rescue	500
Genesee	200
Inter-Canyon	300
North Fork	250
Golden Gate Canyon	100
Total	5,400

MINUTES OF THE
JEFFERSON COUNTY EMERGENCY COMMUNICATIONS AUTHORITY
November 21, 2013

The Jefferson County Emergency Communications Authority Board met in regular session at the Jefferson County Government Center, 100 Jefferson County Parkway, Golden, Colorado.

Present: Director Lynn Johnson
 Director Mark Krapf
 Director Chris Ambrosio
 Director Casey Tighe
 Dennis Tharp, Attorney
 Debbie Quinn, Secretary

Excused: Director William Rush

Also Present: Jeff Irvin, Executive Director
 Vicki Pickett, Arvada PD
 Colleen Eyman, Arvada PD
 Jen Sliemers, Arvada Fire
 Diane Culverhouse, Jefferson County Sheriff's Office
 Scott Hunter, Jefferson County Sheriff's Office
 Scott Pocsik, Jefferson County Sheriff's Office
 Nancy Duncan, Jefferson County Budget Department
 Monty Heffner, Broomfield PD
 Jodi Malpass, Lakewood PD
 Karyn Kretzel, West Metro Fire
 Michael Murphy, West Metro Fire
 Patrick Purdy, West Metro Fire
 Karin Marquez, Westminster PD
 Ryan Tharp, Fairfield & Woods P.C.
 Emery Carson, Indian Hills Fire
 Brian Zoril, Foothills Fire
 Richard L. Bartlett, Foothills Fire
 Juliann Courim, Foothills Fire
 Mike Weege, Evergreen Fire
 Daryl Hollingsworth, Golden PD
 Daniel Hatlestad, InterCanyon Fire
 Randy Simpson, InterCanyon Fire
 Neil Frame, Genesee Fire
 Eric Simmons, Fairmount Fire
 Alan Fletcher, Fairmount Fire
 Wes Horn, CenturyLink
 Larry Stodden, Wheat Ridge PD

Director Johnson called the meeting to order.

PUBLIC COMMENT

There was no public comment.

APPROVAL OF MINUTES

The Board upon motion of Director Tighe, duly seconded by Director Ambrosio, and by majority vote, approved the Minutes of October 17, 2013.

TREASURER'S REPORT

Jeff Irvin presented the Treasurer's Report. The Board upon motion of Director Ambrosio, duly seconded by Director Tighe, and by majority vote, approved the Treasurer's Report.

ADVISORY COMMITTEE REPORT

Jodi Malpass, Lakewood PD, presented the Advisory Committee Report.

- The Committee had the monthly GeoComm conference call and no problems were reported.
- There was an update from NICE on the progress of pending service reports.
- The bulk of the meeting was spent on budget and expenditure discussions. The Committee was not in favor of funding the Dispatch Service Request from the Mountain Fire Communities but agreed that they do need a mechanism to fund their program. They felt if they opened the door to this request they would not know where to stop.
- They discussed Program Funding of Regional Computer Assisted Dispatch (CAD) systems extensively. The majority of the group supported the funding with the caveat that the Advisory Committee set some criteria as to what should be funded by the Board. Director Tighe asked whether they needed one CAD system or two (for fire and police).
- Vicki Pickett stated that the new study was necessary to figure out a roadmap and the cost of funding regionalization. Director Tighe questioned whether another study (the D.U. study) needed to be done. Vicki felt it was too important to rush the decision but also did understand the need to move forward. Director Johnson said the study was an important component to the decision. Directors' Ambrosio and Krapf said that the fire community is ready to move forward with a Regional CAD system but on the broader scope agree with the idea of the study.

Director Rush arrived for the Directors meeting – delayed due to traffic.

- The Advisory Committee was not able to get to a discussion of funding for the radio equipment because they ran out of time and will take that up at the next meeting.

EXPENDITURE REQUESTS

Jeff presented the agency expenditure requests for amounts of \$10,000 or less. The Board upon motion of Director Krapf, duly seconded by Director Tighe, and by unanimous vote, approved the expenditure items under \$10,000 in the amount of \$46,910.31.

Jeff then presented the agency expenditure requests for amounts over \$10,000. The Board upon motion of Director Krapf, duly seconded by Director Tighe, and by unanimous vote, approved the expenditure items over \$10,000 in the amount of \$1,229,607.65.

Jeff went through the expended budget items for the Board to see if a supplemental budget increase was needed to cover appropriated expenditures. He felt that it was not

necessary and the Board decided they could make the decision in December if need be.

EXECUTIVE DIRECTOR'S REPORT

Jeff presented the Executive Director's Report.

- Jeff started with the preliminary budget discussion following up with items from the Study Session held the day before. The CAD System requests were discussed and questions were asked as to whether one platform could serve both Fire/EMS and Law Enforcement or whether the two disciplines would be better served on two separate but interconnected Regional CAD systems.
- Jeff attended a meeting of the Law Enforcement CEOs. Don Wick, Arvada PD Chief, volunteered to reach out to DU Daniels College of Business to see if they could assist in a M & A assessment to help determine the costs of Regionalization.
- Jeff advised that the Fire Departments are ready to move forward with their Regional CAD System now. The Board agreed to establish a Program Fund for Regionalized CAD in the 2014 Budget with the provision that the Advisory Committee be involved in establishing criteria. Some vetting is still required for the Law Enforcement Regionalized CAD System. Karin Marquez stated that Westminster is a multidisciplinary agency where a single CAD platform works well for them. She indicated Westminster has not elected to participate in the Regionalization process.
- Another unresolved budget item was the radio software maintenance budget item. It was determined that the radio upgrades for Jefferson County, Golden and Broomfield should be moved to a special projects item on the budget and the maintenance for radio software may or may not be included in the budget for 2014. The Board wants to get the input of the Advisory Committee before adding this item to the budget. They suggested that the 3 agencies, Jeffco Sheriff, Broomfield and Golden pay Motorola for the State DTR system upgrade and then put in for a reimbursement for 2014 since the bill needs to be paid by the end of 2013. The problem is the State has no plan for sustainability and the 3 agencies want to have control of their own equipment with the millions of dollars already invested in the equipment but still stay with the State system. Jeffco cannot do their own radio upgrade until the State upgrades the DTR system. Director Ambrosio mentioned that his agency had to do an upgrade this year and they paid for it themselves. The Board thought they might need more discussion on the radio maintenance issue before it was included in the Budget as a program fund.
- The last budget item that was discussed was the Mountain Dispatch Service fees. Even though there is disagreement within the Advisory Committee with regard to JCECA funding the Board felt that they needed to facilitate the ability to find other funding to make it viable. The Board was very impressed by the presentation the Fire Departments gave during the Study Session the previous day and decided to establish a fund that would begin at \$100,000 for 2014 and diminish by 25% per year. Diane Culverhouse, Jeffco Sheriff's Office, said that 6 of the 8 agencies came forward to move to Evergreen. Pleasant View was not included in the Mountain Fire Agencies. She stated that Jefferson County would

continue to provide dispatch services for any agencies that do not move to Mountain Fire Dispatch. The Board acknowledged support for establishment of the Mountain Fire Dispatch and expressed pleasure at the willingness of Jefferson County to accept agencies back if they are unable to find funding in the future.

- Jeff said he would rework the last few budget items and push it out to the Board and the Advisory Committee for questions and comments. He is planning to have the Budget Adoption at the December hearing.
- Dennis said during the 9-1-1 Goes to Denver event following the CO PUC 9-1-1 Advisory Task Force meeting held on 11/18/13, there was a discussion regarding efforts to affect a statutory change to raise the limit at which 9-1-1 Authorities must seek PUC permission for an Emergency Telephone Charge (ETC) increase from \$0.70 to \$1.40. Colorado State Senator, Jeanne Nicholson, was in attendance and offered to sponsor a bill for inclusion of language to insure that the PUC continues to have the ability to regulate with regard to any form of technology that presents 9-1-1 traffic to PSAPs in Colorado.
- Jeff met with the PUC Advisory Task Force in the morning and 911 goes to Denver in the afternoon. They reported on the flooding issues and Jeff talked about regionalization. El Paso County is also working on regionalization plans for their County.

ADJOURNMENT

The Board upon motion of Director Krapf, duly seconded by Director Ambrosio, and by unanimous vote, adjourned the meeting.

NOTICE OF MEETING

FOR THE JEFFERSON COUNTY EMERGENCY COMMUNICATIONS AUTHORITY

**DECEMBER 19, 2013 AT 9:00 A.M.
JEFFERSON COUNTY COURTS & ADMINISTRATION BUILDING
FIRST FLOOR, HEARING ROOM 1
100 JEFFERSON COUNTY PARKWAY, GOLDEN, CO**

1. Call to Order
2. Public Comment
3. Approval of November 20 and November 21, 2013 Minutes
4. Treasurer's Report
5. Advisory Committee Report
6. Expenditure Requests
7. Executive Director Report
8. Budget Adoption – Public Comment
9. New Business
10. Adjournment

MINUTES OF THE
JEFFERSON COUNTY EMERGENCY COMMUNICATIONS AUTHORITY
December 19, 2013

The Jefferson County Emergency Communications Authority Board met in regular session at the Jefferson County Government Center, 100 Jefferson County Parkway, Golden, Colorado.

Present: Director Lynn Johnson
 Director Mark Krapf
 Director Chris Ambrosio
 Director Casey Tighe
 Dennis Tharp, Attorney
 Debbie Quinn, Secretary
 Director William Rush

Also Present: Jeff Irvin, Executive Director
 Vicki Pickett, Arvada PD
 Jen Sliemers, Arvada Fire
 Diane Culverhouse, Jefferson County Sheriff's Office
 Scott Hunter, Jefferson County Sheriff's Office
 Monty Heffner, Broomfield PD
 Steve Kabelis, Lakewood PD
 Karyn Kretzel, West Metro Fire
 Michael Murphy, West Metro Fire
 Patrick Purdy, West Metro Fire
 Ryan Tharp, Fairfield & Woods P.C.
 Emery Carson, Indian Hills Fire
 Brian Zoril, Foothills Fire
 Mike Weege, Evergreen Fire
 Christy McCormick, Evergreen Fire
 Daryl Hollingsworth, Golden PD
 Larry Stodden, Wheat Ridge PD
 Curt Rogers, North Fork Fire

Director Johnson called the meeting to order.

PUBLIC COMMENT

There was no public comment.

APPROVAL OF MINUTES

The Board upon motion of Director Krapf, duly seconded by Director Tighe, approved the Minutes of November 21, 2013.

TREASURER'S REPORT

Jeff Irvin presented the Treasurer's Report. The Board upon motion of Director Tighe, duly seconded by Director Krapf, approved the Treasurer's Report.

ADVISORY COMMITTEE REPORT

Vicki Pickett, Arvada PD, presented the Advisory Committee Report.

- The Committee had the monthly GeoComm conference call and no problems were reported.
- There was an update from NICE on the progress of pending service reports.
- Steve Kabelis, Lakewood PD recapped the Radio Logging Committee's recommendations for radio software maintenance and gave a better grasp of large projects and what should be funded.
- They revisited CODERED and discussed changing the scope of messaging, emergency versus non-emergency. The consensus was to keep it the way it is so critical messages will be sent and citizens will not become desensitized to the alerts.
- Mike Murphy, West Metro Fire presented a CAD proposal which includes the Evergreen and Arvada Fire piece. It became a template for the discussion on CAD funding. The committee thought operating costs should be weighted. For the CAD criteria the committee needs the Board's direction. They are hopeful that the Board members will answer and return the questionnaires to the committee for insight on their thoughts. Director Johnson did return his form to the committee. The committee answers to the questions were:
 - 1) A standalone CAD or only a shared consolidated CAD and what the definition of a shared or consolidated CAD would be - The Committee recommended the Board would pay a percentage for a standalone CAD because so many other parts are involved and 100% for shared or consolidated CADs (2 or more PSAP's).
 - 2) Mobile Portion of the CAD system and what it would look like— Again the consensus of the group was that the required CAD servers should be funded with other servers that carry interfaces or other parts of the system that are outside of the dispatching software should be considered at a percentage.
 - 3) They thought software and connectivity to Mobile should be funded but not MDC's.
 - 4) Interfaces – They narrowed it down to a list with anything specific to dispatching and 911 should be funded at 100% and if not specific to those two things should not be funded at all.
 - 5) Whether or not should be limited to individual CAD vendors eligible in an effort to get a better price and/or more interoperability – the consensus was that this should be more of a consideration but not necessarily a criteria.
 - 6) Program fund should support existing CAD systems or only new systems- consensus was both existing and new systems should be considered. If a system is being replaced and not just upgraded that we should be looking at that 3-5 year model. It should be a standard hardware replacement model that most IT departments use.
 - 7) Should agency be required to do a full RFP- the committee was split on that. If it was a new system an RFP is required. If an agency is joining an existing system then not necessarily.
 - 8) Funding a position to support the project, i.e a CAD administrator, or an agency position, or combined resource - it was great if the Board would support an administrator but they may not want to be responsible for more employees and the agency position or combined resource might be too difficult to support unless

the term is limited to project implementation with long term maintenance up to the agencies.

- They came back to the West Metro Fire CAD request. They determined they did not have enough specifics to make the decision. They asked for more information and will revisit the request.
- The radio and logging recorder committee software maintenance question- the committee voted yes to funding but agreed that the agency should be responsible for some portion of the funding. They wondered how they should standardize. Vicki mentioned that they could break out the elements in a spread sheet.
- The Board is supportive of CAD if it advances the long term objective of consolidation.

EXPENDITURE REQUESTS

Jeff presented the agency expenditure requests for amounts of \$10,000 or less. The Board upon motion of Director Krapf, duly seconded by Director Tighe, and by unanimous vote, approved the expenditure items under \$10,000 in the amount of \$51,526.67.

Jeff then presented the agency expenditure requests for amounts over \$10,000. The Board upon motion of Director Rush, duly seconded by Director Tighe, and by unanimous vote, approved the expenditure items over \$10,000 in the amount of \$617,033.19.

EXECUTIVE DIRECTOR'S REPORT

Jeff presented the Executive Director's Report.

- Jeff started with the budget discussion and felt that the appropriated expenditures would be covered without needing a supplemental budget increase for 2013.
- He proceeded to the budget items that still needed discussion. They included the cost assessment from D.U., an added item of relocation for larger space for the South Regional Backup Center, logging system maintenance support, recurring CAD maintenance, regional CAD systems and radio software maintenance. A lengthy discussion ensued about which projects to fund and the fund balances. The Board discussed the radio software maintenance fees for the State upgrades. After a long discussion, Directors Johnson and Rush concurred on funding 50% of the upgrade fees with the option to get the rest of the funding from AOF funds if they wish. A vote was taken and by majority vote with Director Ambrosio voting no, the Board agreed to approve 50% of the radio software maintenance for digital trunk radio upgrade fees.
- The Board decided to include Regional Cad and annual radio software maintenance as program funds in the budget. The budget figure is \$9,708,827.00 for 2014 which is the largest budget ever proposed.
- The Board discussed the NextGen costs and general operating funds. They agreed that costs are unknown, some big projects are coming forward and they do not want to dip into the reserve balance. The Board looked at how the budget figures would change if the tariff rate was raised and then would not have to dip into the reserves as much. The Board always has the option to raise the rate up to 70 cents without going to the PUC. They would need to advertise and take public comment before raising the rate.

- Director Johnson asked if there was further budget discussion. Hearing none he opened the budget approval for public comment. No one came forward. Director Krapf made a motion, duly seconded by Director Tighe and by unanimous vote, approved the 2014 budget of \$9,708,827.00. Attorney Tharp asked for a second motion, appropriating the \$9,708,827.00 for expenditure in 2014. Director Rush seconded the proposed request and by unanimous vote the Board approved the budget expenditure.
- Jeff reported that sometime in January he and others have been invited to go before the general assembly for a Telecom 101 presentation for the legislature. There is some work being done on language in bills that may come forward in this session that may address PUC's ability to regulate not only Telecom and general IP, but the Board's particular interest in how it will affect and maintain the scope of 911.
- J-FON – Will be lighting up a portion of it in January. Dennis sent out a revised policy statement, prepared by his son Ryan, to be adopted. The Board asked that they have some time to study the revisions and placed it on the agenda for next month. Dennis also mentioned the Executive Director Review, election of officers and discussion of rate for the January meeting. Right now there is only CAD funding for Jeffco and West Metro Fire. The Board wants to get the results of the DU study so they can plan for the future.

ADJOURNMENT

The Board upon motion of Director Krapf, duly seconded by Director Tighe, and by unanimous vote, adjourned the meeting.

NOTICE OF MEETING

FOR THE JEFFERSON COUNTY EMERGENCY COMMUNICATIONS AUTHORITY

**JANUARY 16, 2014 AT 9:00 A.M.
JEFFERSON COUNTY COURTS & ADMINISTRATION BUILDING
FIRST FLOOR, HEARING ROOM 1
100 JEFFERSON COUNTY PARKWAY, GOLDEN, CO**

1. Call to Order
2. Public Comment
3. Approval of November 20 and December 19, 2013 Minutes
4. Treasurer's Report
5. Advisory Committee Report
6. Expenditure Requests
7. Executive Director Report
8. New Business
 - a. Election of Officers
 - b. Rate Discussion
 - c. Adoption of revised policy statement
9. Adjournment
10. Executive Session – Executive Director Review