



Strategic Business Plan

Jeff Troyer, Executive Director
ORIGINAL – Adopted February 2017
REVISION I – January 2018

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
ORGANIZATIONAL OVERVIEW	2
Mission	2
Vision.....	2
Core Values	3
Governance.....	3
PERSONNEL & STAFFING.....	4
Staffing Plan	4
Organizational Chart	6
Classifications.....	7
Dispatch Center Staff.....	7
Administration.....	8
Employment.....	10
Dispatch Center Staff Positions	10
Administration	11
FINANCIAL STRATEGY	12
Overview.....	12
Capital Build-Out Projections	14
Operational Revenues	16
Master Operational Expenditures	16
Pro-Forma Budget	19
Cash Flow Analysis - 2018.....	21
FACILITY	22
Permanent Facility.....	22
PRIMARY SYSTEMS & EQUIPMENT.....	27
Overview.....	27
Data Center	28
Computer Aided Dispatch and Mobile Computing System.....	29
9-1-1 Service Provider.....	32
9-1-1 Telephony System.....	34
Radio Dispatch Consoles.....	35
Recording System.....	35
LEIN Access.....	36
Dispatch Furniture	36

EMS DISPATCH	37
Overview.....	37
FIRE DISPATCH	38
Overview.....	38
Communications	39
COUNTY Fire.....	41
METRO Fire	44
Operations.....	47
Emergency Warning Sirens	47
LAW ENFORCEMENT DISPATCH.....	48
Overview.....	48
Communications	49
Operations.....	52
CALL TAKING	53
Call Taking Model	53
Other Municipal Services.....	54
QUALITY ASSURANCE	54
QA Program	54
Call Review	55
Customer Survey.....	55
Dispatch Review	55
CONCLUSION.....	56

EXECUTIVE SUMMARY

In Kalamazoo County, when residents need public safety resources and call 9-1-1, they will get one of five Public Safety Answering Points (PSAPs) depending on their location and the type of device they call or text from. Ninety percent (90%) of all counties in Michigan operate a consolidated or centralized system; some even have multi-county PSAPs. Officials in Kalamazoo have attempted this feat various times but 9-1-1 consolidation has never come to fruition.

In October 2013, L.R. Kimball (a public safety consulting firm) evaluated existing PSAP services and made recommendations for various options of consolidation. This report, the Dispatch Service Improvement Plan (commonly referred to as the Kimball Report), identified multiple key deficiencies in the emergency communications system. This prompted additional consolidation discussions and exactly twelve months later, an Interlocal Agreement was executed creating the Kalamazoo County Consolidated Dispatch Authority (KCCDA).

In February 2017, the first KCCDA Strategic Business Plan was drafted. The plan created a state-of-the-art emergency communications center capable of providing comprehensive and consolidated public safety answering point and dispatch services to residents, visitors, and public safety agencies county-wide. The model utilized ensures long-term sustainability and enhances our capability to meet future expanding public safety communication needs. The original plan elaborated on quality of service, increased efficiency of operations, cost effectiveness, staffing and personnel, and organizational structure.

More importantly, the model resolved the deficiencies identified in the Kimball Report and provides additional benefits to the public and users of the system:

- More cost-effective to operate one versus five 9-1-1 centers/systems
- Will improve emergency and non-emergency call-processing times (eliminates PSAP to PSAP transfers)
- Will allow emergency dispatchers to better coordinate multi-jurisdictional and mutual aid responses; including initial aid for the most severe medical emergencies
- Will enhance radio communications systems and networks to be resilient, reliable, and redundant to ensure seamless functionality when first responders need it most
- Will allow for implementation of Next Generation 9-1-1 (NG9-1-1) *ready* systems and other advanced PSAP technologies

Since February of 2017, many aspects of the original Strategic Business Plan have changed thus prompting this revision known as the KCCDA Strategic Business Plan – REVISION I. The modifications contained herein are consistent with agreements and decisions as approved by the Board of Directors and/or are recommendations by KCCDA Administration. All components of this plan are designed for the successful development of an efficient and effective public safety answering point and public safety dispatch service that will commence operations in September

of 2018. This model supports and encourages continued collaboration and will better serve and protect the citizens of Kalamazoo County.

ORGANIZATIONAL OVERVIEW

Mission

Kalamazoo County Consolidated Dispatch Authority's (KCCDA) mission is to create, operate, maintain, and equip, a single and separate entity, which is an efficient and non-duplicative way of providing cost effective, and efficient public safety dispatch and public safety answering point services for the residents and visitors of Kalamazoo County.



Vision

Kalamazoo County Consolidated Dispatch Authority (KCCDA) will have a positive work environment and a resilient organizational foundation that attracts and retains highly motivated and skilled communications experts. KCCDA will foster a motivated team of valued, competent, and highly trained employees who treat the residents and visitors of Kalamazoo County and each other with respect and professionalism.

The culture will include strong work ethics that value excellence and strives for continuous improvement and professional development. Although this work is significantly challenging, KCCDA will ensure all personnel are provided optimal communication systems, training, and reliable and effective procedures to not be overburdened or overstressed in the workplace.

KCCDA will provide all services in a manner that fosters trust, respect, confidence and appreciation.

Core Values

Kalamazoo County Consolidated Dispatch Authority (KCCDA) will be established on a solid foundation of values that inspire action, integrity, and teamwork which will produce outstanding results. The following values shall serve as the guiding principles or code-of-conduct by which KCCDA will operate on a daily basis:



Governance

KCCDA is a separate legal entity created by an Interlocal Agreement authorized in 2014 by and between the Cities of Kalamazoo and Portage, the County of Kalamazoo, the Charter Township of Kalamazoo, and Western Michigan University. KCCDA is governed by a thirteen (13) member Board of Directors from the following nine (9) appointing agencies:

- One (1) member selected by the Kalamazoo County Board of Commissioners
- One (1) member selected by the Kalamazoo County Board of Commissioners who is a firefighter from an entity not already represented and who is recommended by the Kalamazoo County Fire Chiefs Association
- Two (2) members selected by the City Commission of the City of Kalamazoo

- Two (2) members selected by the City Council of the City of Portage
- Two (2) members selected by the Township Board of Trustees for the Charter Township of Kalamazoo
- Two (2) members selected by Western Michigan University
- The Kalamazoo County Sheriff or his/her designee
- One (1) member selected by the Michigan State Police
- One (1) member selected by the Kalamazoo County Medical Control Authority

PERSONNEL & STAFFING

Staffing Plan

This staffing plan seeks to optimize effectiveness and cost efficiencies while still providing the highest level of 9-1-1 and public safety dispatch service to the residents and public safety agencies in Kalamazoo County. The following personnel/staffing proposal was accepted in the Personnel Plan presented by the Executive Director in August 2017:

Staffing Quantity by Classification

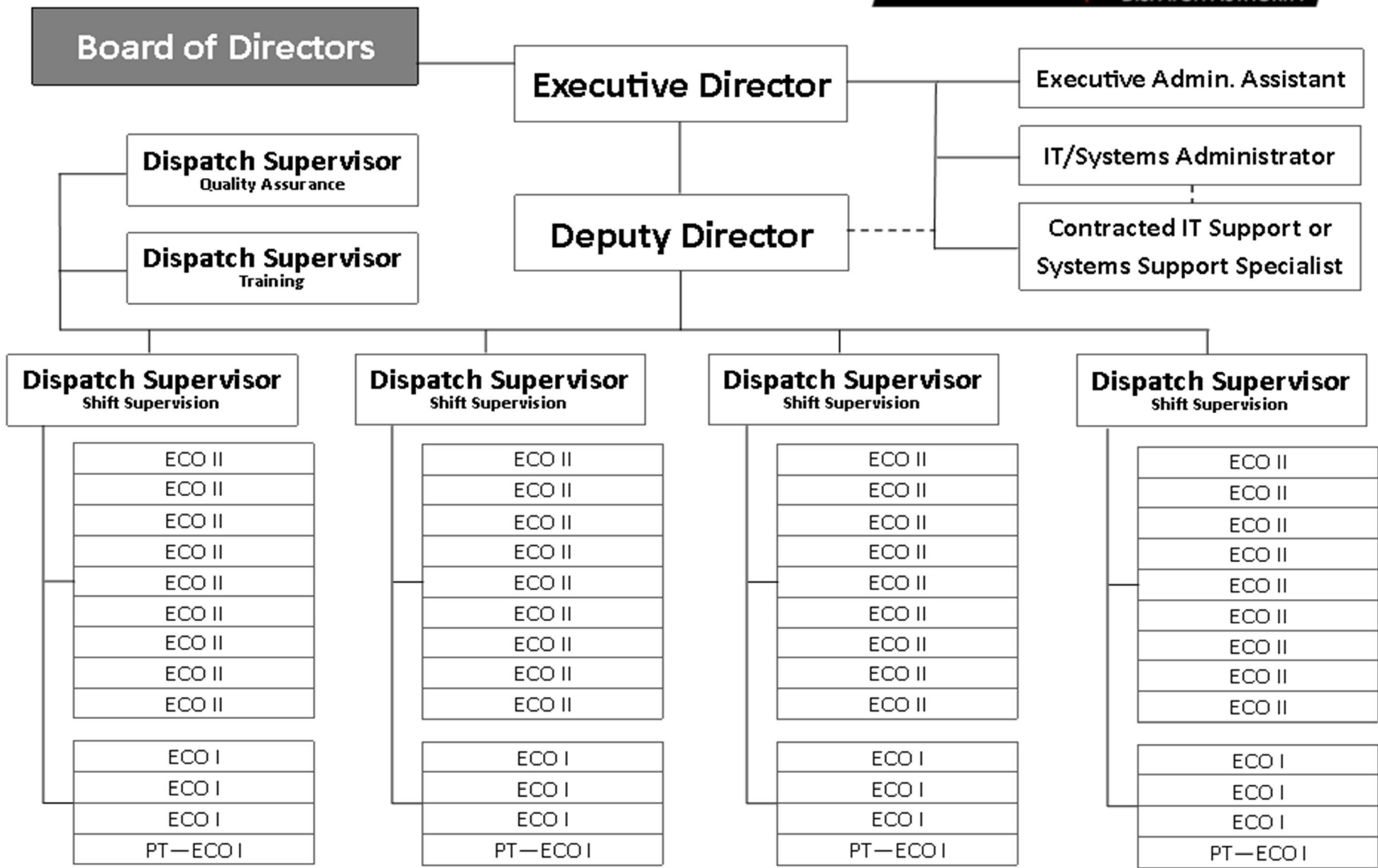
- 16 – Emergency Communications Officer I (Calltaker)
 - 12 Full-Time
 - 4 Part-Time
- 36 – Emergency Communications Officer II (Dispatcher)
- 6 – Dispatch Supervisors:
 - Shift Supervisors (4)
 - Training Supervisor (1)
 - Quality Assurance Supervisor (1)
- 1 - Executive Administrative Assistant
- 1 – IT/Systems Administrator
- 1 – Contracted IT Support or IT Support Specialist
- 1 – Deputy Director
- 1 – Executive Director

The quantities and classifications identified above shall be monitored by Administration and any requests for modification will be presented to KCCDA's Personnel Committee. In addition, Administration requests flexibility in three key areas of the personnel plan:

- Emergency Communication Officer II Positions – These 36 positions are budgeted as full-time positions and should remain as such. As the consolidation nears, KCCDA will most likely experience a shortage of trained applicants to fill these full-time positions. If this is the case, a level of consideration should be given to trained applicants who only wish to work part-time with the understanding that the position will be filled with a full-time candidate once staffing levels normalize.
- Executive Administrative Assistant – This position is a result of combining the Human Resource Specialist and the Administrative Assistant position. Administration shall monitor the workload of this position and recommend additional support if necessary.
- IT Staff Positions – Administration is currently evaluating several different options for fulfilling KCCDA's IT needs. It is apparent that many candidates for the IT/Systems Administrator position have a level of expertise in network and system administration or public safety applications; but very few have expertise in both. This has resulted in exploring other structures and/or combination of positions to fulfill IT needs. Administration's ongoing evaluation will most likely restructure the positions, their respective duties, and corresponding wage/salary scales. This may also include additional contractual support on a temporary basis solely for the build-out of the Computer Aided Dispatch and Mobile Computing System; specifically additional GIS support.

The following is a detailed organizational chart depicting each classification/position and chain of command within the agency (as it stands today):

ORGANIZATIONAL CHART



Classifications

Kalamazoo County Consolidated Dispatch Authority (KCCDA) has two categories of employment classifications: Dispatch Center Staff and Administration. Listed below are all classifications, each position’s summary of duties, and the 2018 wage/salary scale adopted for each classification.

DISPATCH CENTER STAFF

Emergency Communications Officer (ECO) I

Under the direct supervision of an assigned Dispatch Supervisor and the general supervision of the Executive Director and Deputy Director, Emergency Communications Officer I answers and processes emergency and non-emergency calls for law enforcement, fire, medical or other emergency services, and receives and processes queries thru criminal justice and Law Enforcement Information Network (LEIN) systems. This position performs an essential public safety function and shall be available for work in all conditions and in the event of an emergency.



2018 Wage Scale:

<u>START</u> Step 1A	<u>06 Mths</u> Step 1B	<u>1-YR</u> Step 2	<u>2-YR</u> Step 3	<u>3-YR</u> Step 4	<u>4-YR</u> Step 5	<u>5-YR</u> Step 6
\$16.85	\$17.35	\$17.85	\$18.60	\$19.35	\$20.10	\$20.85

Emergency Communications Officer (ECO) II

Under the direct supervision of an assigned Dispatch Supervisor and the general supervision of the Executive Director and Deputy Director, Emergency Communications Officer II answers and processes emergency and non-emergency calls for law enforcement, fire, medical or other emergency services; dispatches calls for service and maintains radio communications with all public safety agencies; receives and processes queries thru criminal justice and Law Enforcement Information Network (LEIN) systems. This position performs an essential public safety function and shall be available for work in all conditions and in the event of an emergency.

2018 Wage Scale:

<u>START</u> Step 1	<u>1-YR</u> Step 2	<u>2-YR</u> Step 3	<u>3-YR</u> Step 4	<u>4-YR</u> Step 5	<u>5-YR</u> Step 6	<u>6-YR</u> Step 7	<u>7-YR</u> Step 8	<u>8-YR</u> Step 9
\$19.00	\$19.85	\$20.70	\$21.55	\$22.40	\$23.25	\$24.10	\$24.95	\$25.80

Dispatch Supervisor – Shift Supervision

Under the direct supervision of the Deputy Director and the general supervision of the Executive Director, the Dispatch Supervisor is responsible for coordinating efficient day-to-day operations of the dispatch center including but not limited to monitoring, assisting, directing, coaching, and evaluating Emergency Communications Officer I's and II's. Performs all dispatch center staff functions and assists with the implementation of policies, compliance, and provides oversight and coordination of specific assigned sub-classifications: *shift supervision, training, and quality assurance*. Supervisors work within general methods and guidelines, and exercise considerable independent judgment to select appropriate courses of action and discretion in supervising the work of subordinate employees.

2018 Wage Scale:

<u>START</u> Step 1	<u>1-YR</u> Step 2	<u>2-YR</u> Step 3	<u>3-YR</u> Step 4	<u>4-YR</u> Step 5	<u>5-YR</u> Step 6	<u>6-YR</u> Step 7
\$25.15	\$26.10	\$27.05	\$28.00	\$28.95	\$29.90	\$30.85

ADMINISTRATION

Dispatch Supervisor – Training and Quality Assurance

Under the direct supervision of the Deputy Director and the general supervision of the Executive Director, the Dispatch Supervisor is responsible for coordinating efficient day-to-day operations of the dispatch center including but not limited to monitoring, assisting, directing, coaching, and evaluating Emergency Communications Officer I's and II's. Performs all dispatch center staff functions and assists with the implementation of policies, compliance, and provides oversight and coordination of specific assigned sub-classifications: *shift supervision, training, and quality assurance*. Supervisors work within general methods and guidelines, and exercise considerable independent judgment to select appropriate courses of action and discretion in supervising the work of subordinate employees.

2018 Wage Scale:

<u>START</u> Step 1	<u>1-YR</u> Step 2	<u>2-YR</u> Step 3	<u>3-YR</u> Step 4	<u>4-YR</u> Step 5	<u>5-YR</u> Step 6	<u>6-YR</u> Step 7
\$25.15	\$26.10	\$27.05	\$28.00	\$28.95	\$29.90	\$30.85

Executive Administrative Assistant

Under the general supervision of the Executive Director, performs a wide range of secretarial, administrative, human resource, and other tasks as assigned to support the operations of the Dispatch

Authority. Drafts and types correspondence and meeting minutes, maintains accounting and human resource records, gathers data and prepares reports.

2018 Wage Scale:

<u>START</u> Step 1	<u>1-YR</u> Step 2	<u>2-YR</u> Step 3	<u>3-YR</u> Step 4	<u>4-YR</u> Step 5	<u>5-YR</u> Step 6	<u>6-YR</u> Step 7
\$21.25	\$21.99	\$22.76	\$23.56	\$24.38	\$25.24	\$26.12

Systems Support Specialist

There is no position summary or wage scale adopted for this position. It is still unknown if these duties will be contracted or an employee of KCCDA.

IT/Systems Administrator

Under the direct supervision of the Executive Director, the Information Technology (IT)/Systems Administrator is responsible for analysis, development, installation, application, modification, and procedures to assure operability of the computerized dispatch hardware, software and other networks used and managed by KCCDA. This includes executive level management of the IT function. The employee is also responsible for technical support of all hardware, software, and networks utilized and managed by the Dispatch Authority. Plans, implements and assures policies and procedures to assure adequate security, and continued operability and compatibility with first responders. Directly participates in the development of capital plans and technical training for staff related to this function.

2018 Wage Scale:

<u>START</u> Step 1	<u>1-YR</u> Step 2	<u>2-YR</u> Step 3	<u>3-YR</u> Step 4	<u>4-YR</u> Step 5	<u>5-YR</u> Step 6	<u>6-YR</u> Step 7
\$73,398	\$75,967	\$78,626	\$81,378	\$84,226	\$87,174	\$90,225

Deputy Director

Under the general supervision of the Executive Director, performs administrative and technical tasks in managing all aspects of the 9-1-1 communications center. Manages the efficient operation and assists with operational oversight and implementation of policies and procedures. Oversees dispatch center staff schedules. Assists with equipment maintenance, operation and upgrades. Performs the duties of the Executive Director in his or her absence.

2018 Wage Scale:

<u>START</u> Step 1	<u>1-YR</u> Step 2	<u>2-YR</u> Step 3	<u>3-YR</u> Step 4	<u>4-YR</u> Step 5	<u>5-YR</u> Step 6	<u>6-YR</u> Step 7
\$67,500	\$69,863	\$72,308	\$74,838	\$77,458	\$80,169	\$82,975

Executive Director

Under the general supervision of the Kalamazoo County Consolidated Dispatch Authority Board of Directors, serves as the organization's chief executive. The Executive Director is responsible for the efficient and economical operation of the Public Safety Answering Point and Dispatch operation. Develops and implements operational and administrative policies, prepares and administers the annual budget, oversees all personnel, and assists the Board with negotiating union contracts, agreements, and any other tasks assigned by the Board.

2018 Salary Scale:

There is no current salary scale adopted for the Executive Director position. All terms and conditions are defined in the position's Employment Agreement.

Employment

Kalamazoo County Consolidated Dispatch Authority (KCCDA) currently has all job descriptions, wage scales, and employment processes and policies in place to employ individuals for the positions identified above. Currently, there are only two positions staffed: Deputy Director and Executive Director.

It should be noted that in most all PSAP consolidations, staffing levels are significantly low upon commencement of operations. This is due to lack of trained personnel applying to fulfill the dispatch center staff positions. It is for this reason that KCCDA *highly encourages* the existing PSAPs to continue their normative hiring processes in attempt to fill all vacant PSAP positions. If the existing PSAPs stop or delay their hiring process, it will result in fewer fully or partially trained potential personnel at the time of consolidation. This will have direct and indirect implications on the level and quality of service KCCDA is able to provide upon commencement.

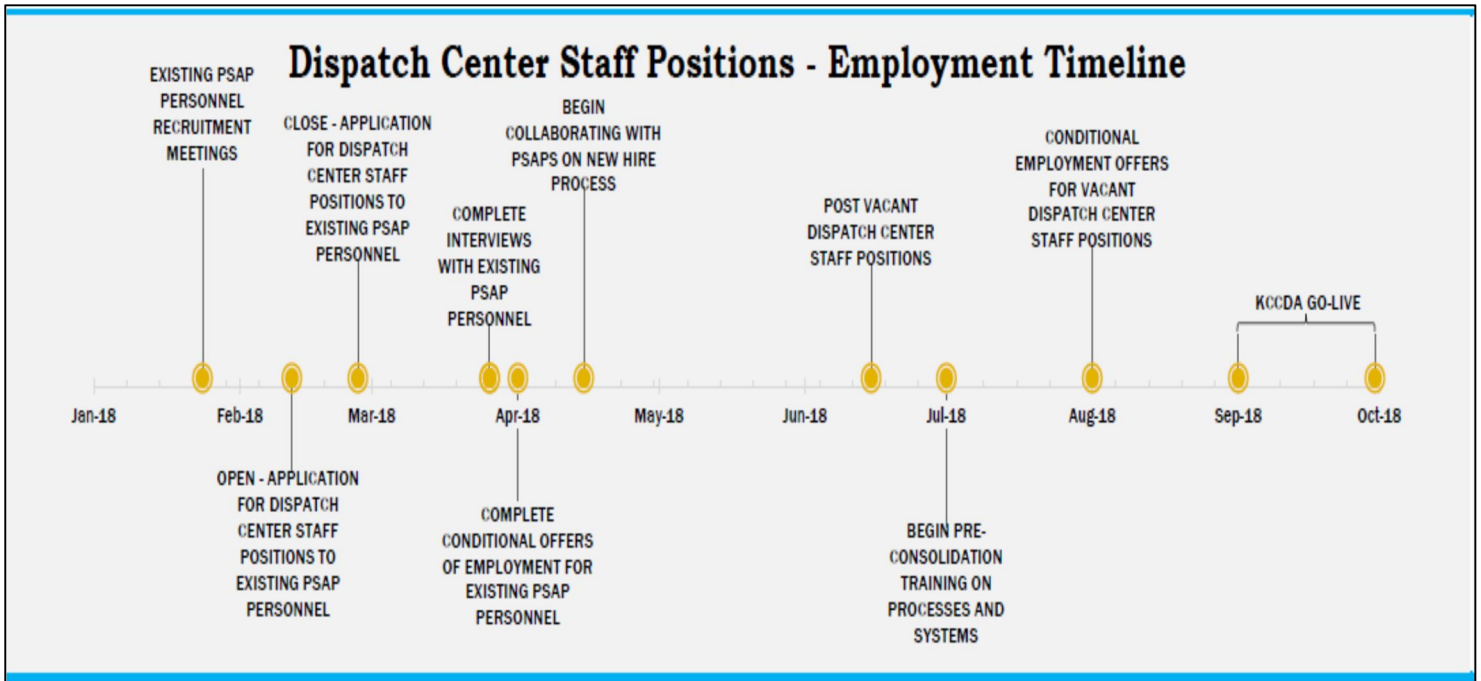
DISPATCH CENTER STAFF POSITIONS

All dispatch center staff positions will be opened up for a two-week application period in February 2018 for *individuals assigned primary PSAP functions/duties and actively employed by one of the five existing PSAPs* (City of Kalamazoo, City of Portage, Kalamazoo County, Kalamazoo Township, or Western Michigan University). It is KCCDA's hope that we are able to fill the majority of the positions from the pool of



existing PSAP personnel who choose to submit applications. Dispatch center staff position(s) that remain vacant after conditional employment offers are made to existing PSAP personnel, will be posted for the general public approximately two months before consolidation. In addition, KCCDA will work collaboratively with the existing PSAPs to be involved in their respective hiring process in order to extend conditional offers of employment to candidate finalists that will allow the new hires to transition to KCCDA if they have satisfactory performance.

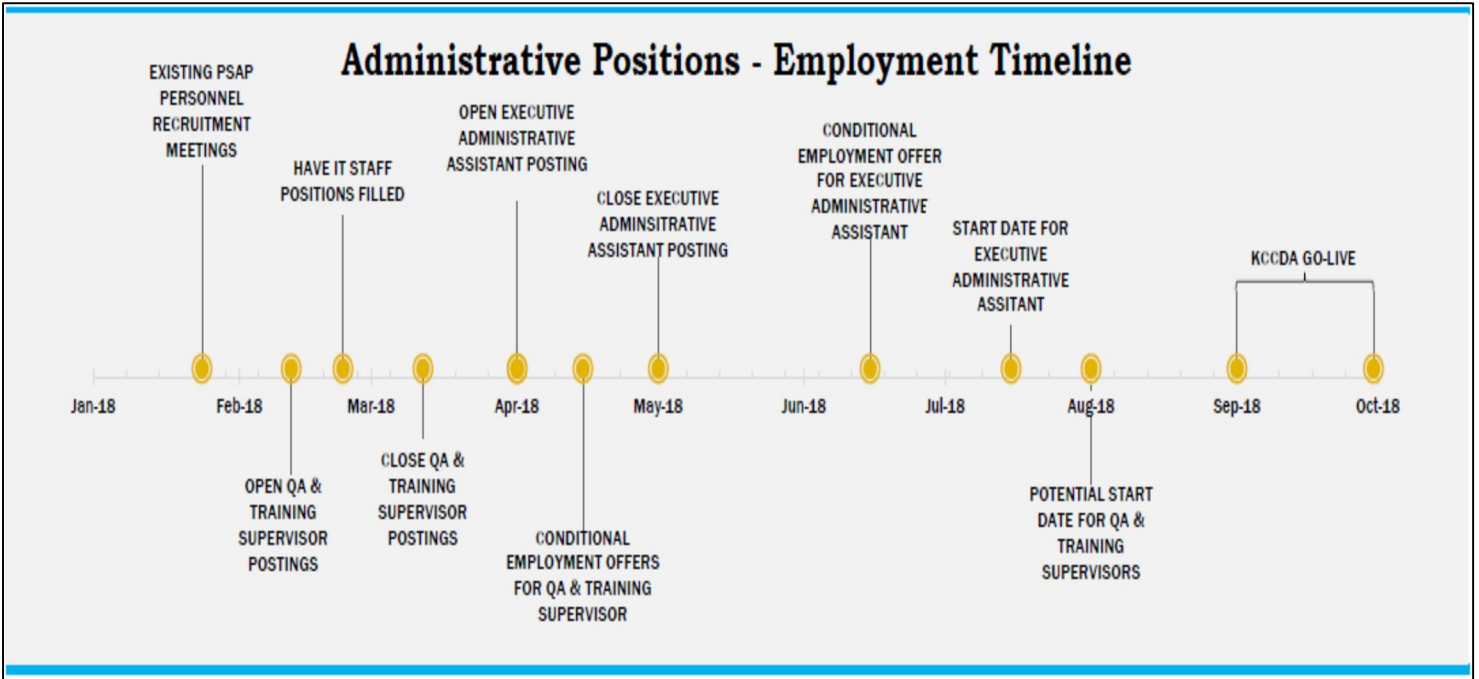
Below is a projected Employment Timeline for the Dispatch Center Staff Positions:



Existing PSAP personnel who submit application packets during the two-week period identified above, will qualify for special terms and conditions identified in KCCDA’s Personnel Plan approved in August of 2017.

ADMINISTRATION

All administrative positions will be open to all applicants during the entirety of each position posting. To avoid, further go-live delays, it is essential that KCCDA either employ or contract for the IT staff positions contained herein. The following is an application and employment timeline for the various Administrative classifications.



FINANCIAL STRATEGY

Overview

After a failed ballot proposition in May of 2017, KCCDA’s Finance Committee and several key appointed officials from each signatory entity (City of Kalamazoo, City of Portage, Kalamazoo County, Kalamazoo Township, and Western Michigan University) began working on an alternative initial/short-term funding plan to accomplish the consolidation.



After three months of collaborative meetings and negotiations, the signatory entities agreed on a plan to fund KCCDA’s operations for the first five years. The plan consisted of a combination of local 9-1-1 surcharge monies (\$1,060,000) and annual municipal contributions totaling \$4,300,000. Each entity’s annual contribution is determined utilizing a standard formula: 82% based on Per Capita and 18% based on Existing Monies Spent on 9-1-1. This plan was officially authorized in the

First Amendment to the Interlocal Agreement that created KCCDA.

The table below is an excerpt from the First Amendment to the Interlocal Agreement that created KCCDA and illustrates each entity’s annual contribution based on the formula:

	ANNUAL CONTRIBUTION	% OF TOTAL
Charter Township Kalamazoo	\$364,778	8.48%
City of Kalamazoo	\$1,289,826	30.00%
City of Portage	\$756,793	17.60%
County of Kalamazoo	\$1,514,025	35.21%
Western Michigan University	\$374,578	8.71%
<i>TOTALS:</i>	<i>\$4,300,000</i>	<i>100.00%</i>

Soon after the First Amendment, another challenge was encountered while exploring financing options for KCCDA’s Capital Build-Out plan/projects. Due to Michigan Municipal Financing Laws and the statutes by which KCCDA is created under, KCCDA was unable to secure financing to fund the necessary facility renovations and system build-out. The key signatory officials and the Executive Director evaluated several different financing options presented by bond counsel. In December of 2017, the signatory entities approved the Second Amendment to the Interlocal Agreement that created KCCDA which included a unique collaborative approach to funding the build-out. The following are key aspects of the Second Amendment:

- City of Portage, County of Kalamazoo, and Western Michigan University
 These three entities agreed to contribute their first year’s contribution in advance of go-live. As a result, these entities will not have a contribution in the fifth year of the initial/short-term funding plan. The advanced contributions total \$2.645 million.
- City of Kalamazoo
 The City of Kalamazoo offered to sell bonds during the first six months of 2018 payable over fifteen (15) years and contribute \$960,000 to KCCDA. In return, KCCDA shall repay the bond funds inclusive of all municipal bond cost and interest in accordance with the bond’s 15-year amortization schedule. The annual debt service expenditure is illustrated in the pro-forma budget section in this document.
- On-Going (Initial/Short-term) Contributions
 All ongoing contributions will be invoiced to the five entities on a semi-annual basis; approximately thirty (30) days preceding the due date.

The following table illustrates the contributions made in advance according to the Second Amendment as well as the ongoing contributions originally agreed to in the First Amendment. The contributions from the Second Amendment are highlighted yellow to denote they are designated to fund the Capital Build-Out of the consolidation. This is discussed in greater detail below in the Capital Build-Out Projections section.

REVENUES	2018			2019		2020		2021		2022		2023	
	Jan 1st	April 1st	July 1st	Jan 1st	July 1st	Jan 1st	July 1st	Jan 1st	July 1st	Jan 1st	July 1st	Jan 1st	July 1st
Local Unit Contributions													
Kalamazoo County	\$1,514,025		\$757,013	\$757,012	\$757,013	\$757,012	\$757,013	\$757,012	\$757,013	\$757,012	\$0	\$0	
City of Portage	\$756,793		\$378,397	\$378,396	\$378,397	\$378,396	\$378,397	\$378,396	\$378,397	\$378,397	\$0	\$0	
Western Michigan University	\$374,578		\$187,289	\$187,289	\$187,289	\$187,289	\$187,289	\$187,289	\$187,289	\$187,289	\$0	\$0	
City of Kalamazoo		\$960,000	\$644,913	\$644,913	\$644,913	\$644,913	\$644,913	\$644,913	\$644,913	\$644,913	\$644,913	\$644,913	
Kalamazoo Township			\$182,389	\$182,389	\$182,389	\$182,389	\$182,389	\$182,389	\$182,389	\$182,389	\$182,389	\$182,389	
Total Contributions:	\$5,755,396			\$4,300,000		\$4,300,000		\$4,300,000		\$2,977,302		\$827,302	
Other Revenues													
Surcharges - State 911		\$196,667		\$468,000		\$468,000		\$468,000		\$468,000		\$234,000	
Surcharges - Local 911		\$960,000		\$1,060,000		\$1,060,000		\$1,060,000		\$1,060,000		\$530,000	
Interest & Dividends		\$750		\$750		\$750		\$750		\$750		\$375	
REVENUE TOTALS:		\$6,912,813		\$5,828,750		\$5,828,750		\$5,828,750		\$4,506,052		\$1,591,677	

While the above amendments provide adequate funding for KCCDA for the short-term, it is vital that KCCDA begin working on stable long-term funding within twelve months after the consolidation is complete.

Capital Build-Out Projections

KCCDA’s original capital build-out cost projection was \$4,545,000. This plan consisted of the procurement or acquisition of an existing facility/space, redevelopment of the facility, and upgrading or implementing new primary PSAP systems and infrastructure.

Many of the costs associated to the original build-out projections were based on general estimates because vendors cannot provide quotes based on unknown variables.

These projections have changed significantly in the last twelve months and will continue to become more definitive as contractual agreements are finalized for various projects and systems. The following table illustrates the capital build-out projections as they have developed over the last year. It is noteworthy that these projections have not fluctuated more or less than five percent from the original budgetary figures

KCCDA Capital Build-Out Cost Projections

<u>PROJECT/SYSTEM:</u>	<u>ORIGINAL Build-Out Projections July 2016</u>	<u>Build-Out Projections as of September 2017</u>	<u>Build-Out Projections as of January 2018</u>
Facility Acquisition	\$600,000	\$1,350,000	\$1,350,000
Architectural Work & Design	\$190,000	\$55,000	\$54,250
General Contractor - Renovations (includes contingency)	\$1,900,000	\$775,000	\$950,000
UPS System	\$40,000	AFG Grant (10% cost)	In Renovation (10% cost)
Security System	\$65,000	\$65,000	\$65,000
Computer Aided Dispatch & Mobile Computing System	\$300,000	\$600,000	\$600,000
CPE / 9-1-1 Telephone System	\$250,000	\$315,000	\$315,000
Dispatch Furniture/Consoles	\$125,000	\$75,000	\$175,000
Recording System	\$75,000	\$25,000	\$25,000
Radio Consoles: Move, Reinstall & Reprogram	\$100,000	\$100,000	\$100,000
PSAP Communications Tower	X	\$200,000	\$100,000
Build-Out COUNTY and METRO Fire Systems	\$600,000	\$550,000	\$600,000
LAN Computers & Data Center Network	\$100,000	\$100,000	\$125,000
General Office Furniture	\$50,000	Included w/Facility	\$20,000
MultiBridge Installation and LGNet Connection	\$25,000	\$25,000	\$25,000
Misc. Hardware Move and Reinstall	\$65,000	\$65,000	\$65,000
Contingency	\$60,000	\$60,000	\$50,000
Existing PSAP Equipment Purchase	\$0	\$0	\$150,000
SUBTOTAL:	\$4,545,000	\$4,360,000	\$4,769,250

Operational Revenues

Michigan PSAPs can be funded by three different mechanisms: 9-1-1 Millage, Local 9-1-1 Surcharge and general fund tax dollars. Some counties use a combination of two or all of these sources to fund their 9-1-1 operation. As explained in the overview, the KCCDA signatory entities have agreed upon a funding combination of local 9-1-1 surcharge and municipal/local unit of government contributions (general fund monies). Kalamazoo County currently collects a \$.42 local 9-1-1 surcharge assessed by the County Board of Commissioners effective July 1, 2015. This is in accordance with the Interlocal Agreement that created KCCDA. The current surcharge generates \$1,060,000 on an annual basis.

In addition to the local surcharge and municipal contributions, State 9-1-1 surcharge monies and other miscellaneous revenues will produce an additional \$472,300. Below provides a summary of the anticipated Operational Revenues for KCCDA from 2018 thru the first half of 2023.



REVENUES	2018	2019	2020	2021	2022	2023
<i>Local Unit Contributions</i>	1/2 Yr	Full Year	Full Year	Full Year	Full Year	1/2 Yr.
Kalamazoo County	\$757,013	\$1,514,025	\$1,514,025	\$1,514,025	\$757,012	\$0
City of Portage	\$378,397	\$756,793	\$756,793	\$756,793	\$378,397	\$0
Western Michigan University	\$187,289	\$374,578	\$374,578	\$374,578	\$187,289	\$0
City of Kalamazoo	\$644,913	\$1,289,826	\$1,289,826	\$1,289,826	\$1,289,826	\$644,913
Kalamazoo Township	\$182,389	\$364,778	\$364,778	\$364,778	\$364,778	\$182,389
Total Contributions:	\$2,150,000	\$4,300,000	\$4,300,000	\$4,300,000	\$2,977,302	\$827,302
<i>Other Revenues</i>						
Surcharges - State 911	\$196,667	\$468,000	\$468,000	\$468,000	\$468,000	\$234,000
Surcharges - Local 911	\$960,000	\$1,060,000	\$1,060,000	\$1,060,000	\$1,060,000	\$530,000
Interest & Dividends	\$750	\$750	\$750	\$750	\$750	\$375
REVENUE TOTALS:	\$3,307,417	\$5,828,750	\$5,828,750	\$5,828,750	\$4,506,052	\$1,591,677

Master Operational Expenditures

The costs contained herein are normative annual expenditures to expect. This does not include any of the capital build-out costs except for the annual debt service (principal and interest) payments related to the bond funds contributed by the City of Kalamazoo. The expenditures contained in this section are budgetary and based on the following key aspects:

- ✓ The average of the adopted wage and salary scales for each position is used to estimate personnel services.
- ✓ Personnel services and fringe benefit cost totals assume all positions are “staffed/filled” 100% of the time.
- ✓ Most of the categorical expenditures have a standard one to three percent increase each year unless the percentage is known.
- ✓ End-user agencies will continue to purchase and maintain their own end-user devices – mobile and portable radios, pagers, mobile data computers/tablets, in-vehicle internet service provider, etc.
- ✓ KCCDA will support and maintain all radio communications infrastructure that is critical for dispatching public safety calls for service. This includes connectivity to various tower sites and/or between them, tower site leases, voters/comparators, repeaters, receivers, etc.



The following is a detailed list of operational expenditures for the first five (5) years; 2018 – 2023. This includes the 2018 adopted budgetary expenditures which, at the time of adoption, was based upon a go-live in August; not September. In addition, the costs identified in year 2023 are only thru June 30th; six months of operations.

EXPENDITURES

	Actual Budget 2018 5 mths of Ops	2019	2020	2021	2022	2023 Half Year
Personnel Services						
Wages & Salaries	\$1,387,651	\$2,995,764	\$3,055,680	\$3,116,793	\$3,179,129	\$1,621,356
Holiday Pay Premium	\$94,924	\$159,021	\$162,201	\$165,445	\$168,754	\$86,064
Salaries Overtime (Not included in Personnel summary)	\$60,000	\$130,000	\$130,000	\$130,000	\$130,000	\$65,000
Allowances	\$15,100	\$22,050	\$23,042	\$24,079	\$25,162	\$13,147
Personnel Services Subtotal:	\$1,557,675	\$3,306,835	\$3,370,922	\$3,436,317	\$3,503,045	\$1,785,568
Fringe Benefits						
Fringe Benefits	\$688,043	\$1,359,492	\$1,400,277	\$1,442,285	\$1,485,554	\$765,060
Fringe Benefits Subtotal:	\$688,043	\$1,359,492	\$1,400,277	\$1,442,285	\$1,485,554	\$765,060
Supplies						
Office Supplies	\$11,000	\$11,110	\$11,221	\$11,333	\$11,447	\$5,781
Maintenance Supplies	\$2,000	\$2,020	\$2,040	\$2,061	\$2,081	\$1,051
Kitchen/Food Supplies	\$3,000	\$3,030	\$3,060	\$3,091	\$3,122	\$1,577
Uniform Supplies	\$7,000	\$7,070	\$7,141	\$7,212	\$7,284	\$3,679
Supplies Subtotal:	\$23,000	\$23,230	\$23,462	\$23,697	\$23,934	\$12,087
Other Services & Charges						
Contractual Services Misc	\$355,024	\$400,000	\$412,000	\$424,360	\$437,091	\$225,102
Communications Telephone Service	\$32,000	\$40,500	\$40,905	\$41,314	\$41,727	\$21,072
Communications Internet Service	\$25,475	\$35,000	\$35,350	\$35,704	\$36,061	\$18,211
Communications Copying	\$2,500	\$2,525	\$2,550	\$2,576	\$2,602	\$1,314
Communications Mailing	\$2,500	\$2,525	\$2,550	\$2,576	\$2,602	\$1,314
Utilities Gas	\$10,000	\$10,000	\$10,100	\$10,201	\$10,303	\$5,203
Utilities Electricity	\$22,000	\$48,000	\$48,480	\$48,965	\$49,454	\$24,974
Insurance Premium	\$20,000	\$40,500	\$40,905	\$41,314	\$41,727	\$21,072
Travel Expense Training	\$8,000	\$8,080	\$8,161	\$8,242	\$8,325	\$4,204
Travel Expense Lodging	\$7,000	\$7,070	\$7,141	\$7,212	\$7,284	\$3,679
Travel Expense Meals/Food	\$6,000	\$6,000	\$6,060	\$6,121	\$6,182	\$3,122
Travel Expense Mileage	\$12,000	\$12,120	\$12,241	\$12,364	\$12,487	\$6,306
Travel Expense Other	\$2,000	\$2,020	\$2,040	\$2,061	\$2,081	\$1,051
Professional Services Audit Fees	\$5,000	\$7,000	\$7,070	\$7,141	\$7,212	\$3,642
Administrative Fees Expense	\$15,000	\$10,000	\$10,100	\$10,201	\$10,303	\$5,203
Legal Fees Misc	\$60,000	\$25,000	\$25,250	\$25,503	\$25,758	\$13,008
Interpreter Fees Misc	\$2,500	\$2,525	\$2,550	\$2,576	\$2,602	\$1,314
Medical Services Employee Physical Exams	\$3,500	\$3,535	\$3,570	\$3,606	\$3,642	\$1,839
Medical Services Drug Testing	\$3,000	\$3,030	\$3,060	\$3,091	\$3,122	\$1,577
Printing Expense	\$2,000	\$2,020	\$2,040	\$2,061	\$2,081	\$1,051
Advertising Expense	\$5,000	\$5,050	\$5,101	\$5,152	\$5,203	\$2,628
Subscription Fees Expense	\$8,000	\$8,080	\$8,161	\$8,242	\$8,325	\$4,204
Equipment Repair	\$20,000	\$20,200	\$20,402	\$20,606	\$20,812	\$10,510
Miscellaneous Operating Expense	\$15,000	\$15,150	\$15,302	\$15,455	\$15,609	\$7,883
Other Services & Charges Subtotal:	\$643,499	\$715,930	\$731,089	\$746,640	\$762,594	\$389,481
Small Equip and Project Costs						
Project Costs Expense	\$10,000	\$10,100	\$10,201	\$10,303	\$10,406	\$5,255
Equipment - Small Equipment	\$20,000	\$20,200	\$20,402	\$20,606	\$20,812	\$10,510
Small Equip. and Project Costs Subtotal:	\$30,000	\$30,300	\$30,603	\$30,909	\$31,218	\$15,765
Capital Equipment & Debt						
Capital Debt - Principal		\$47,680	\$49,622	\$51,644	\$53,748	\$27,969
Capital Debt - Interest		\$37,532	\$35,590	\$33,568	\$31,464	\$14,637
Capital Equipment & Debt Subtotal:	\$0	\$85,212	\$85,212	\$85,212	\$85,212	\$42,606
TOTAL EXPENDITURES:	\$2,942,217	\$5,520,998	\$5,641,566	\$5,765,060	\$5,891,557	\$3,010,566

Pro-forma Budget

The following illustrates KCCDA's general operations pro-forma budget, including net position, for the term of the short-term funding plan; the first five years.

REVENUES	2018	2019	2020	2021	2022	2023
Local Unit Contributions	1/2 Yr	Full Year	Full Year	Full Year	Full Year	1/2 Yr.
Kalamazoo County	\$757,013	\$1,514,025	\$1,514,025	\$1,514,025	\$757,012	\$0
City of Portage	\$378,397	\$756,793	\$756,793	\$756,793	\$378,397	\$0
Western Michigan University	\$187,289	\$374,578	\$374,578	\$374,578	\$187,289	\$0
City of Kalamazoo	\$644,913	\$1,289,826	\$1,289,826	\$1,289,826	\$1,289,826	\$644,913
Kalamazoo Township	\$182,389	\$364,778	\$364,778	\$364,778	\$364,778	\$182,389
Total Contributions:	\$2,150,000	\$4,300,000	\$4,300,000	\$4,300,000	\$2,977,302	\$827,302
Other Revenues						
Surcharges - State 911	\$196,667	\$468,000	\$468,000	\$468,000	\$468,000	\$234,000
Surcharges - Local 911	\$960,000	\$1,060,000	\$1,060,000	\$1,060,000	\$1,060,000	\$530,000
Interest & Dividends	\$750	\$750	\$750	\$750	\$750	\$375
REVENUE TOTALS:	\$3,307,417	\$5,828,750	\$5,828,750	\$5,828,750	\$4,506,052	\$1,591,677
EXPENDITURES						
Business Unit: 2911 - General Operations						
Personnel Services	\$1,557,675	\$3,306,835	\$3,370,922	\$3,436,317	\$3,503,045	\$1,785,568
Fringe Benefits	\$688,043	\$1,359,492	\$1,400,277	\$1,442,285	\$1,485,554	\$765,060
Supplies	\$23,000	\$23,230	\$23,462	\$23,697	\$23,934	\$12,087
Other Services & Charges	\$643,499	\$715,930	\$731,089	\$746,640	\$762,594	\$389,481
Small Equip. & Project Costs	\$30,000	\$30,300	\$30,603	\$30,909	\$31,218	\$15,765
Capital Equipment & Debt	\$0	\$85,212	\$85,212	\$85,212	\$85,212	\$42,606
EXPENDITURE TOTALS:	\$2,942,217	\$5,520,999	\$5,641,566	\$5,765,060	\$5,891,557	\$3,010,566
Revenue Grand Totals:	3,307,417	5,828,750	5,828,750	5,828,750	4,506,052	1,591,677
Expenditure Grand Totals:	(2,942,217)	(5,520,999)	(5,641,566)	(5,765,060)	(5,891,557)	(3,010,566)
YEAR NET:	365,200	307,751	187,184	63,690	(1,385,505)	(1,418,889)
<i>Fund Balance - 12/31/17</i>	<i>1,190,000</i>					
END Fund Balance:	1,555,200	1,862,951	2,050,136	2,113,825	728,321	(690,568)

In addition to the five year projection, it is imperative to consider a 10-year or long-term forecast. This is illustrated below. In this outlook, the short-term funding (revenue) is highlighted yellow and the long-term funding is in orange. As indicated previously, the long-term funding or revenue source must still be determined (TBD) and is annotated as such in the categorical.

REVENUES	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Local Unit Contributions (Signatories)	\$2,150,000	\$4,300,000	\$4,300,000	\$4,300,000	\$2,977,302	\$827,302				
Long Term Funding - TBD						\$2,450,000	\$4,900,000	\$4,900,000	\$4,900,000	\$4,900,000
State Surcharge	\$468,000	\$468,000	\$468,000	\$468,000	\$468,000	\$468,000	\$468,000	\$468,000	\$468,000	\$468,000
Local Surcharge @ \$.42	\$1,060,000	\$1,060,000	\$1,060,000	\$1,060,000	\$1,060,000	\$1,060,000	\$1,060,000	\$1,060,000	\$1,060,000	\$1,060,000
Interest and Dividends Revenue	\$750	\$750	\$750	\$750	\$750	\$750	\$750	\$750	\$750	\$750
REVENUE TOTALS:	\$3,678,750	\$5,828,750	\$5,828,750	\$5,828,750	\$4,506,052	\$4,806,052	\$6,428,750	\$6,428,750	\$6,428,750	\$6,428,750

EXPENDITURES	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Personnel Services	\$1,557,675	\$3,306,835	\$3,370,922	\$3,436,317	\$3,503,045	\$3,571,135	\$3,640,615	\$3,711,515	\$3,783,863	\$3,857,690
Fringe Benefits	\$688,043	\$1,359,492	\$1,400,277	\$1,442,285	\$1,485,554	\$1,530,120	\$1,576,024	\$1,623,305	\$1,672,004	\$1,722,164
Supplies	\$23,000	\$23,230	\$23,462	\$23,697	\$23,934	\$24,173	\$24,415	\$24,659	\$24,906	\$25,155
Other Services & Charges	\$643,499	\$715,930	\$731,089	\$746,640	\$762,594	\$778,962	\$795,755	\$812,987	\$830,669	\$848,815
Small Equip. & Project Costs	\$30,000	\$30,300	\$30,603	\$30,909	\$31,218	\$31,530	\$31,846	\$32,164	\$32,486	\$32,811
Capital Equipment & Debt	\$0	\$85,212	\$85,212	\$85,212	\$85,212	\$85,212	\$85,212	\$85,212	\$85,212	\$85,212
EXPENDITURE TOTALS:	\$2,942,217	\$5,520,999	\$5,641,566	\$5,765,060	\$5,891,557	\$6,021,133	\$6,153,867	\$6,289,841	\$6,429,139	\$6,571,846

Revenue Grand Totals:	3,678,750	5,828,750	5,828,750	5,828,750	4,506,052	4,806,052	6,428,750	6,428,750	6,428,750	6,428,750
Expenditure Grand Totals:	(2,942,217)	(5,520,999)	(5,641,566)	(5,765,060)	(5,891,557)	(6,021,133)	(6,153,867)	(6,289,841)	(6,429,139)	(6,571,846)
YEAR NET:	736,533	307,751	187,184	63,690	(1,385,505)	(1,215,081)	274,883	138,909	(389)	(143,096)
Fund Balance - 12/31/17	1,190,000									
END Fund Balance:	1,926,533	2,234,284	2,421,469	2,485,158	1,099,654	(115,427)	159,456	298,365	297,976	154,880

The long-term funding above, \$4,900,000, is recommended as a *minimum* annual amount of revenue to sustain KCCDA thru year 2027. One additional consideration is that current legislation, the Michigan Emergency Telephone Service Enabling Act (Public Act 32 of 1986; as amended), expires on December 31, 2021. Therefore, the Act will be amended in the very near future and may offer different funding opportunities for Public Safety Answering Points statewide.

Cash Flow Analysis - 2018

Due to the unique approach of funding KCCDA's capital build-out projects, it is vital to continuously monitor the organization's cash flow analysis to ensure the "cash on hand" will permit operations to begin in September 2018. The below analysis takes into consideration all operational costs as well as capital build-out costs (highlighted yellow) as they are projected on page 15.

This analysis also assumes that KCCDA will submit a request to the County Board of Commissioners to allow local 9-1-1 surcharge funds (collected by the telecommunication providers) to be remitted directly to KCCDA instead of the County Treasurer. This recommended change will allow these revenues to be received within 30 days after the end of each quarter; instead of 60 to 90 days.

Build Out Costs Incurred prior to 12/31/17 - \$684,088	TRANSACTION		BALANCE
	Debit	Credit	
Fund Balance as of 12/31/17 (includes est. 2017 4th Qtr Surcharge)			\$1,119,000
City of Portage (2nd Amendment) Contribution		\$756,793	\$1,875,793
County of Kalamazoo (2nd Amendment) Contribution		\$1,514,025	\$3,389,818
Western Michigan University (2nd Amendment) Contribution		\$374,578	\$3,764,396
January '18 Operational Expenditures	(\$35,000)		\$3,729,396
<i>Capital Build-Out Costs: January 2018</i>	(\$27,000)		\$3,702,396
February '18 Operational Expenditures	(\$50,000)		\$3,652,396
<i>Capital Build-Out Costs: February 2018- Payoff Line of Credit</i>	(\$810,000)		\$2,842,396
March '18 Operational Expenditures	(\$50,000)		\$2,251,036
<i>Capital Build-Out Costs: March 2018</i>	(\$541,360)		\$2,301,036
April '18 Operational Expenditures	(\$50,000)		\$1,659,675
<i>Capital Build-Out Costs: April 2018</i>	(\$541,360)		\$1,709,675
May '18 Operational Expenditures	(\$50,000)		\$1,068,315
<i>Capital Build-Out Costs: May 2018</i>	(\$541,360)		\$1,118,315
1st Quarter 2018 Local Surcharge Distribution - June '18		\$270,000	\$1,338,315
City of Kalamazoo - Bond Funds (2nd Amendment)		\$960,000	\$2,298,315
June '18 Operational Expenditures	(\$65,000)		\$2,233,315
<i>Capital Build-Out Costs: June 2018</i>	(\$541,360)		\$1,691,955
July 1st 2018 - Signatory Entity Contributions		\$2,108,000	\$3,799,955
July '18 Operational Expenditures	(\$100,000)		\$3,699,955
<i>Capital Build-Out Costs: July 2018</i>	(\$541,360)		\$3,158,594
August '18 Operational Expenditures	(\$300,000)		\$2,858,594
<i>Capital Build-Out Costs: Auguts 2018</i>	(\$541,360)		\$2,317,234
September 2018 - GO-LIVE			
September '18 Operational Expenditures	(\$470,000)		\$1,847,234
2nd Qtr 2018 Local Surcharge Distribution - September '18		\$270,000	\$2,117,234
October '18 Operational Expenditures	(\$470,000)		\$1,647,234
November '17 Operational Expenditures	(\$470,000)		\$1,177,234
3rd Quarter 2018 Local Surcharge Distribution - December '18		\$270,000	\$1,447,234
December '17 Operational Expenditures	(\$470,000)		\$977,234
4th Quarter 2018 Local Surcharge Distribution - February '19		\$270,000	\$1,247,234

Total Build-Out Costs in 2018: (\$4,085,162)

FACILITY

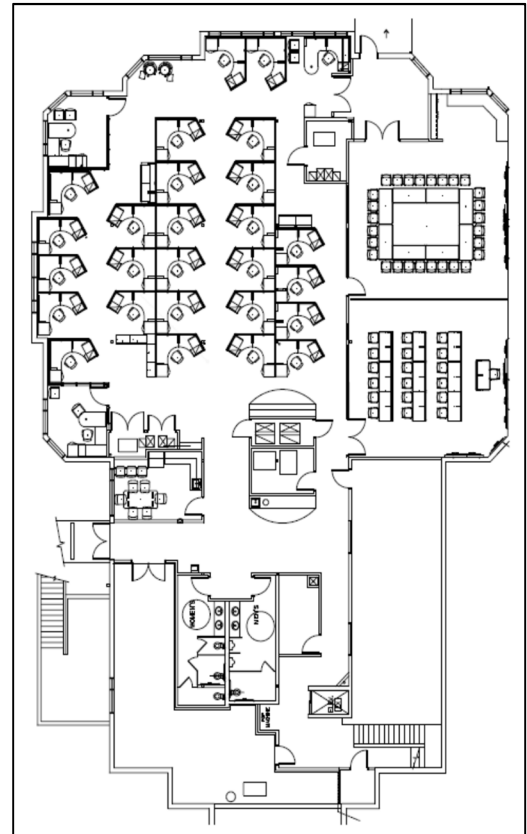
Permanent Facility

KCCDA purchased an existing facility/building from Consumers Credit Union in September of 2017 for \$1,350,000. The facility is located at 7040 Stadium Drive in Oshtemo Township and is currently a class “A” multi-level office building with 19,456 square feet. It was originally built in 1996 as a law firm and then purchased and renovated by Consumers Credit Union in 2006.



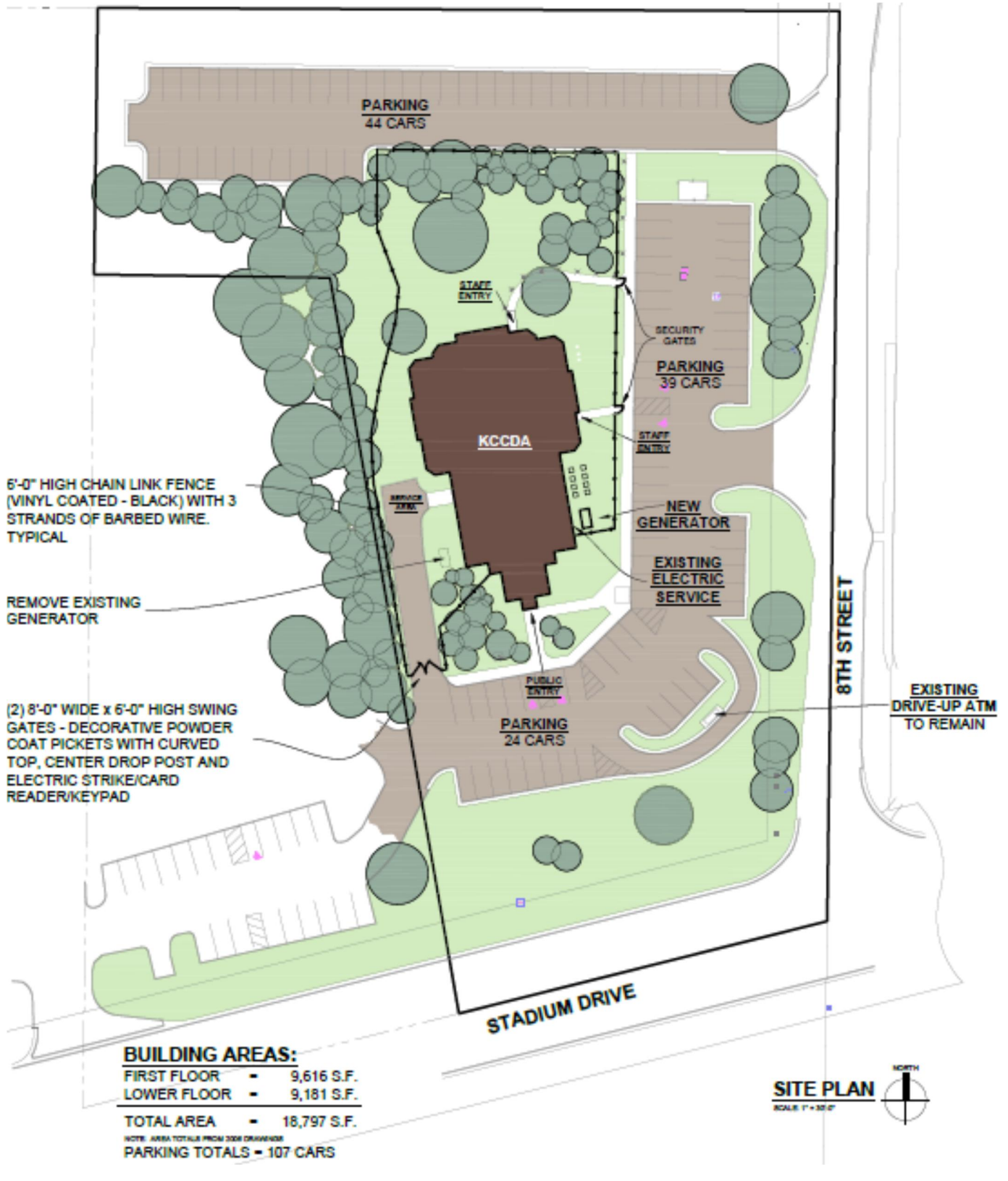
The following is a list of key attributes of this facility (as it exists today):

- ✓ Building structure is adaptable to Category IV of the Michigan Building Code – Essential Facilities
- ✓ Facility space (square footage) exceeds KCCDA’s current needs and allows for growth
- ✓ Facility purchase and renovation cost estimates were less than the original capital build-out projections for these line-items
- ✓ Minimal exposure to natural and manmade hazards/threats (flood plains, railroads, airport landing/takeoff paths, etc.)
- ✓ Facility is a fiber node/hub for a local communications provider (diversified entry)
- ✓ Existing Next Generation 9-1-1 network provider in Michigan has fiber in front of the building (along Stadium Drive)
- ✓ Connectivity from facility to existing radio communication system(s) is easily accomplished and redundant with existing fiber and a Water Tower owned by the City of Kalamazoo approximately 300 yards line of sight to the northwest
- ✓ Facility’s lower level served as Consumers Credit Union’s call center and has ample space for staff training. This existing floor plan (displayed to the right) is easily converted to the new consolidated dispatch center; KCCDA’s core operation

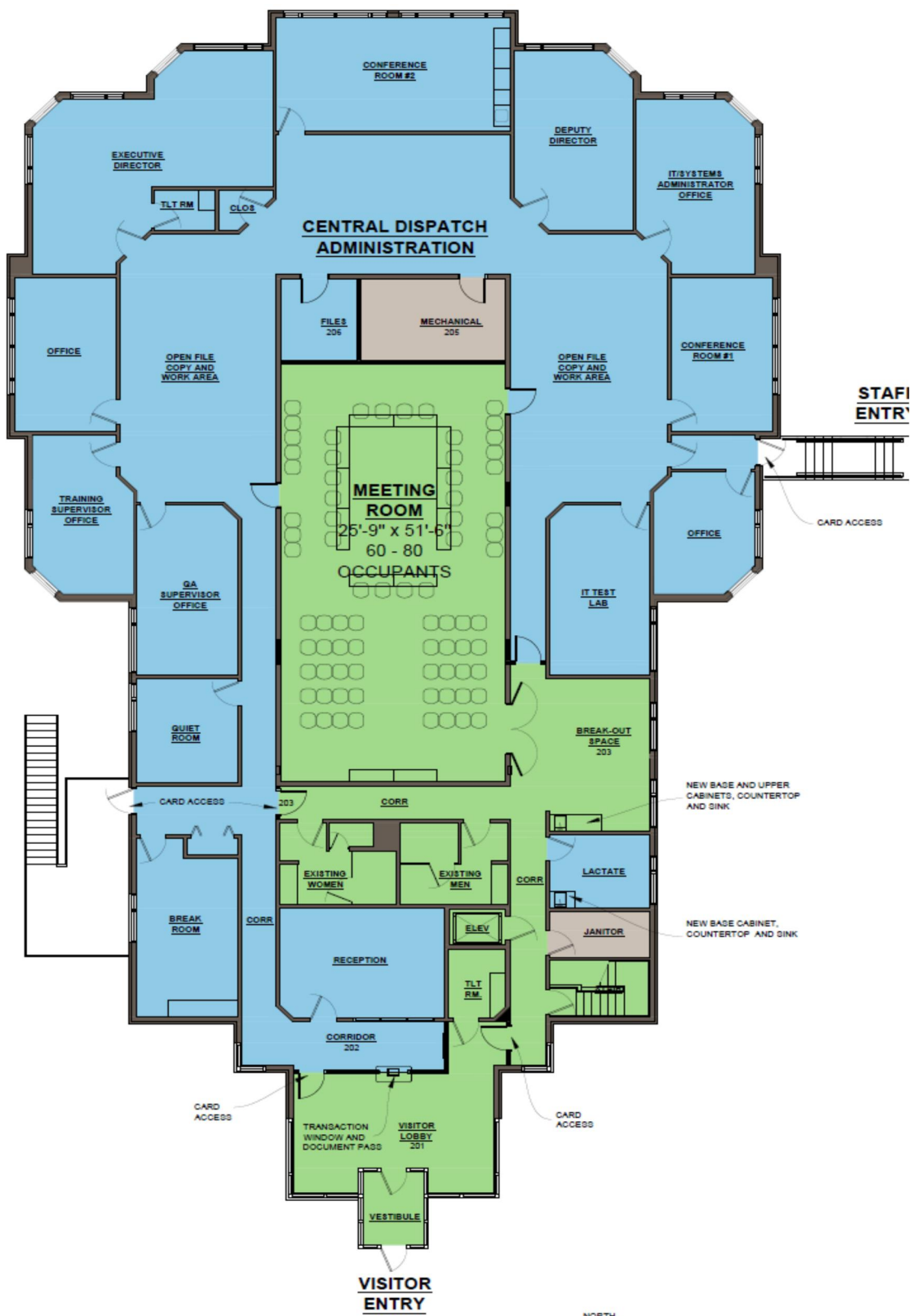


After the purchase of the facility, Administration worked diligently with Landmark Design Group and legal counsel to develop a general contractor renovation bid document which was released on December 20, 2017. The following are several schematics/images of the new KCCDA facility once the renovations are complete.

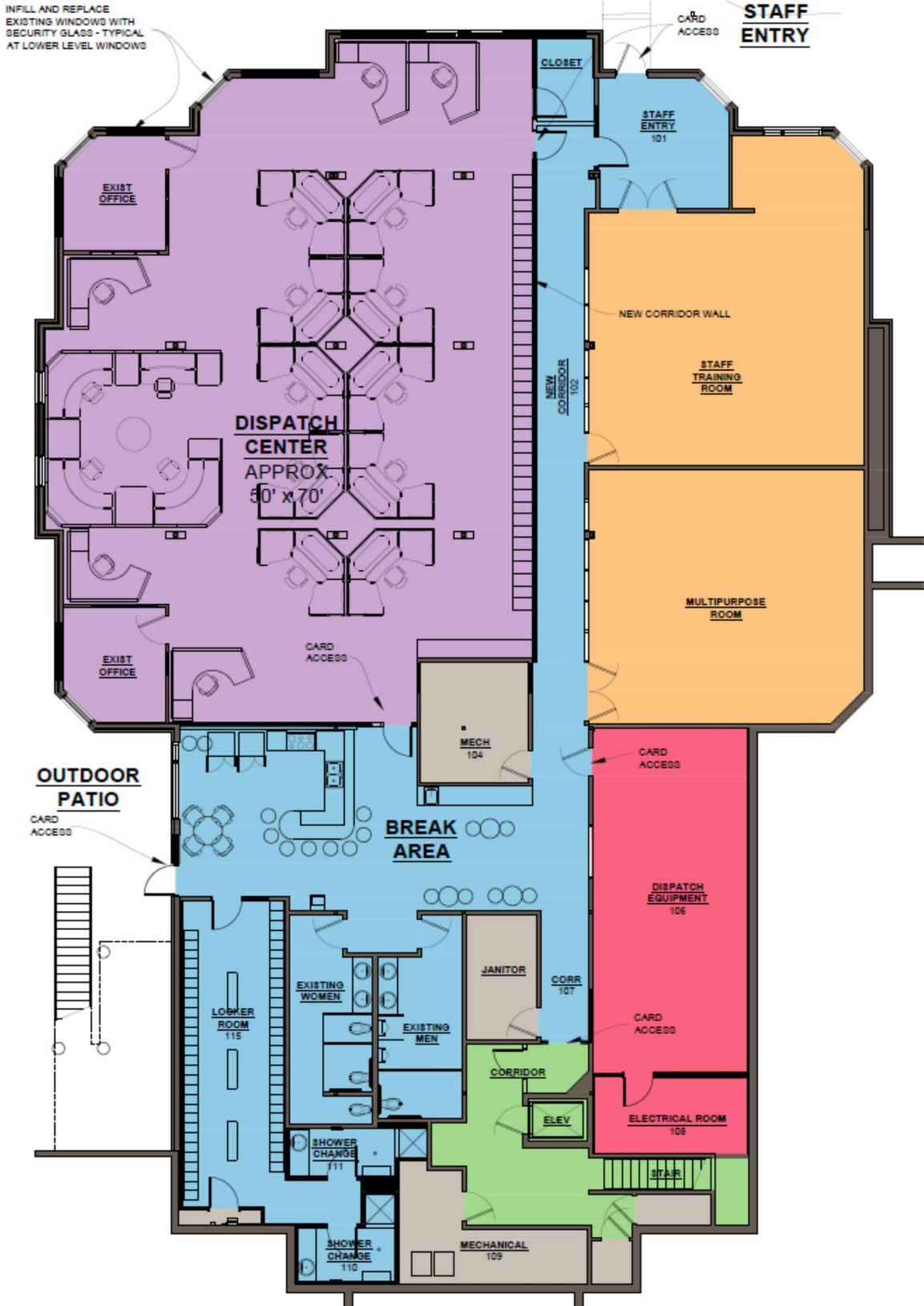
Site Plan for KCCDA Facility



Main/Upper Level Floor Plan - Administration



Lower Level Floor Plan – Dispatch Center



A public bid opening was held on January 25th, 2018 for the general contractor bids for the renovation project. KCCDA received ten (10) bids for the project ranging from \$969,200 to \$1,075,200. An initial joint Finance and Technical Advisory Committee was held on February 1st to discuss the bids and to decide how both committees want Administration and Landmark Design Group to move forward. A decision was made to move forward with the two lowest bidders and to issue a post-bid addendum to allow exploration of some possible cost saving measures with the general contractors. In addition to cost, it should be noted that the two lowest bidders also submitted the same timeframe to complete the work – 110 calendar days.

A follow-up joint Finance and Technical Advisory Committee meeting will be scheduled in late February to evaluate the general contractor responses to the post-bid addendum. It is the Committees and administration’s goal to have a recommendation prepared for the Board of Directors to consider at the March 8th meeting. *If this goal is met, renovation work can begin by April 1st which will allow the renovation project to be complete by mid-July.*

PRIMARY SYSTEMS & EQUIPMENT

Overview

There is a multitude of primary systems and equipment operating in a PSAP. The information contained in this section consists of several executed contractual agreements for systems as well as administration’s recommendations for deployment of further systems and technologies at the consolidated PSAP.



In an attempt to deploy the various primary PSAP technologies/systems in a cost-effective manner, administration has sought to re-utilize existing assets/systems already operating at one or more of the PSAPs in Kalamazoo County. In accordance with the Interlocal Agreement that created KCCDA (Section 8; Letter C), once the need for a specific system or equipment has been determined, KCCDA will submit an inquiry to the owner (municipality) of that system/equipment. The owner may decide, on its own, to donate or sell its equipment to KCCDA. In an attempt to streamline this process, the Executive Director submitted a single inquiry to each municipality (signatory to the Agreement) regarding their existing primary systems and technologies being utilized for 9-1-1 and public safety dispatch service.

Inquiries were sent to each municipality/entity in late September 2017. Administration requested responses, including all costs associated to KCCDA acquiring various systems, before November 15, 2017. This would have allowed administration ample time to evaluate the costs and any associated logistical challenges to mobilizing and reinstalling the system(s). A partial list of equipment/systems and associated costs was received by administration on January 18, 2018. The information received only pertained to the equipment at the physical PSAPs but did not include any equipment, systems, or infrastructure at tower sites. The costs related to the equipment totaled \$439,402 (\$339,902 after removing the Viper 9-1-1 Telephony System).



Administration is currently evaluating the cost effectiveness of the equipment/systems: age of equipment, removal and reinstall costs, logistics, etc. This analysis will allow administration to weigh the overall cost and impact of re-using this equipment versus purchasing new. At the time of this revision, this analysis is ongoing. In addition, costs associated to equipment, systems, and infrastructure at the various tower sites has not been finalized.

Data Center

KCCDA has a contractual agreement with Dell EMC to provide a VxRail Hyper-converged infrastructure solution for \$145,403. This solution has the capacity and functionality to serve all of KCCDA's server and data center needs:

- Is jointly engineered with VMware for a seamless extension of a virtual environment
- Can start small and scale on-demand non-disruptively from 40 VMs to more than 3,000 VMs
- Has single support for both hardware and software on the appliance
- Simplifies IT management, reduces risk and improves availability
- Has highest performance with best resources available for user workloads
- Integrates with leading backup storage from Data Domain and Data Protection Suite for VMware
- Offers synchronous and asynchronous replication including zero RPO replication
- Can tier to the cloud, beyond just a back-up strategy
- Has highly configurable options for the flexibility to choose the appliance that is best for our need
- Is part of the market-leading portfolio of converged and hyper-converged solutions of Appliances, Racks, and Blocks for a comprehensive core-to-edge solution that covers every type of virtualized workload, from new application development to the most mission-critical enterprise workloads

Dell EMC's VxRail solution is the only fully integrated, pre-configured, and tested hyper-converged appliances jointly developed by Dell EMC and VMware and powered by VMware vSAN. VxRail is the easiest and fastest way to simplify and extend a VMware environment, while dramatically reducing IT operations complexity along with capital and operational costs. It is the industry's only hyper-converged appliance that delivers kernel layer integration between VMware vSAN and the vSphere hypervisor, delivering unique and unmatched performance and efficiency benefits.



The VxRail Appliance combines virtualization, compute, storage, management, and data protection with a single point of support for the hardware and software in a simple 1U or 2U building block. The VxRail Appliance delivers resiliency, QoS, and centralized management functionality—enabling faster, better, and simpler management of consolidated workloads, virtual desktops, business-critical applications, and distributed enterprises.

The VxRail Appliance enables power-on to VM creation in minutes, radically easy VM deployment, one click non-disruptive patches and upgrades, and extremely simplified management.

Computer Aided Dispatch and Mobile Computing System

The Computer Aided Dispatch (CAD) and Mobile Computing System is one of the most integral technologies KCCDA will deploy. Discussions began in the fall of 2016 regarding the feasibility of a joint request for proposal with several of the law enforcement agencies seeking a new Records Management System. After much debate, it was determined in late December (2016) that KCCDA should proceed with CAD and Mobile due to contrasting timelines.

On December 27th, 2016, KCCDA released a request for quote to vendors with current operating systems in Kalamazoo County: Hexagon (Intergraph), IDNetworks, and Tyler Technologies (New World Systems). The request specifically asked for each of the existing vendors to build-out their existing operating system to meet the needs of KCCDA:

Console/Device Type	Quantity
Number of Dispatch/Supervisor CAD workstations	19
Number of CAD Administrator workstations	6
Number of Mobile Computing Devices	225

KCCDA requested vendors to submit quotes for applications and functions in two (2) separate categories – Baseline System and Optional.

- Baseline System(s) – core system application and functions:

Multi-Jurisdictional CAD System	Mobile Computing System
Computer Aided Dispatch	Electronic Dispatch
CAD Mapping & AVL	CAD to Mobile
E9-1-1 Interface	Mobile to CAD
LEIN and NCIC	Messaging
Text/Page Interface	LEIN and NCIC
Generic Export of CAD Incidents	Mapping and AVL
CAD Dashboard/View Only Access <i>(for all agencies served by KCCDA)</i>	

- Optional System(s) – optional applications and functions:

Smartphone/Tablet Application <i>(50 licenses)</i>
Firehouse RMS Interface
Pictometry Interface

Proposals were received in late January 2017 from the three existing vendors ranging from \$611,500 to \$871,214 (this is inclusive of all optional items). Immediately, administration and a core team of individuals (established thru the Technical Advisory Committee) began reviewing the proposals. The group requested clarifications from all vendors on a multitude of topics and after all written answers were received, all vendors were offered the opportunity to submit a “revised” proposal/quote based on the clarifications/answers distributed. The “revised” proposals were submitted and the same core team analyzed and compared system attributes as well as cost before coming to a unanimous recommendation to proceed with Tyler Technologies as KCCDA’s CAD and Mobile Computing System vendor.

The core team presented their recommendation to the Technical Advisory Committee and requested to begin negotiations with Tyler in an attempt to reach business terms for the solution. The Committee



approved the group’s recommendation. Administration worked with Tyler representatives and KCCDA legal counsel on business terms and drafting a contractual agreement, which was presented and accepted by the Technical Advisory Committee on October 4th. The contract with Tyler Technologies was authorized by the Board of Directors on October 12th and executed by administration on October 23rd.

The following meetings have taken place or are scheduled to take place as part of the CAD and Mobile System build project:

DATE	MEETING	PURPOSE
11/20/17	Introduction Meeting	Introduce Staff from Tyler Technologies assigned to the project.
01/16/18	Welcome and Implementation Kick-off Meeting/GIS Conference Call	In-person introductions, review of the contract and expectations of the project. Conference call regarding GIS Requirements.
02/05/18	Systems Assurance and Messaging Technical Planning Conference Call	Technical Planning call regarding the Network Connections and Requirements.

Once the Systems Assurance and Messaging Technical Planning Call occurs, Tyler Technologies will begin scheduling the necessary resources for the rest of the project and provide KCCDA with a projected timeline of tasks to complete.

CAD and Mobile Subsystems

✓ **Mobile Virtual Private Network (VPN)**

All agencies (law and fire) currently connecting to one of the existing CAD and Mobile Computing Systems are utilizing a mobile VPN product called NetMotion. As part of the Tyler Technology contract, KCCDA purchased NetMotion Mobility and 54 corresponding licenses. It is administration’s intent to work with all of the agencies to determine whether or not each agency wants their field units to connect to their respective NetMotion sever or if they wish to connect directly to KCCDA’s. Either way, the interoperable networks will be able to route the necessary traffic to KCCDA’s CAD system. If an agency determines they’d prefer to connect directly to KCCDA and they have existing NetMotion licenses, administration will seek to transfer those licenses if necessary.

✓ **Advanced Authentication Solution**

Section 5.6.2.2 of the CJIS Security Policy requires that agencies use Advanced Authentication when accessing Criminal Justice Information from a non-secured location. Non-secured locations among agencies throughout Kalamazoo County will

vary. Therefore, as part of the Tyler Technology contract, KCCDA purchased two types of advanced authentication from RapidIdentity MFA (OTP) and eSSO.

9-1-1 Service Provider

KCCDA intends to deploy a Next Generation 9-1-1 (NG9-1-1) *Ready* Telephony System capable of handling 9-1-1 and administrative calls for service. This requires updating 9-1-1 service infrastructure to improve public safety emergency communications services in a growingly wireless mobile society. NG9-1-1 relies on specific application functionality on an Emergency Services IP Network (ESInet) to deliver voice, video, text and data "calls" to the PSAP. The protocol used for delivering these "calls" is Session Initiation Protocol (SIP), or IP Multimedia Subsystem (IMS) which incorporates SIP. The deployment of a NG9-1-1 *Ready* Telephony System in Kalamazoo County will require the conversion from a legacy 9-1-1 environment to delivery via SIP technology.

Today's 9-1-1 versus NG9-1-1



Today's 9-1-1	Next Generation 9-1-1
Virtually all calls are voice callers via telephones over analog lines.	Voice, text, or video information, from many types of communication devices, sent over IP networks
Most information transferred via voice	Advanced data sharing is automatically performed
Callers routed through legacy selective routers, limited forwarding / backup ability	Physical location of PSAP becomes immaterial, callers routed automatically based on geographic location, enhanced backup abilities
Limited ability to handle overflow situations, callers could receive a busy signal	PSAPs able to control call congestion treatment, including dynamically rerouting callers

Peninsula Fiber Network (PFN) operates and maintains the only Next Generation 9-1-1 ESInet in Michigan. They continue to expand and deploy this network in Michigan as PSAPs transition from the legacy 9-1-1 environment to Next Generation 9-1-1.

On December 6th, 2017, administration presented a recommendation to the Technical Advisory Committee to move forward with PFN as KCCDA's Next Generation 9-1-1 service provider. However, PFN was not identified as a 9-1-1 service supplier in the Kalamazoo County Emergency Telephone Service District Final Plan (adopted on January 19, 1988). The County Board of Commissioners are the only body authorized, under the current provisions of the plan, to designate, on

behalf of public agencies located within the 9-1-1 service district, the service suppliers providing 9-1-1 service within the Service District and make minor amendments to permit changes in PSAP equipment. Therefore, at the same time, administration also asked the Committee to declare their intent to contract with PFN for this service. The Committee approved the request to go to the Board of Directors and also authorized their intent to be sent as a request directly to the Kalamazoo County Board of Commissioners due to the Committee's role as the E9-1-1 Board as stated in Michigan's Emergency Telephone Service Enabling Act (P.A. 32 of 1986; as amended).

The Board of Directors approved a corresponding request from administration and the Technical Advisory Committee at their December 14th meeting. On December 19th, the Kalamazoo County Board of Commissioners adopted an Administrative Finding Resolution amending the Kalamazoo Emergency Telephone Service District Final Plan:



NOW, THEREFORE, BE IT RESOLVED, that the Board hereby makes an Administrative Finding and a minor plan amendment pursuant to MCL 484.1312 to the 9-1-1 Service Plan and upon execution of an agreement between the Authority and provider or providers, so as to permit and authorize Peninsula Fiber Network, LLC and or its affiliates to provide primary 9-1-1 service, employing a common network that enables all other service suppliers within the 911 Plan's Service District to be selectively routed and otherwise access the 9-1-1 system and the primary PSAPs identified in the Plan;

BE IT FURTHER RESOLVED, that all service suppliers shall cooperate with the Authority to facilitate the switchover to its common network, Next Generation Selective Router and other Next Generation 911 services, features and offerings as may be applicable or required herein;

BE IT FURTHER RESOLVED, that Peninsula Fiber Network, LLC and or its affiliates is authorized and directed to work with the Authority, the 911 Plan's service suppliers, the Michigan Public Service Commission, State 911 Committee, the State 911 Director, and any other state, federal or local authority in order to effectuate and implement the provisions of this minor plan amendment and Administrative Finding, including but not limited to the identification for a specific date and time for the switchover to the Peninsula Fiber Network's or its affiliate's common network;

BE IT FURTHER RESOLVED, that this Resolution shall augment, supersede, modify or replace any inconsistent prior resolution or motion to the 911 Plan;

BE IT FURTHER RESOLVED, the County Clerk shall send a copy of this resolution to Peninsula Fiber Network, LLC, the Authority, and to each PSAP identified in the 911 Plan.

KCCDA has executed a contract with PFN for ESInet services including E9-1-1 service, 9-1-1 routing, 9-1-1 ALI, and legacy gateway ports. Project meetings and work for the conversion is scheduled to begin in February 2018.

9-1-1 Telephony System

There is only one system currently operating in Kalamazoo County that is capable of being upgraded and expanded to meet these requirements – the Intrado (West) Viper Telephony System at Portage Public Safety. Administration met with AT&T and West representatives and obtained a quote to upgrade the current system to meet the needs of KCCDA - \$318,290. This quote did not include an administrative phone system nor the labor to mobilize the current system and reinstall it at KCCDA's facility. Another significant challenge with reutilizing this system is the logistics. The Viper System would need to be removed from Portage's PSAP about four to six weeks before KCCDA's go-live leaving Portage without a 9-1-1 telephony solution.

In addition to the telephony system identified above, administration evaluated the feasibility of joining the Southern Michigan PSAP Alliance (SMPA). The SMPA (SMPA) is a regional collaborative made up of Barry County Central Dispatch, Calhoun County Consolidated Dispatch Authority, and Lenawee County Central Dispatch. SMPA operates a shared Airbus DS Communications Vesta Telephony System that is hosted by INdigital. The system is operating on a regional ESInet provided by Peninsula Fiber Network but managed by INdigital. This solution allows for the sharing of up-front and ongoing maintenance and support costs across multiple PSAPs as well as opportunity to share other technologies across the existing ESInet.

Administration obtained a quote from INdigital for the hosted solution for \$330,975. This is slightly more than the quote to upgrade the Viper Telephony System however, the INdigital/Airbus DS Communications system included all of the following:

- 19 – Airbus Vesta 9-1-1 workstations, Vesta Analytics and Reporting modules, Implementation Services, and Training. TOTAL - \$299,375.
- 12 – Mobile MEVO IP backup 9-1-1 answering positions and all routing and firewall equipment. TOTAL - \$21,300
- 12 – VoIP 6731i Administrative Phones, 2 – Polycom IP6000 Conference Phones, Implementation Services, and Training. TOTAL - \$10,300.



One other key aspect is that this system does not present any logistical problems because it is new; all existing telephony systems can remain in place and functioning.

Administration presented a recommendation to the Technical Advisory Committee at the December 6th, 2017 meeting to contract with INdigital for the 9-1-1 Telephony System. The Committee approved the recommendation and presented it to the Board of Directors on December 14th. The

contract was authorized by the Board and executed by administration. The telephony system project will begin in early April.

Radio Dispatch Consoles

Motorola MCC7500 Radio Dispatch Consoles are project 25 (P25) standard-based IP consoles that enable effective and secure communication between dispatch and public safety agencies/responders. The consoles offers integration capabilities across multiple applications and resources for enhanced response coordination. An intuitive interface increases ease of use for organizing resources, coordinating a response and communicating valuable information.



KCCDA’s operation will require a minimum of ten radio dispatch consoles but eleven is preferred. Administration recommends KCCDA purchase the nine MCC7500 radio consoles currently operating at the Integrated Dispatch Center at a cost of \$38,571. There are two additional MCC7500 consoles operational at Western Michigan University’s PSAP. Administration is currently evaluating the cost requested for these positions versus purchasing one or two new consoles from Motorola. At the time of this report this analysis is ongoing. In addition to the radio consoles themselves, KCCDA will procure all radio console associated equipment from the PSAPs: headsets, gooseneck mics, speakers, etc.

Multiple meetings have been and will continue to be had with the Michigan Public Safety Communication System (MPSCS), Motorola, and Roe Comm representatives to discuss and plan moving the MCC750 consoles to KCCDA’s facility. This will require a transitional period in which alternative radio communications must be established utilizing consolettes or base stations at the Integrated Dispatch Center so the radio consoles can be removed and installed at KCCDA. Administration will carefully plan this transition in coordination with the MPSCS and Roe Comm.

Recording System

Administration recommends KCCDA evaluate reutilizing the existing NICE Recording System that is currently operating at the Integrated Dispatch Center *if it is cost effective to procure*. This system will support connectivity to the IP Logging Recorder which records the IP based MCC7500 Radio Consoles as well as analog audio ports to record conventional resources. The system will require

modifications and possibly additional gateways/channels. Specific quotes for these modifications and relocation/reinstallation of this system will be obtained.

Administration will also seek quotes from other vendors for recording solutions. A comparative analysis will be conducted weighing the cost and logistics of re-utilizing the NICE recording system versus other solutions. This analysis and project will begin in April 2018.

LEIN Access

Connectivity to the State of Michigan’s Law Enforcement Information Network (LEIN) is critical to providing law enforcement dispatch service. Currently in Kalamazoo County, all agencies connect to the State of Michigan via a single non-redundant LGNet connection hosted by Kalamazoo County. Kalamazoo County Information Systems Department has expressed significant concerns with the current setup. Therefore, administration recommends KCCDA request a stand-alone LGNet connection at its facility from the State of Michigan. It is unknown whether the State of Michigan will grant this request or not. Administration will begin this process/project in February of 2018.

Administration recommends the installation of Core Technology’s (Caliber Public Safety) Talon MultiBridge Enterprise solution and five to seven Talon licenses. This system serves as the configuration and communications server to access a variety of host systems, including LEIN and NCIC. Its Secure Tunnel component provides NCIC 2000 compliant encryption for client applications, ensuring that sensitive data is secure. In addition to the MultiBridge solution, Tyler Technologies message switch will also use this LGNet connection.

Dispatch Furniture

KCCDA will have 19 console furniture positions. Administration is currently evaluating whether or not it is cost effective to purchase, uninstall, and reinstall existing dispatch console furniture located at Portage and the Integrated Dispatch Center; especially since the furniture in both locations is approximately 10 years old. In addition, the space that will be used for the dispatch floor has vertical support beams running throughout the area which makes re-using furniture from the existing PSAP’s much more difficult.



Administration will release an RFP before the end of March for new dispatch console furniture. There will be several different options for vendors to bid on including the size of the consoles (six or eight foot) and different combinations of all new versus KCCDA using some of the cubicle at the

facility today for five of the overflow/calltaker positions.

If KCCDA purchases some or all new console furniture, it is Administration’s goal to have the lowest bidders come on-site and setup a demo position to allow staff and existing PSAP personnel to evaluate the proposed console furniture.

EMS DISPATCH

Overview

KCCDA is dedicated to working closely with Kalamazoo County Medical Control Authority (KCMCA) and the EMS providers’ secondary PSAPs to provide a timely response to emergency medical calls for service in Kalamazoo County. This working relationship is imperative to meet the Emergency Medical Call Processing Time Targets established by KCMCA:

Emergency Medical Call Processing Time Targets		
	Time Interval	Compliance
PSAP notified to EMD notified	≤ 60 seconds	≥ 90%
EMD notified to time unit notified	≤ 120 seconds	≥ 90%
Unit notified to time PSAP notified*	≤ 15 seconds	≥ 90%

- PSAP notified – Time that PSAP picks up the call
- EMD notified – Time that EMD picks up the call
- Time unit notified – Time that the EMD assigns a call to an ambulance
“*” For calls initially received by EMD

KCCDA will focus on the 60 second timeframe from the PSAP notification to the Emergency Medical Dispatcher being notified. This begins when the phone call is answered at KCCDA and ends when the call is transferred and answered by the Emergency Medical Dispatcher at the appropriate ambulance service. In the event the EMS call for service requires a medical first response, KCCDA is committed to dispatching and alerting medical first responder agencies in a timely fashion.

KCCDA is aware of an initiative that KCMCA is attempting to implement – closest unit dispatch to the highest priority medical calls for service (referred to as ECHO calls). KCCDA will work closely with KCMCA, fire and law enforcement agencies to implement a procedure to notify public safety first responders in close proximity that an ECHO medical call is occurring. This will allow any public safety unit (law enforcement and/or fire) that is monitoring and capable of assisting, to respond to the ECHO level call; regardless of jurisdiction.

Details regarding medical first responder communication system(s) and dispatch operations are contained in the Fire Dispatch section below.

FIRE DISPATCH

Overview

This section will cover how KCCDA intends to provide public safety dispatch service to the fire departments in Kalamazoo County. This also includes dispatching medical first responders to EMS call for service.

Administration has and will continue to work closely with the Fire Communications Workgroup created under the Technical Advisory Committee to evaluate and recommend communications and operations specific to fire service in Kalamazoo County. The priorities recommended by the workgroup and mutually agreed upon by administration are as follows:



- Dedicated Dispatcher(s) for Fire Service
- Communication System(s) shall Alert Stations and Activate Pagers
- Communication System(s) shall provide ample portable radio coverage county-wide; including four corners.
- Fire Agencies will operate in compliance with NFPA recommendations for on-scene communications; tactical ground operations (non-repeated and analog). KCCDA will attempt to monitor tactical channels if workload and simplex audio allows for it; no guaranteed expectation.
- Capability to remote activate Emergency Warning Sirens

The Executive Director revisited a communication cost analysis completed in 2015 in reference to building-out the existing VHF System to meet the needs of the fire service for seven to ten years or converting the fire service to the MPSCS (800 MHz) system. The cost estimate to upgrade and build-

out the VHF System was just under \$1 million versus converting all agencies to the MPSCS System at a cost of \$4.3 million. Utilizing a couple different build-out options for the existing VHF System, the Executive Director validated these estimates ranging from \$695,000 to \$1.025 million depending upon how many transmitters, feed lines and antenna systems can be repurposed. In addition, the Executive Director estimated the costs of conversion to MPSCS to be approximately \$4 million based on the estimated number of end-user devices as well as the addition of tower sites. The workgroup members and the Executive Director mutually agreed to pursue upgrading and building-out the VHF system(s) due to the cost effectiveness of the solution.

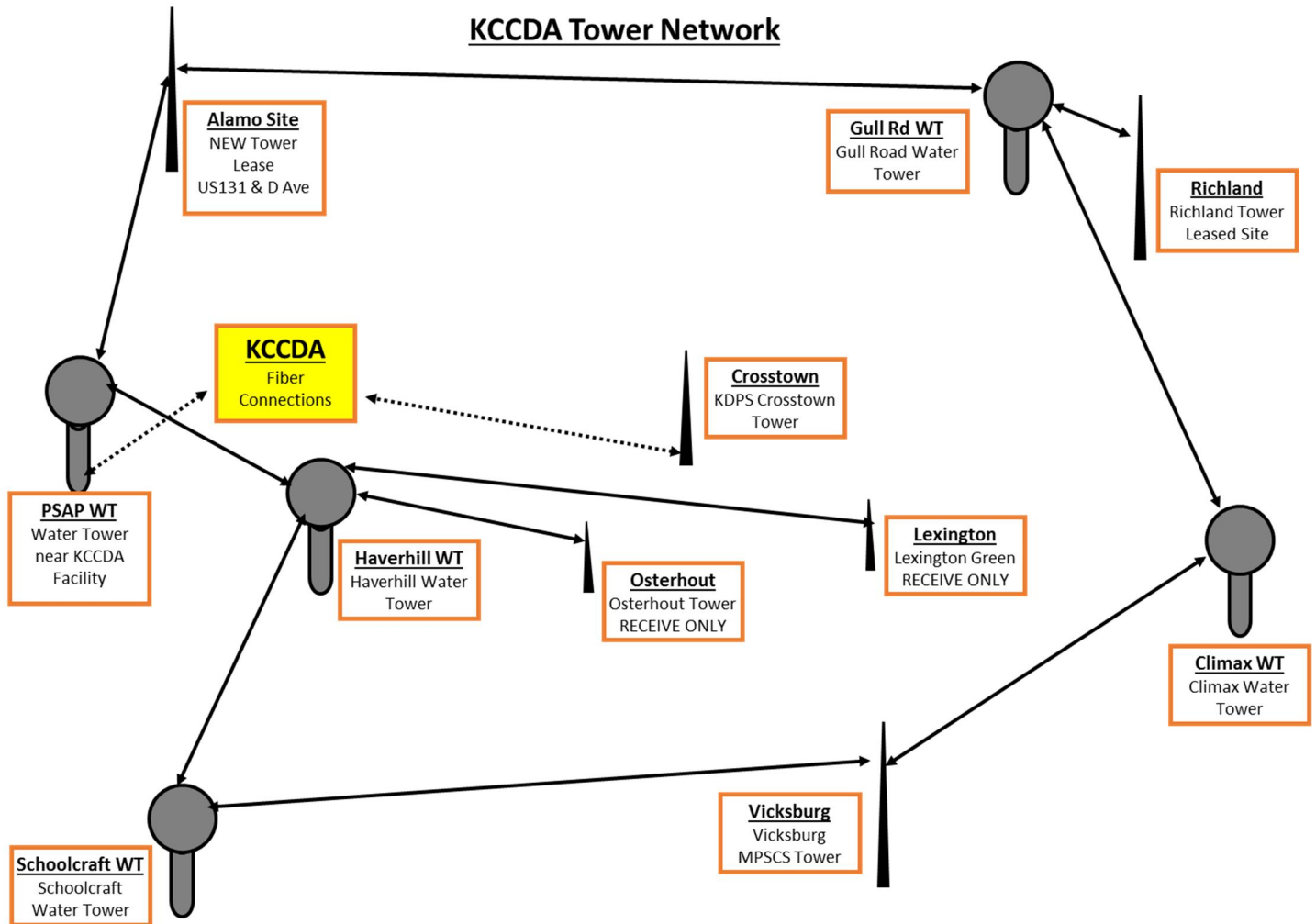
KCCDA collaborated with the Kalamazoo County Fire Chiefs Association (KCFCA) in late 2016 to submit for a regional communications Assistance to Firefighters Grant. Included in the grant request were base stations to operate all VHF channels listed in the Communications section below, on-demand generators for tower sites that do not have one today, the primary PSAP's uninterruptible power supply (UPS) and generator, and also a site monitoring and control system. The associated cost for the KCCDA equipment listed in the grant totaled \$786,516. In September 2017, U.S. Department of Homeland Security FEMA awarded the grant request submitted by KCFCA and KCCDA. This award will cover almost half of the total estimated cost to build-out the VHF system.

Communications

The Fire Communication System(s) recommended and contained herein are based on the following items:

- ✓ Existing Tower Sites are available for continued use
- ✓ KCCDA will either assume existing tower lease(s) or reimburse the respective municipality for costs directly associated to primary public safety communications.
- ✓ KCCDA will enter into a new Tower Lease to secure a tower site in Alamo Township near US131 and D Avenue North
- ✓ There will be uninterruptible power supplies and on-demand generators at all primary sites (dual purpose sites – transmit and receive).
- ✓ All end user agency equipment (mobiles, portables, pagers, mobile data computers, etc.) will remain the responsibility of the end user agencies.

The Fire Communication System will operate on a redundant, resilient, and reliable network of tower sites connected by Cambium 11GHz microwave “ring” technology. The ring technology has the capability to reroute network traffic in the event of a microwave path failure. A few sites will operate as a “leg” off the ring network connected via microwave, fiber, or IP. These sites are Crosstown, Lexington, Osterhout, and Richland. Below is a diagram of the tower network:



The network will operate TWO (2) separate VHF simulcast systems – COUNTY Fire and METRO Fire. Each system will have two channels – one reserved solely for dispatching and alerting stations/departments and the second for primary communications between dispatch and field units/agencies.

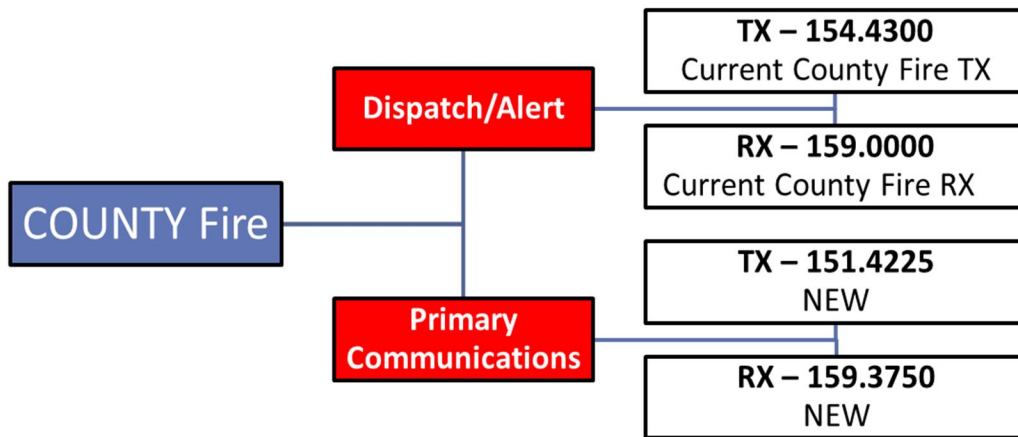
It is necessary in an environment with multiple transmitters on the same tower site that there be “adequate spread” or .300 hertz between transmit frequencies. In addition, it is also important to ensure the receive frequencies are as high as possible – 159 range of the spectrum. This “adequate spread” also allows KCCDA to utilize a single antenna with EMR Combiners and Multicouplers to operate up to four repeaters simultaneously. This will significantly reduce tower loading and cost for the leased sites.

COUNTY Fire

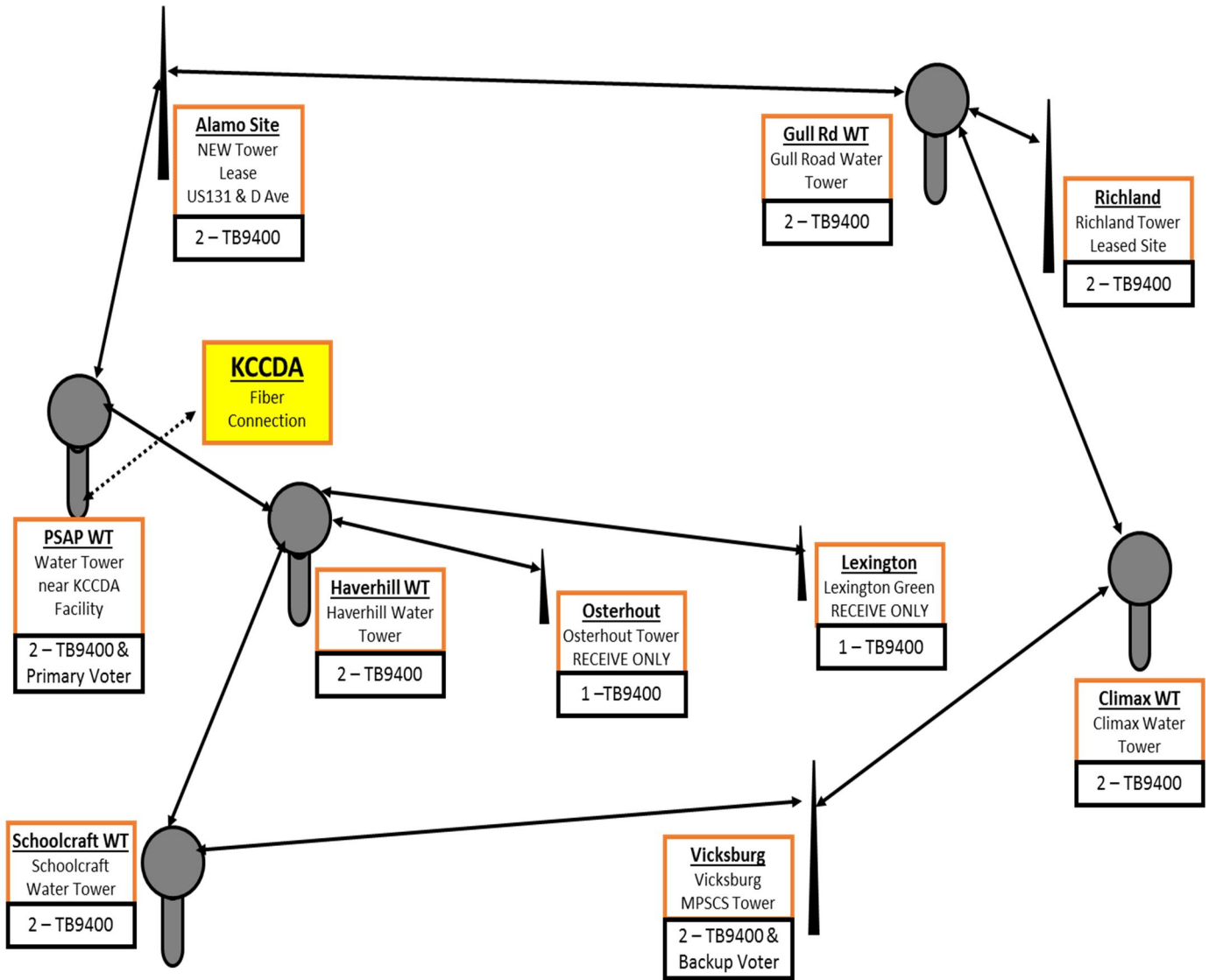
This system consists of eight simulcast transmit sites and ten receive sites; two receive only sites – Lexington and Osterhout. All sites will be operated using Tait Communications TB9400 mission-critical base stations. The following provides a synopsis of the COUNTY Fire system, a tower site map, and a propagation study illustrating KCCDA’s *talkout coverage* from the system at -85dBm with a 90% confidence factor.

Agencies Served and Licensed Frequencies

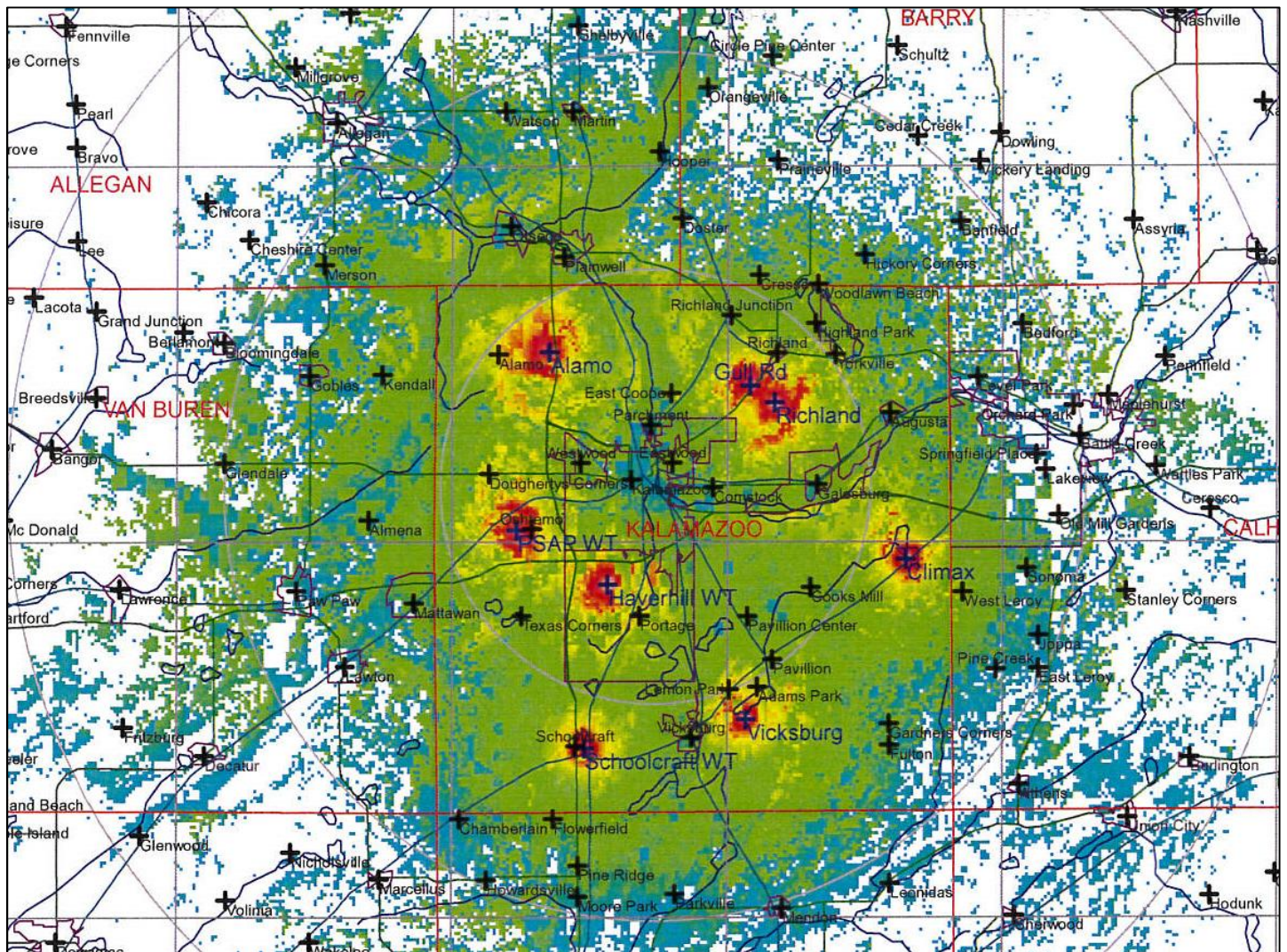
COUNTY Fire	Alamo, Augusta/Ross, Climax, Comstock,
	Cooper, Galesburg-Charleston,
	Oshtemo, Pavilion, Portage,
	Richland, South County, and Texas



COUNTY Fire System & Site Equipment



Eight Site COUNTY Simulcast Talkout Coverage: -85dBm / 90% Confidence Factor

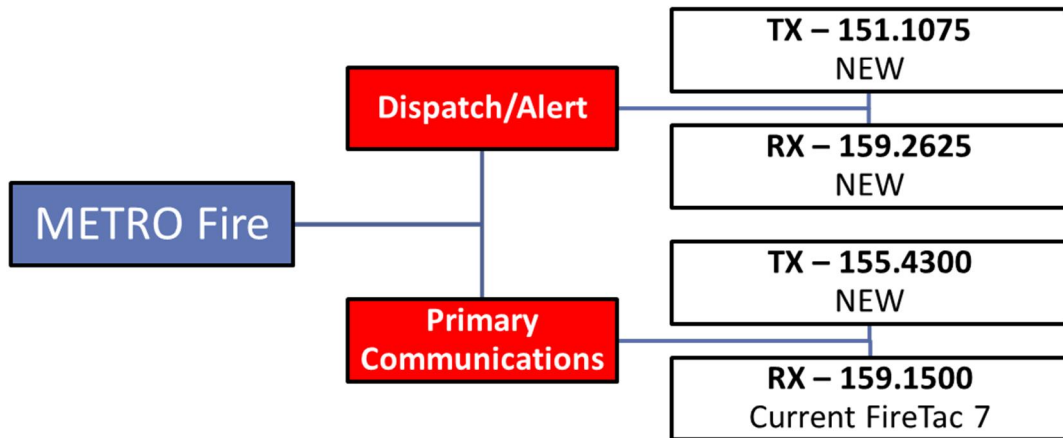


METRO Fire

This system consists of three simulcast transmit and three receive sites. All sites will be operated using Tait Communications TB9400 mission-critical base stations. The following provides a synopsis of the METRO Fire system, a tower site map, and a propagation study illustrating KCCDA's *talkout coverage* from the system at -85dBm with a 90% confidence factor.

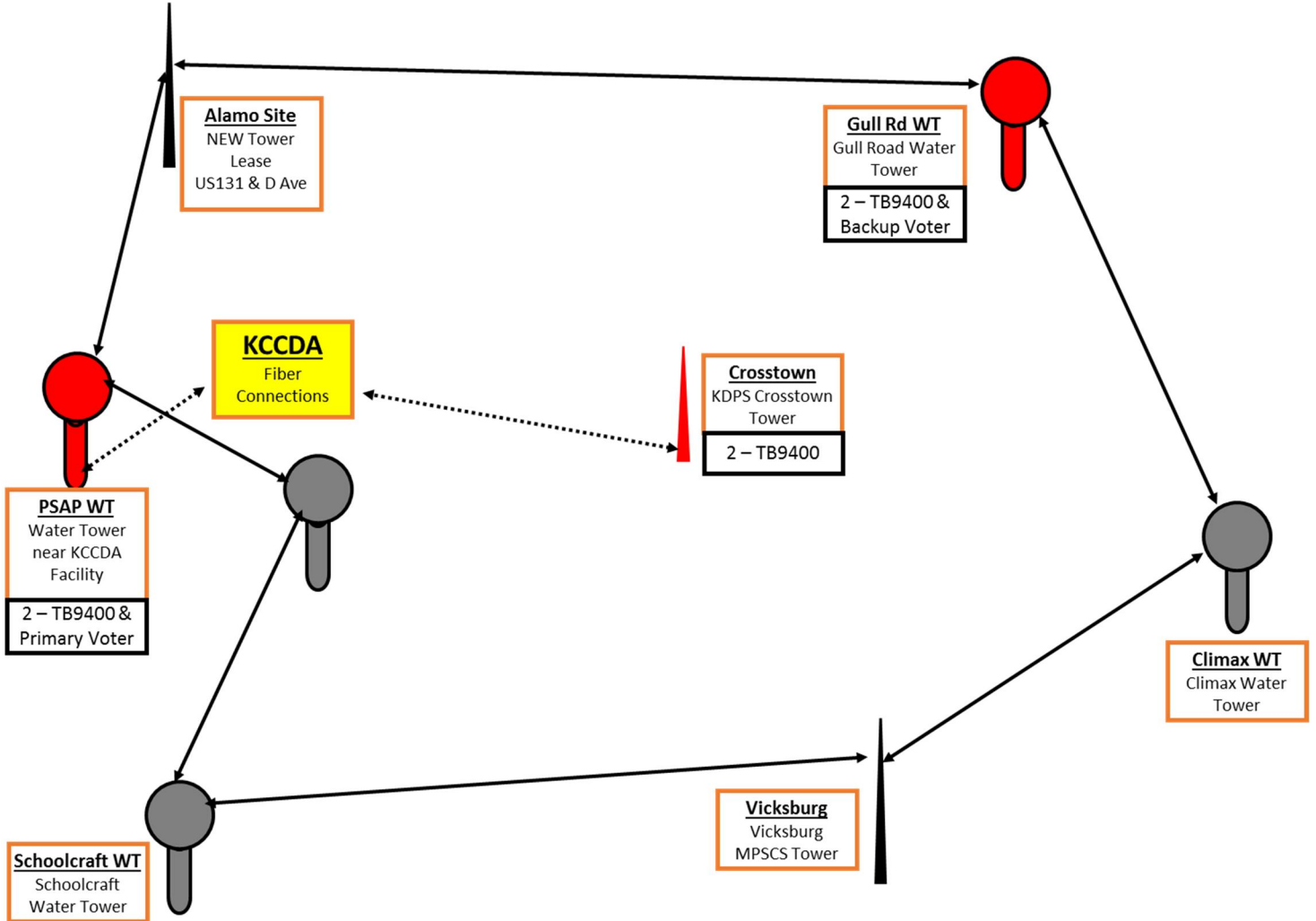
Agencies Served and Licensed Frequencies

METRO Fire	KDPS
	Kalamazoo Township
	Parchment

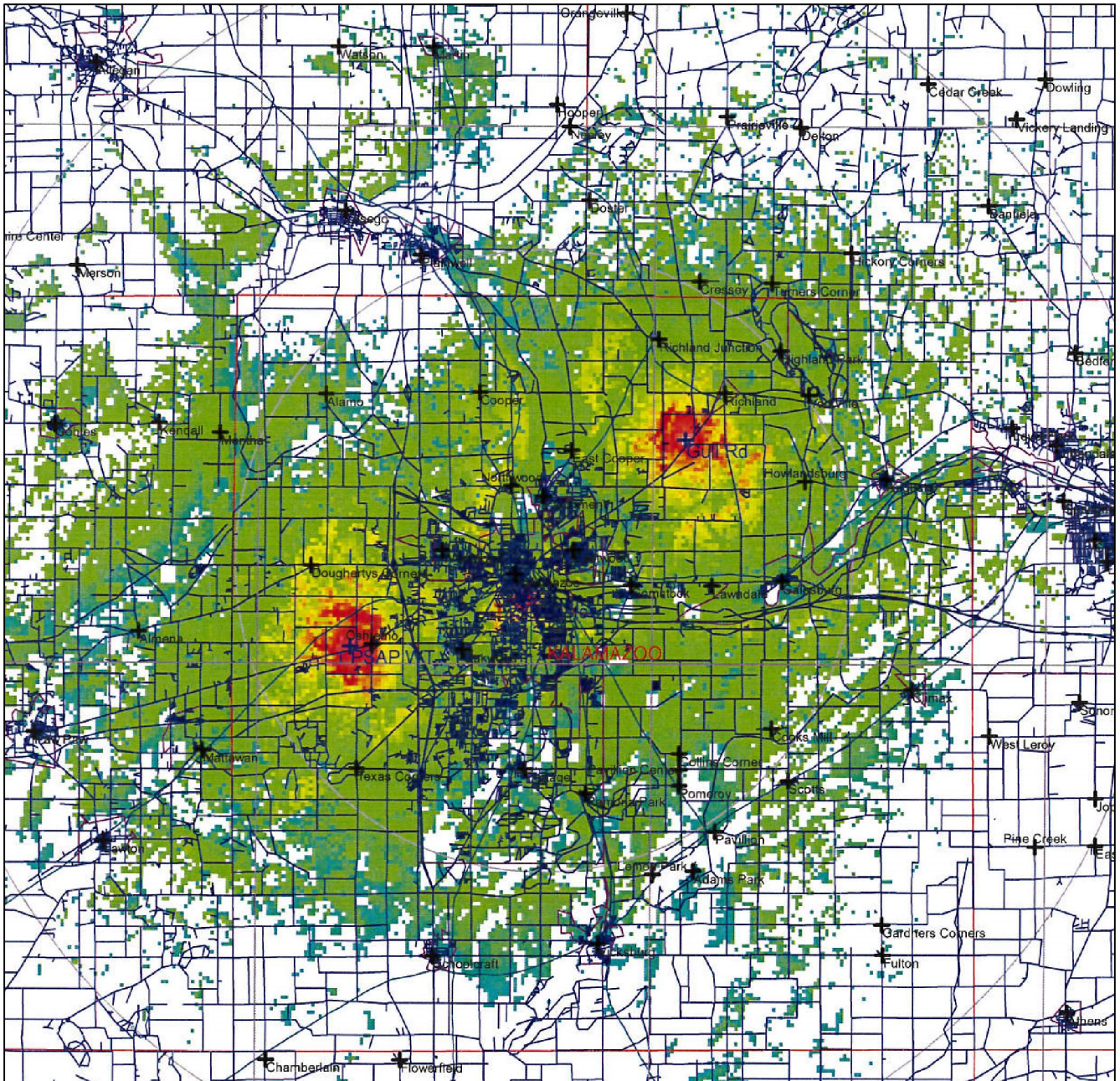


METRO Fire System & Site Equipment

NOTE: The three transmit and receive sites are identified in RED and are the only sites with equipment listed. The other sites are included in the diagram as they are part of the ring network



Three Site METRO Simulcast Talkout Coverage: -85dBm / 90% Confidence Factor



Operations

Based on the average workload analysis of fire and MFR calls for service, KCCDA will have TWO Fire Dispatch positions staffed by ECO-II's.

METRO Fire (ECO II)	COUNTY Fire (ECO II)
Kalamazoo Twp.	Alamo Climax
KDPS	Comstock Cooper
Parchment	Galesburg Oshtemo
	Pavilion Portage
	Aug-Ross Richland
	Texas SKCFA

KCCDA will provide a full range of dispatch services to all fire departments. These services include but are not limited to:

- ✓ Dispatch and coordinate response fire and MFR calls for service as determined by each agency's individual response plans entered into the Computer Aided Dispatch System.
- ✓ Communicate with and log activities of responding apparatuses (units) from the time they leave the station (enroute) until they return to quarters/station.
- ✓ Provide Mobile Computing Software license for connectivity to CAD for apparatus with Mobile Terminals/Tablets; encourage use of mobile software.
- ✓ Respond to requests and provide support for on-scene Incident Command.
- ✓ Fire dispatchers will attempt to monitor tactical channels if workload and simplex audio allows for it.
- ✓ Develop protocol for dissemination of weather related watches and warnings
- ✓ Develop county-wide MAYDAY protocol
- ✓ Provide CAD incident data export to be imported to Fire RMS systems.

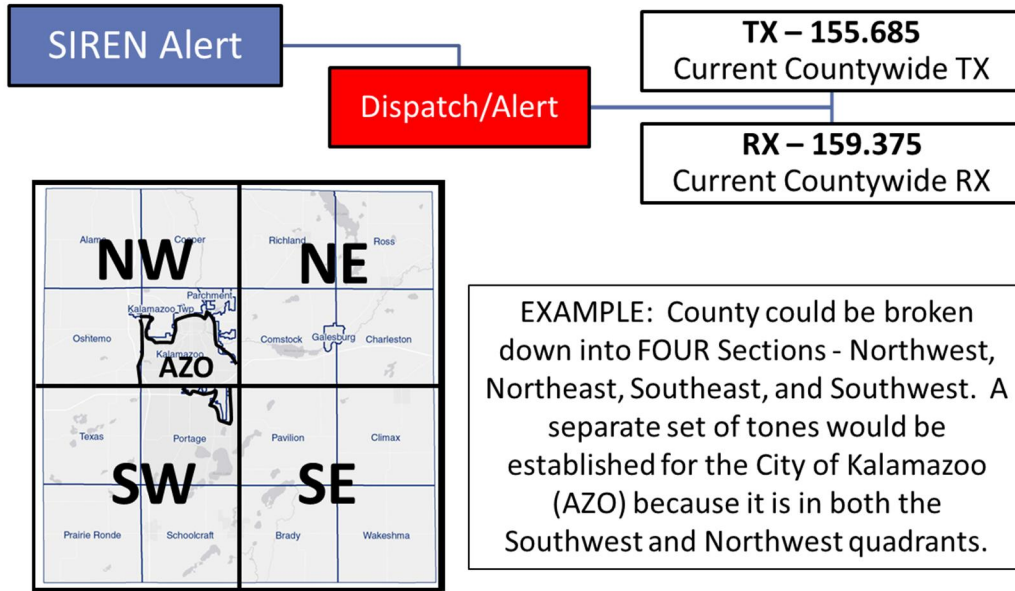
Emergency Warning Sirens

KCCDA will provide, support, and maintain a VHF system dedicated to remote activation of emergency warning sirens. It will be each municipality's decision whether or not they want KCCDA to activate their sirens.

In order for KCCDA to activate an emergency warning siren, it will be a standard recommendation that the siren have a VHF receiver be equipped with at least a Quarter Wave VHF Ground Plane

Antenna mounted 15 feet above ground. This recommendation significantly enhances the capability of receiving the activation signals emitted by KCCDA.

KCCDA will work closely with municipal officials and Kalamazoo County Emergency Management to develop a county-wide procedure for activating emergency warning sirens. The following is an example:



An Activation and Cancel tone-set is designated for each quadrant with the City of Kalamazoo having their own tone-sets. The emergency warning sirens are activated by quadrant or section as mutually agreed upon.

NOTE: Each municipality or owner of the siren will still be responsible for siren hardware, maintenance and support of siren, programming, etc. KCCDA will provide the access and radio system to activate the sirens.

LAW ENFORCEMENT DISPATCH

Overview

This section will cover how KCCDA intends to provide public safety dispatch service to the law enforcement agencies in Kalamazoo County.

Similar to the process used for the fire, administration has and will continue to work closely with the Law Enforcement Communications Workgroup created under the Technical Advisory Committee to evaluate and recommend communications and operations specific to law enforcement agencies in Kalamazoo County.

The law enforcement communications and operations workgroup met seven times in 2017 and is scheduled to meet monthly moving forward. The group conducted a workload analysis in 2017 that evaluated calls for service and average field units on duty; both per hour per day. The analysis was utilized to breakdown normative workload duties for ECO II's assigned to law enforcement functions in the consolidated PSAP.



Communications

The various Law Enforcement Communication Systems contained herein are based on the following items:

- ✓ KCCDA will either assume existing tower lease(s) or reimburse the respective municipality for costs directly associated to primary public safety communications.
- ✓ KCCDA will continue to utilize existing tower sites being used today.
- ✓ KCCDA will assume connectivity costs associated to the various tower sites.
- ✓ All end user agency equipment (mobiles, portables, pagers, mobile data computers, etc.) will remain the responsibility of the end user agencies.

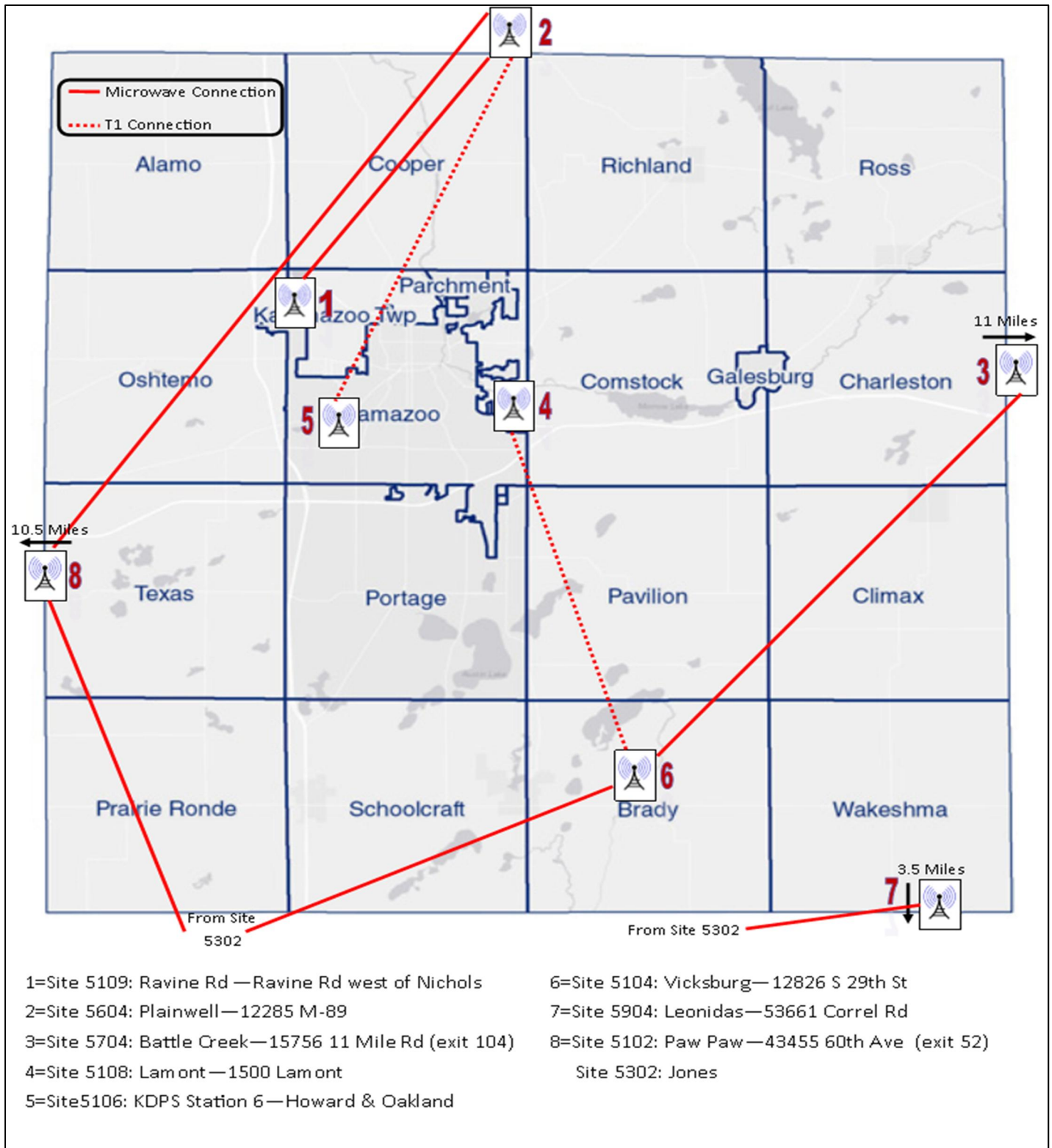
All law enforcement agencies, except for Portage Department of Public Safety – Police Division, operate on the Michigan Public Safety Communications 800 MHz System (MPSCS). KCCDA will become a subscriber to this system and establish a primary connection from the PSAP's MCC7500 radio consoles into the network. KCCDA will assume all costs related to existing tower leases, connectivity/circuits, and maintenance costs related to the sites that were added to the MPSCS system by one or more of the end user agencies. It should be noted, the MPSCS recently requested all T-1 connections be converted to the following minimum specifications:

Service Type:	Point to Point Ethernet
Committed Info Rate:	1.5 - 5 Mbps
Frame Loss (one way)	10 ppm
Ethernet Port Settings:	100 Mbps Full Fixed

Availability:	99.999%
Latency (one way):	10 msec
Jitter:	10 msec
Max Transmission Unit:	2048

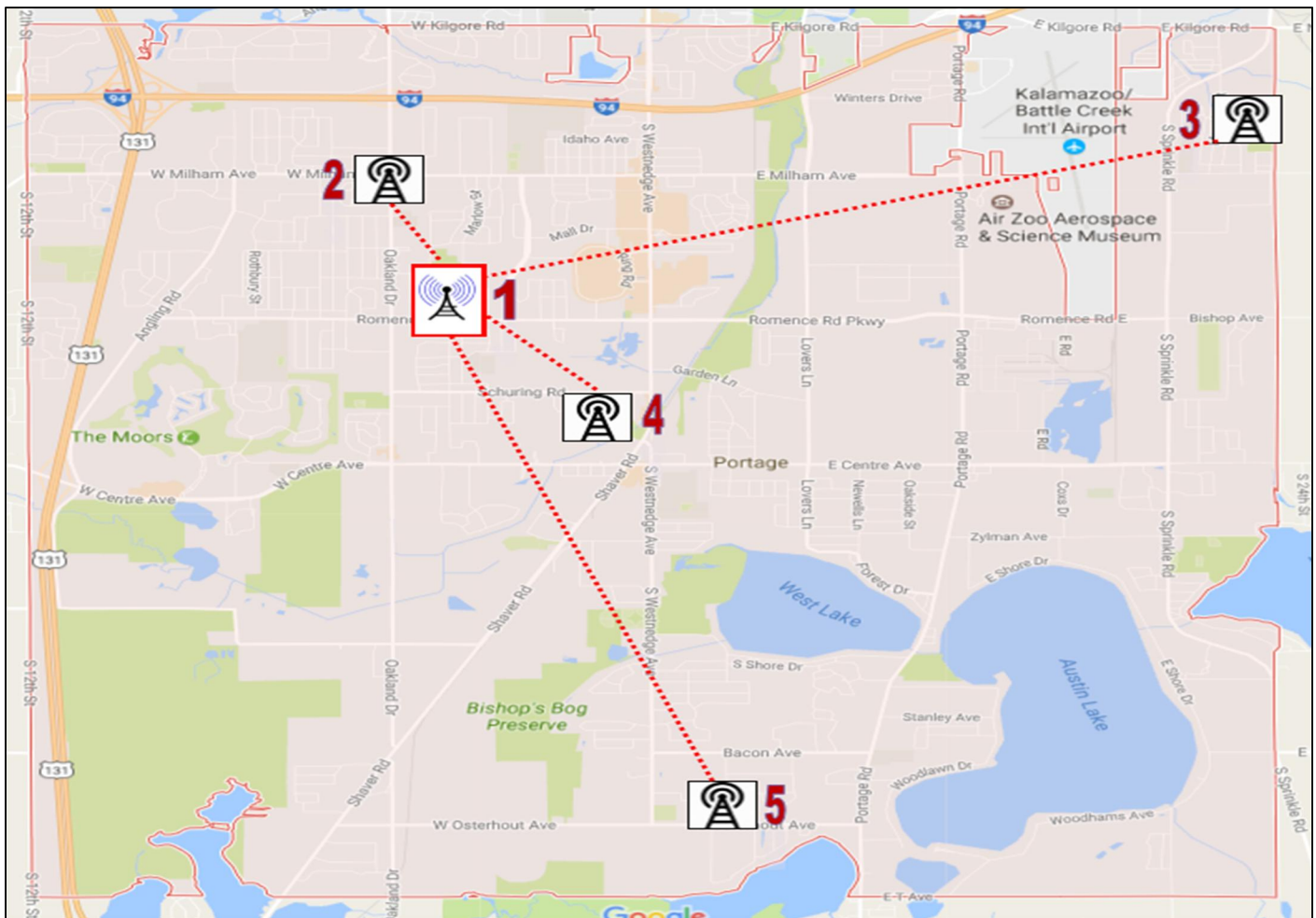
KCCDA will assist the existing PSAPs to determine whether or not the connection needs to be converted and if so, the most cost effective approach to the conversion.

The following is a map of the MPSCS sites servicing Kalamazoo County agencies and the current connectivity method into the MPSCS network:



Portage Public Safety’s Police Division currently operates and will remain on their VHF system consisting of a single transmitter located at the Romence Road tower site and five receiver sites: Romence, Osterhout, Fire Station #2, Lexington Green Park, and the Public Safety Building. The receiver sites are connected to a JPS voter via analog circuits provided by AT&T. The existing analog circuits connecting these sites will no longer be available in the very near future. *It is essential for Portage and KCCDA to work together if these connections are converted prior to the consolidation to ensure any changes made are easily transitioned to KCCDA.*

KCCDA will assume all costs related to the Portage Police Division’s VHF system including any tower leases, connectivity, and maintenance and support costs related to the infrastructure. The following is a map of the Portage Public Safety Police Division VHF System:



- 1=TRANSMIT and Receive—Romence Tower: 1723 1/2 Romence Rd.**
- 2=Receive Only—Fire Station #2: 6101 Oakland Dr.**
- 3=Receive Only—Lexington Green Park: Pittsford Ave**
- 4=Receive Only—Public Safety: 7810 Shaver Rd.**
- 5=Receive Only—Osterhout Tower: 518 E. Osterhout Ave.**

Law enforcement agencies operating on two desperate communications systems makes assignment of primary dispatch channels slightly more difficult; especially when there is an operational need to reduce dispatch channels and move agencies from one primary to another. That being said, KCCDA is dedicated to meeting the needs of all agencies; regardless of communications platform. KCCDA will utilize the diverse functionality of the MCC7500 radio consoles to facilitate interoperability communications.

Furthermore, Portage’s Police Division has expressed interest in evaluating the feasibility of converting to the MPSCS system. At a minimum, this will require *at least* one additional MSPSCS tower site in the City and all new end user agency radios (mobile and portable). KCCDA will work collaboratively with Portage to evaluate this conversion as well as funding opportunities available to assist with the same.

Operations

Based on the average workload analysis of law enforcement calls for service and field unit surveys conducted, the *minimum staffing* of law enforcement dispatch positions will be four; three for dispatching calls for service and one dedicated LEIN position. The three dispatch positions will be staffed with ECO-II’s and the LEIN position staffed with an ECO-II or an ECO-I. It should be noted that during low workload hours, LEIN functions and duties may be combined with other primary duties – calltaking and/or fire dispatch. The illustration below is only for *minimum staffing*; KCCDA’s regular schedule will have additional/extra ECO II’s scheduled.

LAW - 1 (ECO II)	LAW - 2 (ECO II)	LAW - 3 (ECO II)	LEIN-I (ECO I or II)
Kalamazoo Public Safety	Kalamazoo Sheriffs Office MSP & DNR Vicksburg PD Schoolcraft PD Galesburg PD Augusta PD Richland PD KVCC PD	WMU Public Safety Kalamazoo Twp. PD Portage PD	All Agencies

As indicated in the communications section, workload assignments are sometimes limited when operating on multiple communication platforms. While listening to multiple channels and/or talk groups is accomplished above, it increases the chances of a dispatcher receiving multiple field unit requests simultaneously. This can become problematic during busier times and will require the on-duty Dispatch Supervisor to adjust and reassign primary duties with additional ECO II’s already working.

KCCDA will provide a full range of normative dispatch services to all law enforcement agencies. These services include but are not limited to:

- ✓ Dispatch and coordinate response to all law enforcement calls for service as determined by each agency's individual response plans entered into the Computer Aided Dispatch System.
- ✓ Communicate with and log activities of all field personnel (officer initiated events, enroute, arrival, clear, etc.)
- ✓ Provide Mobile Computing Software license for connectivity to CAD and LEIN; encourage use of mobile software.
- ✓ Respond to requests and provide support.
- ✓ Provide Complaint Number assignment for calls for service from CAD.
- ✓ Provide CAD incident data export to for agencies using Law Enforcement Records Systems other than Tyler Technologies.
- ✓ Provide a full range of LEIN services to all field units.
- ✓ Provide LEIN ORI monitoring and administrative services for all law enforcement agencies (administrative messages, hit confirmations, etc.).
- ✓ Provide LEIN entry and modification services for field personnel activity (impounds, missing persons, stolen vehicle, etc.) and serve as "Holder of Records" for agencies.
- ✓ Access and relay information from traffic camera systems as permitted

CALL TAKING

Call Taking Model

KCCDA will provide primary answering point service for all emergency and non-emergency 9-1-1 calls in Kalamazoo County. This will be accomplished using a call taker (ECO-I) and dispatcher (ECO-II) environment. This is slightly different from the way current PSAPs function. A true call taker and dispatcher system allows call takers to focus on the caller, obtaining vital information for responders, while the dispatcher sends units simultaneously. Call takers query the caller to determine the incident location, nature, the caller's name and callback information. The call information is entered into CAD as call taker obtains it and the event is sent to the appropriate dispatcher(s) for radio dispatch. When necessary, the call taker will remain on the line gathering further information and updating the CAD incident. This allows the dispatcher to relay updated vital information to field units in a timely fashion.



This model provides the best possible service to callers by reducing overall response times through a faster dispatch time. For example, a KCCDA call taker receives a call regarding a rollover accident. When the event is entered in CAD, it will generate two incidents; one law enforcement and one fire since it requires a response from both. This will help to ensure both agencies are dispatched relatively simultaneous in a timely fashion. This structure also ensures a high quality of service can be provided to all law and fire agencies as well as reduces the length of time it takes to train new employees since the majority will start as ECO I's.

Other Municipal Services

In addition to law, fire, and EMS calls for service, it is very common for PSAPs to provide after hours emergency call-taking services for other municipal services: public works, water departments, public utilities, park services/rangers, etc. KCCDA will continue to provide these after-hours services for emergencies. These calls for service *should be vetted* first at the local municipal level either by a message telling the caller to contact KCCDA in event of an emergency or with an auto-attendant directly connecting them to KCCDA after an initial message. Auto attendants can be programmed to provide the resident an option similar to the following: "...if your matter is urgent and it cannot wait until the next business day, please press # and you will be transferred to Kalamazoo County Consolidated Dispatch".

KCCDA will attempt to establish "emergency hailing" or point of contact communication channels with various municipal services/departments if requested. The purpose of these communication links is solely to provide a fast and easy way for municipal services/departments to contact dispatch or vice versa when resources are being requested or an after-hours emergency occurs.

QUALITY ASSURANCE

QA Program

KCCDA will provide public safety answering point and dispatch services that adhere to the organization's vision and core values. While this work certainly has unique tribulations, it is imperative that staff maintain critical focus to ensure professional and high quality services are provided to residents, visitors, and public safety agencies in Kalamazoo County.

The Quality Assurance (QA) program aims to assess and measure performance, competency, and customer service toward citizens and public safety personnel. It will also assist in determining community concerns, promotes policy and training recommendations, and serves as a professional development tool. A dedicated Dispatch Supervisor will be assigned to the oversight and implementation of KCCDA's QA program. The program will have a minimum of three areas of assessment:



CALL REVIEW

The call review section randomly chooses and reviews incoming calls for each ECO on a monthly basis. The QA reviewer determines if the call-taker asked the appropriate questions, if the incident was classified properly, if the appropriate information was forwarded to the dispatcher in a timely manner, and measures the quality of service provided to the caller. This information is collected on a standardized form designed to be objective, non-subjective, and a consistent means of measurement. Each review receives a separate score and a monthly summary is shared with each employee. Recognition shall be given to the employees with the highest monthly scores and corrective actions will be taken for underperforming employees.

CITIZEN/CUSTOMER SURVEY

The Citizen/Customer Survey section measures the quality of service provided by the ECO, as viewed by the public. KCCDA will distribute post-cards to the callers of the incidents randomly selected from the call review section above (Note: judgement is necessary based on the nature of the caller's emergency/non-emergency). The post-cards will encourage the caller to go on-line and complete KCCDA's customer satisfaction survey. All surveys submitted will be included in each employee's monthly summary. Surveys containing positive comments will be displayed for recognition and those returned containing negative feedback will be further researched and dealt with accordingly.

DISPATCH REVIEW

The dispatch review section randomly chooses and reviews incidents dispatched for each ECO-II on a monthly basis. The QA reviewer determines if the incident was dispatched appropriately, in a timely manner, and measures the quality of service provided to the public safety first responder. This information is collected on a standardized form designed to be objective, non-subjective, and a consistent means of measurement. Each review receives a separate score and a monthly summary is shared with each employee. Recognition shall be given to the employees with the highest monthly scores and corrective actions will be taken for underperforming employees.

CONCLUSION

In the early 1990's, Kalamazoo County was home to the first enhanced 9-1-1 telecommunications system in the State of Michigan. Since then, public expectations, professional standards and technology have drastically changed. The five PSAP system design currently operating in Kalamazoo County has many limitations and is forcing time sensitive delays and duplicated technological costs.

This Strategic Business Plan (Revision I) creates, operates, maintains, and equips a centralized PSAP system in Kalamazoo County. In addition, the existing PSAP personnel are forward thinking individuals and dedicated employees who care about the quality of service they provide the residents and end user agencies. One of the greatest opportunities in this consolidation plan is KCCDA's opportunity to employ highly skilled and dedicated emergency communications officers from the existing PSAPs.

This plan creates a unified environment built on one vision and one mission. Together, we will transition Kalamazoo County to a Next Generation 9-1-1 and Consolidated Dispatch Center System that will exceed performance and reduce costs of operating multiple legacy public safety answering points.