2015 Annual Workplan and Budget

Appendix L
Regional Public Safety Communications Program Strategic Plan
Progress and Plans

In 2010, the Public Safety Communications Board approved the 2011–2015 Regional Public Safety Communications Program Strategic Plan. The plan defines objectives and strategies within regional 9-1-1 and interoperable communications activities. The following is an update of progress made in the past year and actions planned for 2015 that are supported by the proposed budget.

Goal A: Enhance the quality of the regional 9-1-1 system to ensure access to public safety communication services that are reliable, current, redundant, secure and diverse.

Goal A — Objective 1:
Improve the accuracy of location data received from non-wireline service providers.

Project: Call Routing Validation

MARC staff will continue to annually review call routing for at least 30 percent of all wireless sectors with a goal of validating routing on each tower facing at least once every three years. This project is ongoing.

2014 Progress

All routing errors received via 9-1-1 error reports are researched. If deemed valid, the appropriate carrier is notified for investigation and resolution on their end. If invalid, the public safety answering point (PSAP) is contacted and an explanation is given so that proper information can be relayed back to the dispatcher and training provided. During the third quarter of 2014, it was discovered that T-Mobile had decommissioned the Excelsior Springs PSAP and was routing their 9-1-1 calls to another PSAP. A full review of Clay County was conducted and 57 changes were made to routing. A review of the remainder of T-Mobile data is currently underway. During the fourth quarter of 2014, cell tower data was received from Sprint. An audit is currently being conducted.

2015 Action Plan

An audit of wireless cell sectors that have not been reviewed within the past three years will be conducted. This consists of working with wireless carriers and our map provider to compare and update cell tower data.

Project: Database Audit

MARC staff will implement an annual call routing review and validation process in the stand-alone automatic location identification (ALI) database. MARC staff will compare and resolve discrepancies between data from non-wireline service providers (or their appointed database providers) and the region-owned database. This project is ongoing.
**2014 Progress**

MARC public safety staff started a project to make more than 6,800 pANI records consistent and follow national standards in 2013. This project was completed in 2014. During the third and fourth quarters, Sprint changed all emergency service routing key (ESRK) records to conform to the standard. This required testing each new record added to verify call routing and ALI delivery.

**2015 Action Plan**

MARC staff will continue to work with carriers and their third-party providers to make database records more consistent and follow national standards. This is an ongoing project in which records are added, modified and deleted throughout the year.

**Project: Wireless Accuracy Testing (WAT)**

Since the implementation of the WAT program in 2006, the goal has been to improve caller location information. Due to the changing needs of the region and department, the WAT goal has been modified. The goal now reflects continued efforts to improve location information with MARC maintenance staff, database team and PSAP personnel working together to conduct testing as it relates to error reports and other accuracy-related issues.

**2014 Progress**

MARC maintenance staff worked with the database team to research error reports and accuracy-related issues as needed. Recent reports have indicated a decrease in phase two calls in other areas of the country; MARC staff analyzed regional call statistics and obtained mixed results, which can be seen in the chart below:
2015 Action Plan
The accuracy of caller location information is an ongoing goal. The maintenance and database teams will continue to work with PSAP personnel to investigate issues that arise. Random testing will also be completed as needed. Maintenance staff are currently monitoring developments with indoor and z-axis (elevation) accuracy.

Project: Communication with Non-Wireline Service Providers
MARC staff will continue to proactively identify and complete interconnection agreements with non-wireline service providers. These interconnection agreements ensure service providers are correctly connected to the region’s selective routers, maintain accurate database records and comply with remittance requirements. In an effort to stay informed of new technologies or changes in existing technologies, MARC staff will contact each service provider annually to review existing agreements, provide updates on changes to 9-1-1 in the MARC region and gather information on new technologies.

2014 Progress
In 2014, no new companies were identified. MARC staff worked with a company that changed its name and received updated contact information and network diagrams.

2015 Action Plan
In 2015, MARC staff will reach out to non-wireline service providers to review existing agreements and ensure all information is current and relevant. Staff will also continue to identify carriers with which MARC does not have agreements and work with them to develop agreements.

Project: Telematics Services
MARC staff will continue to coordinate with telematics vendors to verify an interconnection agreement has been executed, ensure vendors are properly connected to the region’s selective routers and verify that calls accurately plot on the regional map. This is an ongoing project.

2014 Progress
In 2014, MARC Public Safety staff continued to work with Sprint/Ericsson by coordinating test calls with PSAPs and by providing screen shots and recordings of test calls for development of the new Chrysler product, Uconnect. Staff also worked with Ford on its in-vehicle service, known as Sync, to ensure connectivity to 9-1-1 and provide contact information. Sprint is Ford’s network provider.

2015 Action Plan
MARC staff will continue to identify new telematics providers and reach out in an effort to complete interconnection agreements with them. Staff will also continue to assist existing carriers.
Goal A — Objective 2:
Improve the redundancy and geographic diversity of the wireline 9-1-1 system.

Project: Last-Mile Study
MARC staff will analyze the wireline network last-mile study information requested from local exchange carriers (LECs) for each PSAP in the region. MARC staff will make recommendations to the Public Safety Communications Board for improving last-mile network redundancy and geographic diversity.

The last-mile study will provide the necessary network data to develop redundant and diverse options available to each of the MARC region PSAPs. In 2011, MARC staff requested last-mile network configuration data from AT&T for each of the PSAPs in their service area.

2014 Progress
MARC staff worked with LECs and service providers to solve and repair wireline trunk issues. As part of the upgrade to Vesta, last-mile single points of failure were eliminated by migrating PSAPs to microwave connectivity.

Additionally, MARC staff worked with AT&T’s resolution center to diversify several of the leased T-1s that terminated at the Olathe selective router. Staff also met with AT&T to ensure leased T-1s and centralized automatic message accounting (CAMA) trunks are utilizing diverse equipment paths. This year, CAMA trunks were added to MARC’s selective routers providing the ability to reroute wireline 9-1-1 calls through the MARC network.

2015 Action Plan
MARC staff continues to work with LECs and service providers to identify and develop action plans to repair wireline trunks with chronic issues. Staff will continue to update LEC network configurations to determine cost-effective ways to improve last-mile network redundancy and geographic diversity for PSAPs. This is an ongoing project.

Project: Review Service Provider Central Office Isolation Plans
MARC staff will annually review and update wireline service providers’ central office isolation plans. These plans will be distributed to each PSAP annually or when a change is made.

MARC staff will review service provider central office isolation plans to ensure all MARC 9-1-1 circuits have diverse and redundant routes available in case an LEC experiences a central office isolation event. In 2011, MARC staff requested central office boundary information from CenturyLink and AT&T.

2014 Progress
MARC staff worked with AT&T to update central office information and isolation plans. Staff also worked with CenturyLink to ensure that correct agency information is included in their isolation plans.
2015 Action Plan

MARC staff will continue to work with AT&T and other LECs to obtain central office information so that in the event of isolation it is clear where 9-1-1 calls should be sent. Additionally, staff will ensure that providers have adequate isolation plans for their host central offices and remote central offices. These plans guarantee the best transport facilities are being used to provide central offices with redundancy and diversity. MARC staff will notify PSAPs of service provider outages as soon as they become known. This is an ongoing project.

Goal A — Objective 3:
Ensure ongoing quality maintenance and operation of the regional 9-1-1 system.

Project: Assist PSAPs in Determining Optimum Staffing Levels

MARC staff will assist PSAPs with operational requests that will allow them to work in an effective and efficient manner.

2014 Progress

In 2014, the Kansas City Missouri Police Department requested access to the Association of Public-Safety Communications Officials’ (APCO) Project RETAINS software application.

2015 Action Plan

MARC staff will continue to assist PSAPs requesting to use Project RETAINS.

Project: Customer Satisfaction Survey

MARC staff will develop and conduct a customer satisfaction survey to identify successes and areas of improvement for maintenance services activities. The survey has been conducted each year since 2011. MARC staff reviews and considers the results when preparing the following year’s action plans.

2014 Progress

In 2014, staff distributed the customer satisfaction survey to PSAP personnel online, via email and in person during the Nov. 20 communications users committee meeting. Feedback will be analyzed and any corrective action needed will be implemented in 2015.

2015 Action Plan

Customer satisfaction is an ongoing goal of the maintenance team. The survey is a tool used to measure both performance and the needs of the region. Staff will continue to distribute the survey to PSAP managers and supervisors.

Project: Equipment and Maintenance Reference Information

MARC public safety communications technicians analyze call history to identify common
maintenance and service requests handled by the Systems Operation Center (SOC). The communications technicians develop tech tips and how-to information — posted on the public safety intranet — as a quick reference guide to address and resolve simple but common service calls. This is an ongoing project.

2014 Progress

In 2014, the maintenance staff continued to receive daily emails from the after-hours vendor regarding call activity. Receiving daily notifications has helped staff improve awareness of service calls received after-hours. As of Dec. 31, 2014, communications technicians had entered 481 work orders for the year.

2015 Action Plan

The maintenance staff will continue to improve on the goal of creating a work order for each service call. Efforts will be made to increase the amount of preventative maintenance that takes place in each PSAP.

Project: Maintenance Activity Professional Development

MARC maintenance staff will participate in local and national conferences and activities, as appropriate, in an effort to gain knowledge about new and innovative technologies that may benefit the region.

2014 Progress

In 2014, staff attended the annual APCO and National Emergency Number Association (NENA) conferences, and one communications technician attended an Airbus advanced technician course in December.
2015 Action Plan
In 2015, the maintenance staff will continue to be heavily engaged in the phased regional upgrade project. This project will provide training and development in the support of NG9-1-1 capable equipment. Additionally, staff will attend regional and national conferences in order to remain informed of the latest trends and developments.

Goal A — Objective 4:
Ensure the effectiveness of back-up plans and disaster recovery procedures.

Project: MARC Public Safety Program Continuity of Operations Plan (COOP)
In 2014, the updated COOP Plan was provided to public safety staff. Also, MARC Information Technology staff used the Citywatch system to alert MARC staff of an office closure during a period of inclement weather in February. Staff will review and conduct an exercise of the COOP annually, or whenever significant programmatic changes occur.

Project: PSAP Reroute Plans
MARC staff will work with PSAPs and service providers to periodically test the effectiveness of each PSAP's reroute plans, and will review the success of reroute procedures with agency staff after every reroute.

2014 Progress:
The PSAP Backup Subcommittee did not meet in 2014. However, backup plans were given consideration during the planning of 9-1-1 equipment upgrades. The design of the new pod layout accommodates the current backup plans.

Additionally, MARC staff worked with AT&T's Resolution Center to diversify several of the leased T-1s that terminated in the Olathe Selective Router. Staff also met with AT&T to ensure leased T-1s and CAMA trunks are using diverse equipment paths. In 2014, MARC staff added additional CAMA trunks to MARC's selective routers, increasing the ability to reroute wireline 9-1-1 calls through the MARC network.

2015 Action Plan:
MARC staff will continue to work with AT&T, CenturyLink and other service providers to ensure network diversity and redundancy for all leased T-1s and CAMA trunks. Staff will meet regularly with these providers to discuss outages and network performance throughout the year.

Goal A — Objective 5:
Ensure accuracy of the regional 9-1-1 database.

Project: MSAG and GIS Improvements
MARC staff will continue to work with local governments to improve the quality of the regional MSAG and map data layers through its annual review process. Communities are reviewed on a three-year cycle, and those that have never
participated are contacted every year. Matching the MSAG and map datasets is imperative to the region’s transition to NG9-1-1.

MARC staff will continue to conduct annual meetings, one-on-one sessions and an annual review and outreach process with MSAG coordinators, addressing and mapping personnel and PSAP constituents to explain the importance of accurate map data for locating a 9-1-1 caller. MARC staff distributes articles and stories to keep addressing professionals informed of topics and issues relevant to 9-1-1 addressing and mapping.

2014 Progress

MARC staff distributed the annual database true-up request to 36 landline, VoIP and third party database providers in the region in October 2014. These companies were asked to conduct a true-up by comparing customer database information in-house with information the 9-1-1 database service provider had on record.

<table>
<thead>
<tr>
<th>2014 Database Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSAGs Changed</td>
</tr>
<tr>
<td>MSAGs Reviewed</td>
</tr>
<tr>
<td>Telephone numbers effected by MSAG changes</td>
</tr>
<tr>
<td>Telephone numbers reviewed</td>
</tr>
<tr>
<td>Telephone numbers corrected</td>
</tr>
<tr>
<td>Error Reports</td>
</tr>
</tbody>
</table>

MARC staff has continued to work with local governments to receive new addressing and map updates as well as review existing data. With synchronized data, a larger percentage of wireline 9-1-1 calls will plot correctly on the regional map used by PSAPs. This project is also directly related to NG9-1-1, in which the MSAG will be absorbed into the map data. Staff provided reports to communities in all counties within the region. This information came from a geocode project that is conducted quarterly, which includes the match rate of map data to customer records in the landline 9-1-1 database, along with a listing of the addresses that did not match. By the beginning of fourth quarter 2014, more than 87 communities had worked with MARC staff to correct address data from the geocode project.

During the month of June, the annual error report contest was conducted in which PSAPs were encouraged to submit every valid 9-1-1 and map error they discovered. In 2014, 16 agencies participated in the contest. The winning PSAPs were awarded a trophy and a perpetual plaque located in the 9-1-1 training center was updated with the names of the winners. MARC staff visited every participating PSAP and provided donuts to express appreciation.

It was brought to the attention of 9-1-1 staff that calls to 9-1-1 made from Leavenworth
County buildings located in the city of Leavenworth were routing to the police department rather than the sheriff's office. ESN 1024 had been established years ago to handle this issue, but the county changed to a VoIP phone service which did not have the database records built properly. Staff worked with their previous provider to remove 600 records from the landline database and the new provider to build the records correctly.

Staff continues to assist in the coordination of the automatic external defibrillation (AED) database which contains records of AED devices that have been registered as well as contacts for each community. In 2014, more than 175 entries were added, updated or removed from the database. Staff assisted the Independence School District in a full review and update of their AEDs on file.

2015 Action Plan

MARC public safety staff will continue working with MARC GIS staff to receive and enhance regional map data. Additionally, staff will continue to work with local governments to receive new addressing and map updates and review existing data. Staff will also continue to review geocode reports and provide data to local governments in an attempt to ensure that accuracy continues to improve.

Project: Database Provider

MARC staff will continue to work closely with the 9-1-1 database provider, conducting monthly conference calls to address current projects and outstanding issues. MARC staff will also continue to request and analyze Very Large Query (VLQ) reports from the 9-1-1 database provider for comparison with the community, county, carrier and telephone exchange totals previously provided. Cleanup work will continue based on trends and discrepancies found in the data that may not be identified using other methods. MARC staff will provide progress reports to the Public Safety Communications Board.

2014 Progress

In 2014, MARC staff received quarterly VLQ database downloads from the landline database provider. From this data, reports were run to study totals and trends and help identify areas in need of special attention.

In September 2014, the regional database totals had increased very slightly from the previous year, but less than the national average. A five-year review indicated that a decrease of 14 percent had occurred, though the majority of this decrease was due to Time Warner Cable and Comcast moving to true VoIP, which eliminated their database records.

The Private Switch (PS9-1-1) project continued in 2014. Before the new school year started, MARC staff contacted every school district in the region that subscribes to PS9-1-1, requesting they review and update any database records as appropriate.

A full review was conducted on the Emergency Service Number (ESN) spreadsheet. Each community was contacted to verify 9-1-1 call delivery, dispatch and responder information. An additional project focused on cross-referencing the ESN for each community and county code in the database was also completed. Out of 215 ESNs
reviewed, 14 changes were made.

MARC staff conducts quarterly database conference calls with AT&T to discuss concerns and projects.

**2015 Action Plan**

MARC staff will continue to monitor services provided by the regional landline database provider and other carrier activity by participating in monthly conference calls. The VLQ requests will continue on a quarterly basis, with a detailed analysis conducted and a summary provided. Staff will attempt to identify areas that need further attention and work with carriers to correct errors.

**Project: Database Software**

MARC staff will research technology and software solutions to improve automation of identifying database discrepancies or errors.

**2014 Progress**

Staff members were not able to identify sources of technology or software that could easily automate identifying database discrepancies or errors at the PSAP. However, with the geocode project, discrepancies between map data and addresses are being identified and corrected on a continual basis.

**2015 Action Plan**

MARC staff will continue to seek out technology or software that is capable of automating error reports.

**Project: Emergency Notification Systems**

MARC staff will continue to work with local governments to establish or improve their emergency notification systems by completing agreements and obtaining, analyzing and providing data.

**2014 Progress**

MARC staff worked with the city of Kansas City, Missouri, on a project dealing with emergency notification systems. The city was in the process of transitioning to a new system and needed assistance completing agreements and training employees on the new system. In the fourth quarter of 2014, Cass County began the process to obtain updated data.

**2015 Action Plan**

MARC staff will continue to work with local governments to provide assistance with agreements, data requests and data analysis.
Goal A — Objective 6:  
Ensure accuracy of the regional GIS data.

Project: GIS Constituents
Accurate map data is critical to locate a 9-1-1 caller. GIS coordinators, addressing personnel and PSAP constituents will continue to work together to provide and maintain accurate map data.

MARC staff will continue to identify strengths and opportunities for improvement of the mapping software such as streamlining map updates on 9-1-1 workstations, working with MARC GIS staff to simplify internal use of the data, reducing operating costs and improving workflow efficiency.

2014 Progress
2014 marked the fifth year that staff worked with the MARC GIS department to maintain the regional GIS data. MARC GIS provides an annual report and meets regularly with MARC staff.

Through October 2014, several jurisdictions completed a large number of map data reviews. MARC staff received more than 437 tracking packets of map data. Some jurisdictions, such as Johnson and Wyandotte counties, provide digital map data for multiple communities. As of Oct. 15, 2014, there were 16,374 street segments and 53 boundaries added or changed. Mile markers and pipeline data were also updated.

An address point subcommittee was established and met a few times in 2014. Draft NENA standards were reviewed and are awaiting final approval, using Kansas NG9-1-1 guidelines as a framework. Address point data was received from Cass County, Johnson County, Leavenworth County, Miami County and the cities of Independence and Raymore.

2015 Action Plan
Staff will continue working with MARC GIS staff to receive and enhance regional map data. Staff will also continue to work with local governments to receive new addressing and map updates as well as review existing data. With synchronized data, a larger percentage of wireline 9-1-1 calls will plot correctly on the regional map used by PSAPs. This project is also directly related to NG9-1-1.

Project: Regional Aerial Imagery
MARC staff will research the opportunity to include aerial imagery in the regional 9-1-1 map as part of the next 9-1-1 equipment upgrade which started in late 2012.

2014 Progress
Staff obtained the 2012 aerial imagery from MARC GIS, which is being used in a pilot for new regional mapping software. If accepted, updated imagery will be added every two years.
2015 Action Plan
MARC staff will complete the pilot project and determine which mapping software solution to choose. The 2014 aerial imagery will be available from MARC GIS to include in the regional map.

Project: Map Data Layers
MARC staff will incorporate existing map data to enhance the 9-1-1 map and provide better call location detail. MARC staff will also work with users to determine additional map data needs and identify the resources necessary to meet them.

2014 Progress
In 2014, MARC GIS updated both interstate mile markers and pipeline data.

2015 Action Plan
MARC staff will continue to work with local constituents to identify and develop trail data to be incorporated into the regional 9-1-1 map. MARC will continue to provide information to communities interested in installing emergency location signage.

Project: Trails Mapping for Public Safety
MARC staff will continue to work with local constituents to identify and develop trail data to be incorporated into the regional 9-1-1 map. MARC will continue to provide information to communities interested in installing emergency location signage.

2014 Progress
MARC staff continued to work with local governments to implement trails mapping and signage in their jurisdictions. In 2014, 20 trails and 188 trail sign address points were added to the regional file and incorporated into the GeoLynx mapping software. Staff also coordinated a tour of a local trail with several jurisdictions. MARC GIS staff assisted two communities with the gathering of GPS data along trails and sign location addressing points.

2015 Action Plan
MARC staff will continue to assist local governments with the trails mapping project.

Goal A — Objective 7:
Plan for and begin implementation of Next Generation 9-1-1 technologies.

Project: Next Generation 9-1-1
Under the direction of the Public Safety Communications Board and its subcommittees, MARC staff will implement a regional NG9-1-1 system that will include the migration of the existing T-1 wireless network onto the RAMBIS microwave system and a complete upgrade from the legacy ECS-1000 platform to NG9-1-1 compatible answering equipment.
Due to the complexity of IP technology and the microwave network design, these projects will be completed in phases over the next three years. MARC staff will ensure the PSAPs’ essential function of processing 9-1-1 calls is never negatively affected throughout the NG9-1-1 implementation process. This approach will also minimize the financial impact of the equipment upgrade on the counties.

MARC staff will monitor developments in NG9-1-1 technologies, and will work with the Public Safety Communications Board and its subcommittees to develop regional NG9-1-1 standards that align with national standards. MARC staff will continue to participate in local, state and national organizations and activities to learn about NG9-1-1 technologies and services.

2014 Progress
In 2014, eight PSAPs were upgraded from Sentinel Patriot 3.3 to Vesta 4.2, and new installations of Vesta 4.2 were completed at ten PSAPs. Several leased T-1s were disconnected to reduce network costs. MARC staff are reviewing the network monitoring system and have not made a purchase at this time.

Below is the current status of upgrades as of Dec. 31, 2014:

Upgraded from Sentinel Patriot 3.3 to Vesta 4.2
- Host: Johnson County
  - Johnson County ECC
  - Johnson County Sheriff
  - Shawnee Police Department
  - Raymore Police Department
  - MARC Training Center
  - Prairie Village Police Department
  - Miami County Sheriff
  - Leawood Police Department

New Installation of Vesta 4.2
- Host: Kansas City, Missouri Police Department (South Patrol)
  - Belton Police Department
  - Cass County Sheriff
  - Grandview Police Department
  - Pleasant Hill Police Department
  - Raytown Police Department
  - Riverside Police Department
  - Lee’s Summit Police Department
  - Lenexa Police Department
• **Host: Kansas City, Missouri Police Department**
  • Harrisonville Police Department
  • Jackson County Sheriff

**Equipment Ordered**
- Independence Police Department
- Clay County Sheriff
- Excelsior Springs Police Department
- Gladstone Police Department
- Liberty Police Department
- North Kansas City Police Department
- Pleasant Valley Police Department

The map on Page 16 displays the progress of regional upgrades as of Dec. 31, 2014.

**2015 Action Plans**

In 2015, MARC staff and the regional service provider will continue to upgrade PSAPs across the region. After individual upgrades are completed, leased T-1s will be disconnected to reduce network costs. A new network monitoring system will be purchased to give MARC staff and the regional service provider a more robust system to monitor alarms across the entire network.

**Project: Texting to 9-1-1**

MARC staff will continue to coordinate with vendors and monitor developments in technology that will allow texting to 9-1-1. As of May 2014, the four major wireless carriers were able to deliver text messages directly to 9-1-1 PSAPs.

**2014 Progress**

In June the official requests to receive text to 9-1-1 were submitted to AT&T, Sprint, T-Mobile and Verizon. MARC requested to use the TTY delivery option as it was the most appropriate method for the region. Per Federal Communications Commission (FCC) regulations, each carrier is given six months from the date of the request to implement texting. Since requests were submitted, staff has worked with each carrier to facilitate and test texting. The texting subcommittee met twice during the year to discuss the texting delivery method and the process of delivering training to PSAP personnel. Outreach materials are being developed for the public and will be distributed and available on the MARC website when completed.

**2015 Action Plan**

In 2015, MARC staff will continue to work with the texting subcommittee and PSAP personnel to address concerns regarding text to 9-1-1. Statistics will be analyzed to review the impact to call volume and overall system impact. Furthermore, staff will send requests to remaining wireless carriers serving the MARC region.
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Legend
- PSAPs completed
- PSAPs equipment ordered
- PSAPs not yet ordered

PSAPs Upgraded but not indicated on map

Johnson County ECC
MARC Training Center
KC MO PD BU
KC MO FD & EMS BU
Goal B: Enhance collaboration and communications capabilities among all regional public safety and emergency services agencies.

Goal B — Objective 1:
Implement a region-wide public safety data exchange.

Project: CAD-to-CAD Interface
MARC staff will work with agencies to develop an overall capability matrix of various computer-aided dispatch (CAD) system infrastructures used throughout the region. MARC staff will seek funding to support the enhancement of a regional CAD interface with coverage and compatibility throughout the region.

Working through the Regional Interoperability Committee, MARC will develop and recommend operational procedures for the data system. Once the operational procedures are approved by the Public Safety Communications Board, they will be incorporated into the Tactical Interoperable Communications Plan (TICP).

2014 Progress
In 2014, the city of Kansas City, Missouri, with support from other agencies, began investigating the feasibility of regional connectivity for a multi-agency CAD system.

2015 Action Plan
In 2015, MARC staff will assist in the coordination of regional connectivity efforts.

Goal B — Objective 2:
Support the implementation and coordination of MARRS.

Project: Metropolitan Area Regional Radio System (MARRS)
The Public Safety Communications Board, Regional Homeland Security Coordinating Committee (RHSCC) and MARC Board of Directors approved a Memorandum of Understanding for the formation of the MARRS Management Council. This board provides policy guidance and oversight for MARRS — the region-wide P-25 radio system of systems — to ensure that a high-quality, equitably financed and reliable system is available to the metropolitan area.

This project includes operational, technical and procedural planning. The host-agencies — Johnson County, Kansas, and the city of Kansas City, Missouri — will finalize the upgrades to their respective radio systems. MARC will work with the MARRS Management Council and its supporting committees to assist with the build-out of this system and the interconnection of local agencies.

2014 Progress
MARC staff continued to work with area agencies that are part of the MARRS system by providing support for the Users Committee, Standard Operating Procedures (SOP) and Technical committees. Cass County, Jackson County, the city of Raytown and the Unified Government of Wyandotte County joined the system in 2014.
2015 Action Plan

MARC staff will continue to support the MARRS Management Council, as well as the technical and users subcommittees. This is an ongoing project.

Project: MARRS Maintenance Upgrades

The MARRS Technical Committee will implement a maintenance upgrade plan. MARC staff will assist host and user agencies and vendors with system upgrades. This is an ongoing project.

Project: Connection of MARRS to State Systems

MARC staff, with guidance from the MARRS Management Council, will continue its communication with the Kansas and Missouri interoperability offices to coordinate interconnection plans for MARRS and the respective state radio systems. MARC will continue to be represented by the Regional Interoperability Communications (RIC) Committee co-chairs at the Kansas and Missouri State Interoperability Executive Committee meetings.

2014 Progress

The MARRS Technical Committee has met with the director and deputy director of the Missouri Statewide Interoperability Network (MoSWIN) to discuss connecting the state system to MARRS via the Kansas City, Missouri, system. Both the Johnson County and Kansas City, Missouri, systems were upgraded to the same software version as the MoSWIN system, so that the ISSI connection could be installed.

2015 Action Plan

MARC staff will continue to work with the state of Missouri to finalize the connection of MoSWIN to MARRS and complete necessary agreements.

Project: Support Web Emergency Operation Center (WebEOC) Activities

WebEOC is a web-based information management system that provides a single access point for the collection and dissemination of emergency or event-related information. It was designed to aid decision making by providing authorized users real-time information in a user-friendly format. WebEOC can be used during the planning, mitigation, response and recovery phases of any emergency.

2014 Progress

In 2014, staff provided administrative support for the monthly WebEOC subcommittee meetings. In addition, staff served as a liaison between end users and vendors to address software functionality as it relates to the needs of the region.

2015 Action Plan

In 2015, staff will continue to provide support to the WebEOC subcommittee co-chairs and members during monthly meetings and as needed throughout the year.
Goal B — Objective 3:  
Maintain RAMBIS to support communications among public safety professionals.

**Project: RAMBIS Maintenance**

In 2011, MARC staff developed and implemented regional area multi-band integrated system (RAMBIS) maintenance procedures using monitoring tools currently in place. MARC staff also began coordinating with the local service provider for 24/7 regular and emergency maintenance services.

**2014 Progress**

MARC staff continues to coordinate monthly RAMBIS roll calls to test the system. Additionally, RAMBIS maintenance procedures were developed for all microwave network components and interconnection facilities. Staff also worked with the regional service provider to ensure the microwave network is reliable, maintain spare equipment and ensure failed equipment was repaired in a timely manner. Assistance was provided to Cass County, Operation Greenlight, and other city, county and state agencies to interconnect microwave networks. Staff also worked with the regional service provider to reprogram existing very high frequency (VHF) Quantar equipment for use on the Metropolitan Emergency Radios System (MERS).

**2015 Action Plan**

MARC staff will continue to develop and implement RAMBIS maintenance procedures for all microwave network components and interconnection facilities. Additionally, staff will develop and implement methods and procedures for monitoring, repairing and upgrading network elements of the radio equipment, microwave equipment, DC power equipment and antennas. MARC staff and the regional maintenance service provider will replace the existing network monitoring system with a more robust solution that is capable of monitoring all aspects of the network. This is an ongoing project.

**Project: RAMBIS Access**

At the direction of the RIC Committee, MARC staff will assist with training and provide technical advice to area agencies that wish to access RAMBIS. This is an ongoing project.

**2014 Progress**

RAMBIS training is now part of the interoperable communications training curriculum. This curriculum is used to train first responders in the MARC region on interoperable assets and solutions.

**2015 Action Plan**

RAMBIS training will continue to be provided on an on-going, as-needed basis.
Project: RAMBIS Standard Operating Procedures (SOPs)

MARC staff will continue to work with public safety committees to review and update RAMBIS SOPs as needed. All operating procedures will be incorporated into the Tactical Interoperable Communications Plan (TICP) upon approval by the Public Safety Communications Board. This is an ongoing project.

2014 Progress
The Metropolitan Emergency Managers Committee (MEMC) and Regional Interoperability Communications (RIC) Committee approved the reprogramming of VHF repeaters for MERS. The programming work and licensing of frequencies were completed in 2014.

2015 Action Plan
This is an ongoing project and will be supported as needed.

Goal B — Objective 4: 
Ensure that the Tactical Interoperable Communications Plan (TICP) continues to be exercised, evaluated and modified as needed.

MARC staff, along with the RIC Committee, will review the TICP annually. MARC staff and the RIC Committee will coordinate with the RHSCC’s Training and Exercise Subcommittee to develop and execute training exercises to test and evaluate TICP procedures. MARC staff will present recommendations to the Public Safety Communications Board.

2014 Progress
The TICP was reviewed and updated in 2014 to reflect changes to regional radio systems, users and other interoperable assets. The review subcommittee met to discuss the formal audit schedule, which should be completed in 2015. The Tactical Interoperable Communications Field Operations Guide (TICFOG) is complete and was printed and made available to various personnel throughout the region.

2015 Action Plan
The TICP Review subcommittee will meet in the first quarter of 2015 for the formal review audit of the TICP. The final modified version will go before the Public Safety Communications Board for approval. In 2014, one TICP orientation was held, and two sessions will be offered in 2015. These classes should be conducted twice a year as part of the recurring training to support homeland security efforts in the region.

Additionally, MARC staff will continue to provide assistance with FCC license application management as needed.
Goal C: Enhance communications, networking and information exchange among public safety agencies and strengthen relationships with public service agencies and professional organizations

Goal C — Objective 1: 

Enhance communications with and among agencies.

Project: Information Sharing

MARC will use various existing resources, such as the public safety intranet, the PSAP Managers Forum and the MARC website, to provide up-to-date public safety communications information. MARC will ensure information is distributed using the most appropriate method(s), based on the sensitivity and target audience of the correspondence.

In 2011, MARC transitioned its Metro Communicator newsletter from print to an electronic format that is published on a quarterly basis. The electronic newsletter is emailed to MARC public safety committees, training participants, other public safety contacts, and appointed and elected officials across the region. The newsletter is also posted to the public safety intranet and the MARC public safety program website.

2014 Progress

Three issues of the Metro Communicator newsletter were sent electronically to all public safety communications contacts and committees in 2014. Links to current and past issues are available on the MARC public safety website and the public safety intranet. Also, information on the MARC website was regularly updated, providing constituents and public safety personnel better access to information.

2015 Action Plan

MARC staff will encourage local agencies to share stories with the rest of the region through the Metro Communicator. Staff will also complete an upgrade of the 9-1-1 Intranet, and will continue to provide valuable information to agencies through this site.

Project: Assist Agencies in Implementing Operational Changes

In the first quarter of 2014, the Village of Claycomo switched providers for 9-1-1 call answering and dispatch services from the Clay County Sheriff’s Office to the Kansas City Missouri Police Department. This change required working with the database and network provider to modify the routing and emergency service network (ESN) databases, phone carriers to make programming changes and GIS staff to update appropriate data layers. PSAPs were notified of the change and a wireless tower review of the area was completed.

In the third quarter of 2014, the Central Jackson County Fire Protection District PSAP closed and dispatch services were transitioned to the Kansas City Missouri Fire Department. MARC staff put forth a significant amount of work to ensure a smooth transition of services.
Goal C — Objective 2:
Continue to involve and expand stakeholder participation in various committees.

Project: Regional Networking Facilitation
MARC will coordinate regional collaboration on important multi-jurisdictional issues by ensuring that the public safety committee structure is conducive to effective participation by appropriate agency representatives. MARC and its committees will identify key initiatives that support interagency cooperation, such as proposing legislation for 9-1-1 funding in Missouri and Kansas, enhancing 9-1-1 training requirements, upgrading 9-1-1 equipment to NG9-1-1 standards and coordinating the implementation of the MARRS system. This is an ongoing project.

2014 Progress
A MARC communications technician is a member of the state of Kansas NG9-1-1 technical subcommittee and the 9-1-1 database manager is a member of the Kansas GIS subcommittee. Both subcommittees worked with a consultant to select vendors for NG9-1-1 consulting and planning services. The technical subcommittee went through a request for information process and selected vendors for interim hosted 9-1-1 solutions for the State of Kansas. Having representation at the state level allows MARC to remain engaged in the progress of the state project and ensure the alignment of regional plans to best serve our agency and citizens.

Project: PSAP Manager Orientation
MARC staff will continue to provide orientation and a PSAP manager's handbook for new public safety communications personnel at the management level. MARC staff will schedule the orientation within 60 days of the manager’s start date. The orientation provides an overview of MARC’s services and role in regional public safety communications. This is an ongoing project.

2014 Progress
No PSAP Manager Orientations were held in 2014.

2015 Action Plan
An orientation session is scheduled to be held in January 2015. Other sessions will be held as needed throughout the year.

Goal C — Objective 3:
Participate in establishing standards related to public safety communications.

Project: National Association Participation
MARC staff will take an active role on public safety communications committees, including training, database, technical, public outreach and education, and other industry-related committees.
2014 Progress

MARC staff continues to play an active role with state associations by participating in committee work and obtaining board memberships. The public safety training coordinator presented a management training class at the Missouri Public Safety Communications Conference in 2014.

Other staff members also attended various conferences in 2014. Staff used these opportunities to share information about the regional training program and the benefits it has to offer. Information was also presented about the MARC public safety program, as well as regional cooperation and collaboration.

2015 Action Plan

MARC staff will continue to take an active role with associations, committees and groups related to public safety communications. Staff will also look for other opportunities to represent the region by participating in regional, state and national meetings and conferences.

Project: Regional Training Standards

Using the MARC committee structure, staff will review and reference state and national standards to develop regional training standards for telecommunications within the regional 9-1-1 system. Regional training standards were completed and adopted in 2013. These standards are reviewed annually.

2014 Progress

The public safety training coordinator volunteered to join the Kansas State Training Standards subcommittee, which is a part of the 9-1-1 Coordinating Council.

2015 Action Plan

The development of regional training standards will continue to be reviewed in 2015. MARC staff will engage stakeholders that will be affected by any proposed training standards to develop a recommendation in 2015 for adoption.
Goal D: Ensure the financial stability of the regional 9-1-1 and public safety communications systems to sustain their long-term viability as a model of excellence.

Goal D — Objective 1: Ensure that the costs of 9-1-1 and public safety interoperability systems are shared equitably among participating jurisdictions.

**Project: Financial Planning**

The existing cost-share structure, per the 9-1-1 Interlocal Agreement, is based on population. The current county population allocations reflect the 2010 U.S. census results.

MARC staff implemented the financial planning policies enacted by the Public Safety Communications Board as part of the 9-1-1 system budget process. An important component of the 9-1-1 upgrade plan is to avoid unnecessary financing costs and to develop an ongoing equipment replacement plan. MARC staff will closely monitor expenditures to ensure the timing of upgrades meets this objective. This project will be completed annually.

**2014 Progress**

The 9-1-1 equipment upgrade project continues to be financed through the use of an equipment replacement fund. A portion of each monthly 9-1-1 county allocation bill is directed to the fund to ensure that dollars are available as needed. Upgrade purchases have been scheduled so that this fund maintains a positive balance at all times.

**2015 Action Plan**

The equipment replacement fund will continue to be used to finance the regional 9-1-1 system upgrade.

**Project: System Inventory**

The 9-1-1 equipment upgrade project continues to be financed through the use of an equipment replacement fund. A portion of each monthly 9-1-1 county allocation bill is directed to the fund to ensure that money is available as needed. Upgrade purchases have been scheduled so that this fund maintains a positive balance at all times.

**2014 Progress**

In 2014, MARC staff reallocated mobile radios (model number XTL1500) throughout the region. Grant funds were used to address the portable radio needs of eight Jackson County agencies.
2015 Action Plan

Staff will continue to update system inventory data and provide assistance to regional agencies as equipment resources become available.

Goal D — Objective 2:
Seek additional funding sources to support regional public safety communications systems.

Project: Grants

MARC staff will aggressively pursue homeland security and other grants to support enhancements to interoperable communications systems. The system enhancements will continue to guide homeland security investments, expand and improve interagency coordination and communications, and achieve optimum levels of interoperability, as defined in the SAFECOM Interoperability Continuum.

The MARC Public Safety program will continue to seek funding to strengthen survivability and disaster recovery for the regional 9-1-1 system and to support the national priorities established by the U.S. Department of Homeland Security. MARC will research and seek out grant funding on an annual basis and as new grant opportunities arise. In 2015, funding was made available for the planning and rollout of the FirstNet National Public Safety Broadband Network (NPSBN).

Project: Missouri and Kansas 9-1-1 Legislation

MARC staff will continue to work with public safety associations and industry representatives to secure wireless funding legislation. As wireline revenue decreases because regional households are replacing wireline phones with non-wireline technologies, it is becoming even more critical for the state of Missouri to enact wireless funding legislation. MARC will continue to support wireless legislation to provide a stable funding mechanism for 9-1-1 in both Kansas and Missouri.

2014 Progress

A bill was introduced in the Missouri House of Representatives that would enable counties to place a question on the ballot to tax any device capable of contacting 9-1-1. The bill passed the House by a wide margin but did not make it to the Senate floor for a vote. The bill also created a grant fund that would assist those areas that did not have enhanced 9-1-1 by taxing prepaid wireless services. The Missouri 9-1-1 Coalition met in September and agreed to submit the legislation again.

2015 Action Plan

MARC staff will provide information as needed to members of the Missouri Legislature and work with the Missouri 9-1-1 Coalition to develop legislation that will address the 9-1-1 funding needs of the region.
Goal D — Objective 3:  
Seek innovative cost-saving initiatives while maintaining the same or better quality regional systems.

Project: 9-1-1 Migration to RAMBIS Network

MARC staff will continue the process of migrating wireless and VoIP 9-1-1 traffic off of the current commercial T-1 network and over to the microwave network used by RAMBIS. This migration, which began with planning in 2011, will occur in phases.

2014 Progress

MARC staff and the regional service provider upgraded PSAPs throughout the year. A total of 12 T-1 circuits were disconnected in 2014 after PSAPs were migrated to microwave connections.

2015 Action Plan

In 2015, MARC staff and the regional service provider will continue to install new microwave links and upgrade PSAPs from the ECS-1000 legacy 9-1-1 call-taking platform to the Vesta platform. MARC staff and local government representatives will work diligently to implement capacity access, facility access and develop tower agreements. These agreements are necessary for MARC to interconnect to other networks and provide network links to regional PSAPs. After PSAPs have been transitioned to microwave connections, the existing wireless T-1s can be disconnected or repurposed, which will result in reduced network costs. This is an ongoing project.

Project: Public Safety Vendor Review

MARC staff will continue to review contracts, services and financial reports provided by existing vendors. Staff will also continue to ensure the region is receiving the most competitive pricing for vendor services.

Goal E: Provide high-quality training and education programs for public safety professionals

Goal E — Objective 1:
Explore and implement alternative training delivery methods.

Project: Training Delivery Methods

MARC staff will research new and innovative ways to deliver training to the region’s public safety communications professionals by attending appropriate local, state and national conferences and gathering information about training methods used in similar industries and disciplines.

MARC staff will complete a cost-benefit analysis to determine what alternative training methods might be viable options for the region. The public safety training coordinator will verify that alternative methods comply with state training regulations, when applicable.
Pilot classes will help measure the effectiveness of alternative training delivery methods.

2014 Progress
In 2014, one communications technician developed a series of agency-specific videos to help train calltakers and dispatchers on the new equipment being installed throughout the region. These videos were an essential tool to familiarize PSAP personnel with their new systems.

2015 Action Plan
MARC staff will continue to look at alternate training methods in 2015 that effectively deliver high-quality and interactive training to telecommunicators.

Goal E — Objective 2:
Ensure that the regional public safety training program is kept current, with contemporary training topics that appeal to various constituencies, and provides participants the opportunity to meet all applicable training requirements.

Project: Training Program Development
MARC staff will attend appropriate local, state and national conferences to learn about new and emerging topics in public safety and will monitor industry publications for material and information that can be used to update program trainings and special presentations.

MARC staff will update material — including case studies, audio examples and videos, when applicable — for four courses per quarter. The public safety training program will strengthen its instructor pool by seeking out knowledgeable and effective instructors. The public safety training coordinator will conduct an annual instructor workshop to provide new teaching techniques and continue to develop instructors’ teaching abilities.

2014 Progress
MARC staff added five new courses to the 2014 training calendar, covering topics related to management and communications.

2015 Action Plan
MARC staff will continue to search for classes that are beneficial to the public safety personnel that use MARC’s training services.

Project: Training Needs Assessment
MARC staff will conduct training needs assessments to identify any gaps within the public safety training program. The public safety training coordinator will develop recommendations, based on the results of the assessment, to be presented to Public Safety Communications Board for approval.
MARC public safety communications technicians will meet with the training coordinator at least every six months to address possible training opportunities identified by their analysis of common service and maintenance call histories. This project is ongoing.

2014 Progress
MARC staff developed ad hoc training bulletins to help communicate time-sensitive and important training information to the region’s telecommunicators. This included changes in workstation functionality and updates to the data available to telecommunicators while using the Geolynx map.

2015 Action Plan
MARC staff will continue to look for opportunities to bring new classes into the region. Staff will also continue to solicit information from PSAPs and telecommunicators about new training topics and classes.

Project: Regional Interoperable Training
MARC staff will work with the RHSCC’s Training and Exercise Subcommittee to continue to fund and provide interoperable communications training for public safety personnel.

A COML course will be offered annually. MARC’s public safety training program will host applicable interoperable communications courses as they become available. In addition, public safety communications personnel will have the opportunity to practice using regional interoperable communications assets during various trainings and exercises.

2014 Progress
MARRS User Training and a Communications Unit Leader (COML) course were offered in 2014. Additionally, a communications exercise (COMMEX) took place in the summer, which helped COMLs complete task books and become certified.

2015 Action Plan
MARC staff will work with the Office of Emergency Communications to schedule interoperable communications training courses in the region. A COML session is scheduled for the spring.
Goal F: Educate the public and elected officials about regional public safety communications services and the resources needed to provide them.

Goal F — Objective 1:  
Public Education and Outreach

Project: Volunteer Base
MARC will conduct volunteer orientations for current and prospective public outreach and education volunteers when requested. The orientation will ensure a consistent message is delivered throughout the region and will provide volunteers with the tools, information and confidence to make presentations in schools and at outreach events.

2014 Progress
MARC staff provided materials and helped coordinate multiple outreach events that took place in 2014, including six community events, two 9-1-1 Hero ceremonies and 9-1-1 Day at the Ballpark. Additionally, more than 7,000 students from more than 60 area schools were taught the proper way to use 9-1-1 through the Cell Phone Sally program.

2015 Action Plan
MARC staff will host public outreach volunteer orientations at the MARC Conference Center and will conduct on-site orientations as needed. Staff will also continue to partner with the AT&T Pioneers to deliver 9-1-1 education to schools around the region.

Project: Education and Outreach Materials
MARC staff will continue to update and use the “Important Tips about Calling 9-1-1” brochure, as well as the 9-1-1 funding legislation, interoperability and trail mapping fact sheets, and other education and outreach resources as needed.

2014 Progress
Cell Phone Sally, the regional 9-1-1 mascot, was used at several outreach events in 2014. Additionally, two children were recognized as 9-1-1 Heroes this year for using 9-1-1 to get help for family members who needed emergency medical attention. Lastly, the “Important Tips about Calling 9-1-1” brochure was thoroughly updated and reprinted in September 2014.

2015 Action Plan
Cell Phone Sally and other outreach materials will continue to be available for all regional agencies to reserve and use in their public education and outreach efforts. Additional edits to the “Important Tips about Calling 9-1-1” brochure will be made as needed.
Goal F — Objective 2: 
Educate elected officials about policy and financial issues related to public safety communications.

**Project: Informed Regional Leadership**

MARC staff will continue to work with the MARC Board of Directors, elected officials and public safety professionals to support legislative priorities for 9-1-1 funding in Missouri and Kansas.

**2014 Progress**

MARC staff participated in 9-1-1 Day at the Capitol, during which several public safety associations met with legislators to discuss issues related to funding 9-1-1 in Missouri. MARC staff also partnered with other 9-1-1 agencies at the Missouri State Fair to staff an educational booth. MARC staff and other 9-1-1 agencies attended regional meetings to explain the 9-1-1 legislation. The MARC public safety director serves on the 9-1-1 Coordinating Council for Kansas.

**2015 Action Plan**

MARC staff will meet with officials in each county on an annual basis to discuss emerging regional public safety communications issues.

Goal F — Objective 3: 
**Project: Update Interlocal Agreement**

The 9-1-1 Interlocal Cooperation Agreement was originally executed in June 1995, and was later amended on two occasions. In 2013, MARC staff, with the aid of legal counsel, developed a new interlocal agreement that accurately reflected the responsibilities and duties of participating counties, the Cass County Emergency Services Board, the MARC Board of Directors, and the Public Safety Communications Board. The agreement was signed by all parties in 2013, and the new cost-share structure was implemented in October. All participants now pay for 9-1-1 services based on their population percentage as it relates to the overall regional population. This project is complete.
## Coordination Services Revenue Comparison 2015

<table>
<thead>
<tr>
<th>REVENUE</th>
<th>2014 Budget</th>
<th>2015 Budget</th>
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</thead>
<tbody>
<tr>
<td>PS Coordination Fee</td>
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<td>$1,750,455</td>
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<tr>
<td>PS Public Education/Promo Revenue</td>
<td>$6,500</td>
<td>$6,500</td>
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<tr>
<td>PS Training Registrations/Other Revenue</td>
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<td>FY06 UASI-Interoperability</td>
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<tr>
<td><strong>Total Revenue</strong></td>
<td><strong>$1,550,758</strong></td>
<td><strong>$1,829,955</strong></td>
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## Coordination Services Expenses Comparison 2015

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<tr>
<th>EXPENSES</th>
<th>2014 Budget</th>
<th>2015 Budget</th>
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<tbody>
<tr>
<td>Salaries and Wages</td>
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<td>Employee Benefits</td>
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<tr>
<td><strong>Total Expenses</strong></td>
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<td><strong>$1,829,955</strong></td>
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