Board of Directors
Agenda
September 27, 2012

	ITEM	PRESENTER
1)	**Call to Order, Roll Call and Opening Comments**	Vice Chair Campbell – El Mirage
2)	**Approval of RWC Board Meeting Minutes from May 24, 2012** **This item is for information, discussion and action.**	Vice Chair Campbell – El Mirage Est. 2 min
3)	**Town of Paradise Valley Membership** The purpose of this item is to review and request Board approval of Paradise Valley's request to become an RWC Member. **This item is for information, discussion and action.**	Mr. David Felix – RWC Executive Director & Chief John Bennett – Paradise Valley Est. 10 min
4)	**RWC Annual Report** The purpose of this item is to review the RWC Annual Report and request Board approval. **This item is for information, discussion and action.**	Mr. David Felix – RWC Executive Director Est. 5 min.
5)	**RWC Annual Audit** The purpose of this item is to provide an update on the RWC annual audit process being conducted by Clifton-Larson-Allen (CLA) and appointment of Audit Committee. **This item is for information, discussion and action.**	Mr. David Felix – RWC Executive Director & Kelli Butz – RWC Est. 5 min.
6)	**RWC Customer Cost Model** The purpose of this item is to request the RWC Board approve the adoption of the Customer Cost Model. **This item is for information, discussion and action.**	Mr. Bill Phillips – Phoenix ITS Est. 15 min.

7)	**RWC 700 MHz Narrow-Banding, TDMA Conversion and Lifecycle Upgrades** The purpose of this item is to advise the Board of: • Revisions to the Motorola proposal • Changes in major project drivers • Budget revisions **This item is for information and discussion.**	Mr. Bill Phillips – Phoenix ITS Est. 30 min.
8)	**Executive Director's Report** a. Strategic Communications Plan b. Awards c. Federal Communications Commission Petition d. Maricopa PD Transition onto the RWC e. Salt River Pima Maricopa Indian Community **This item is for information and discussion.**	Mr. David Felix – RWC Executive Director Est. 15 min.
9)	**Call to the Public** **This item is for information only.**	Vice Chair Campbell – El Mirage
10)	**Announcements** The purpose of this item is to communicate any Board announcements and the date of the next Board Meeting: November 15, 2012 from 10:00 – 11:30 a.m. **This item is for information only.**	Vice Chair Campbell – El Mirage
11)	**Adjourn**	Vice Chair Campbell – El Mirage

Regional Wireless Cooperative

Board of Directors
2012 Meeting Schedule

Date	Location
Thursday, September 27 10:00-11:30	Phoenix City Council Chambers 200 W. Jefferson
Thursday, November 15 10:00-11:30	Phoenix City Council Chambers 200 W. Jefferson

Board of Directors
2013 Meeting Schedule

Date	Location
Thursday, January 24 10:00-11:30	Phoenix City Council Chambers 200 W. Jefferson
Thursday, March 28 10:00-11:30	Phoenix City Council Chambers 200 W. Jefferson
Thursday, May 23 10:00-11:30	Phoenix City Council Chambers 200 W. Jefferson
Thursday, July 25 10:00-11:30	Phoenix City Council Chambers 200 W. Jefferson
Thursday, September 26 10:00-11:30	Phoenix City Council Chambers 200 W. Jefferson
Thursday, November 21 10:00-11:30	Phoenix City Council Chambers 200 W. Jefferson

![Regional Wireless Cooperative logo]

Board of Directors
MINUTES
May 24, 2012

Phoenix City Council Chambers
200 West Jefferson Street
Phoenix, Arizona 85003

Board Members Present			**Board Members Absent**
Paul Adams*	Mark Gaillard	Tim Van Scoter	Wayne Clement
Wade Brannon	Jim Haner	Marc Walker	David Fitzhugh
Steve Campbell	Bob Hansen	Paul Wilson	Danny Johnson
Bob Costello	Brad Hartig	Ed Zuercher	
Chris DeChant	Charlie Meyer		
Mike Frazier	Susan Thorpe		

*Board Alternate

Staff and Public Present

Michaelanne Acree	Theresa Faull	Ron Koehler	Vicki Rios
Tahir Alhassan	David Felix	Rick Kolker	Tom Shannon
Karen Allen	John Gardner	Dave Madeya	Dale Shaw
Adam Baker	Joe Gibson	Domela McHenry	Hans Siberschlag
Brenda Buren	Loretta Hadlock	Doug Mummert	Stuart Snow
Jim Case	Jen Hagen	Cy Otsuka	Nick Spino
Dave Clarke	Dave Heck	Ron Parks	Rob Sweeney
Rick Clore	John Imig	Bill Phillips	Shannon Tolle
Dave Collett	Lonnie Inskeep	Harold Pierson	Tim Ulery

1. **Call to Order, Roll Call and Opening Comments**

    Chair Meyer called the meeting to order at 10:00 a.m. Roll call was taken and a quorum reached.

2. **Approval of RWC Board Meeting Minutes from March 22, 2012**

    Mr. Felix stated that a correction was made to the electronically provided minutes; a Board member had been listed as both present and absent; therefore, the minutes in the packet reflect the correction that the member was absent.

    A **MOTION** was made by Mr. Hartig and **SECONDED** by Mr. Hansen to approve the minutes as presented. **MOTION CARRIED UNANIMOUSLY (16-0)**.

3. **RWC Board of Directors Chairperson Nominating Committee**

Mr. Hartig expressed his appreciation to fellow nominating committee members Mike Frazier and Marc Walker. He explained that the committee believed that it would be important for the new Chair to continue to foster relationships with other regional partnerships and to maintain leadership continuity it recommended that the Vice-Chair assume the role of Chair. He stated that the committee reached out to Vice-Chair Thorpe and she accepted the nomination of Chair. He added that the committee recommended Mr. Campbell to serve the role as Vice-Chair.

Mr. Hartig thanked everyone who participated in the nomination process. He also expressed his appreciation to Chair Meyer for his leadership in addressing regional needs during his time as Chair. He further thanked Vice-Chair Thorpe and Mr. Campbell for their willingness to serve in the important roles of Chair and Vice-Chair.

A **MOTION** was made by Mr. Hartig and **SECONDED** by Mr. Zuercher to approve Susan Thorpe as Board Chair. **MOTION CARRIED UNANIMOUSLY (16-0)**.

A **MOTION** was made by Mr. Hartig and **SECONDED** by Mr. Zuercher to approve Steven Campbell as Board Vice-Chair. **MOTION CARRIED UNANIMOUSLY (16-0)**.

Chair Meyer turned the meeting over to newly elect Chair Thorpe to facilitate the remainder of the meeting.

4.   **Certificate of Achievement for Excellence in Financial Reporting**

Vicki Rios of the local branch of the Government Financial Office (GFO) of Arizona presented the RWC with a plaque in recognition of achievement for excellence in financial reporting. She expressed that some organizations apply year after year and never receive the award. She conveyed her congratulations to the RWC.

Mr. Felix recognized Tahir Alhassan, former Accountant III, with a plaque in appreciation for his contributions to the RWC and his efforts in submitting the RWC for the GFO recognition.

5.   **RWC Policies for Approval**

a. Radio Amplification Systems
Mr. Felix provided an overview of this policy and explained that it provided guidance for technical staff when dealing with various city ordinances involving these devices. He expressed that Glendale Deputy Chief Chris DeChant will be bringing the topic of Radio Amplification Systems to the next quarterly State Fire Marshal's meeting hosted in Scottsdale. The concept is that Radio Amplification

devices would be tested for appropriate operations during the various fire departments' routine building inspections.

A **MOTION** was made by Mr. Gaillard and **SECONDED** by Mr. Campbell to approve the Radio Amplification Systems policy. **MOTION CARRIED UNANIMOUSLY (16-0)**.

b. Programming Authorization
Mr. Felix explained that some modifications were made to this policy which was previous approved by the Board.

In response to a question by Mr. Campbell, Mr. Felix replied that it did not apply to specific agencies' "naming conventions".

In response to a question by Chair Thorpe, Mr. Felix replied that Section 6.6 was purposefully left to read RWC Operations Manager.

A **MOTION** was made by Mr. Campbell and **SECONDED** by Mr. Frazier to approve the revised Programming Authorization policy. **MOTION CARRIED UNANIMOUSLY (16-0)**.

6.   RWC Staffing

Mr. Felix provided a staffing update. He explained that an interview process was conducted to fill the vacant Accountant III position. He stated that Kelli Butz was selected for the position and her start date would be June 11, 2012. He introduced Kelli to the Board. Chair Thorpe welcomed Kelli to the RWC.

Mr. Felix stated that Theresa Faull had accepted a Job Share position in the Human Resources Department and that she would be serving a dual role for the next few weeks to assist the RWC during the transition period. He commended and thanked Theresa for her work and contributions to the RWC. Ms. Faull thanked the Board and Mr. Felix, and expressed that she had enjoyed working with the Board Members and their staffs.

7.   Executive Director's Report

a. Glendale / Avondale Final Acceptance
Mr. Felix explained that final acceptance was received on the Glendale/Avondale project. He recognized and thanked Cy Otsuka for his work on the project.

b. Potential New Membership Evolutions (SRPMIC and PV)
Mr. Felix briefed the Board that Salt River Pima Maricopa Indian Community and Paradise Valley have both expressed interest in becoming RWC Members. He explained that staff and Motorola were working with the entities to provide technical requirements and cost analyses.

c. City of Maricopa Police onto the RWC
Mr. Felix reported that the City of Maricopa's Police Department is working on a plan to transition onto the RWC. Although Maricopa targeted July 1st to make this transition, he explained that the logistics of dispatch services was in the process of being coordinated and would draw out the transition past this target date.

d. Communications Strategic Plan
Mr. Felix updated that two joint RWC/TRWC workshops were being developed. He explained that the first meeting would be held June 5, 2012 at the Maricopa Association of Governments (MAG) Office and the second would occur the first week in August. He thanked those board members and others who volunteered to participate.

e. MAG Desert Peaks Award
Mr. Felix explained that the RWC, in conjunction with the TRWC, applied for and will be a recipient of the MAG Desert Peaks, Community Partnership Award. He requested that Board Members determine who would be the appropriate individual to accept the award on behalf of their jurisdiction.

9.   Call to the Public

None.

10.   Announcements

Mr. Felix explained that Chief Clement's absence at today's meeting was because he was dispatched to the Gladiator Fire. Chair Thorpe inquired whether the fire was still threatening the RWC's communication tower. Mr. Felix replied in the negative.

Chair Thorpe welcomed Tim Van Scoter as the new Board Member for the Sun City West Fire District.

13.   Adjournment

Chair Thorpe adjourned the meeting at 10:45 a.m.

Respectfully submitted,
Kacie Howard, Management Assistant I

Regional Wireless Cooperative

BOARD OF DIRECTORS REPORT

TO:	Regional Wireless Cooperative (RWC) Board Members	Agenda Date: September 27, 2012
FROM:	David Felix, RWC Executive Director	Item 3

SUBJECT: **PARADISE VALLEY MEMBERSHIP**

BACKGROUND
Since May of 2012, RWC staff, representatives of the cities of Phoenix and Scottsdale Information Technology Services, Motorola, Creative Communications and Patriot Tower have met with representatives of the Town of Paradise Valley to develop the Town's radio communications infrastructure and administrative plans to comply with requirements for RWC membership.

THE ISSUE
In 2010, the Town of Paradise Valley contacted the RWC to discuss the process and budget required to join the RWC. At that time the economic situation was such that Paradise Valley could not afford to upgrade their radio communications infrastructure, nor commit to the on-going fees associated with membership.

In May of 2012, Chief of Police John Bennett led a team from Paradise Valley to hold a series of meetings to determine the requirements for RWC membership. These requirements were largely associated with modernizing their infrastructure, identifying an optimal transmitter site and refine upfront membership fees and on-going costs.

On Thursday, September 13, 2012; the RWC Executive Director, accompanied by Phoenix ITS Enterprise Manager Bill Phillips and Deputy Fire Chief Doug Mummert, conducted a briefing for the Town of Paradise Valley City Council. At the conclusion of the briefing, during the regular Council meeting, Resolution #1262 was unanimously approved authorizing the Town Manager to enter into the RWC Intergovernmental Agreement (IGA). *The Town of Paradise Valley has now met all membership requirements delineated in the RWC IGA.*

Project planning and infrastructure build-out will continue over the next year with an anticipated "cut-over" in late 2013.

RECOMMENDATION
The RWC Board of Directors approve the Town of Paradise Valley for RWC Membership. The RWC Executive Committee recommends this action.

Regional Wireless Cooperative

BOARD OF DIRECTORS REPORT

TO:	Regional Wireless Cooperative (RWC) Board Members	Agenda Date: September 27, 2012
FROM:	David Felix, RWC Executive Director	Item 4

SUBJECT: **RWC ANNUAL REPORT FOR FISCAL YEAR 2011/2012**

BACKGROUND
Each year an Annual Report is published which summarizes the major activities, projects, budgetary and performance data for the RWC system.

THE ISSUE
The first Annual Report was published for fiscal year 2010-2011 to highlight activities and major accomplishments of RWC administration and system performance. The Annual Report consists of a message from the Executive Director, historical overview, mission statement, organizational structure, members, governance operating structures, financial management, future plans, projects and accomplishments and system performance data.

The Annual Report is developed as a team effort among RWC staff, Phoenix Information Technology, RWC members, project management officer, Phoenix Finance and Budget offices and Motorola. It is published at very low cost and posted on the RWC website for public review and use by member entities or other public safety communications systems administrators.

RECOMMENDATION
The Annual Report has been review by the RWC Executive Committee and is recommended for Board approval.

BOARD OF DIRECTORS REPORT

TO:	Regional Wireless Cooperative (RWC) Board Members	Agenda Date: September 27, 2012
FROM:	David Felix, RWC Executive Director	Item 5

SUBJECT: **RWC ANNUAL AUDIT FOR FISCAL YEAR 2011/2012**

BACKGROUND
The RWC Executive Director will provide an update on the RWC annual audit process being conducted by Clifton-Larson-Allen (CLA).

THE ISSUE
The annual RWC financial audit is being conducted by the firm of Clifton-Larson-Allen (CLA) -- formerly Clifton Gunderson, LLP. On August 28, 2012; RWC staff met with representatives of CLA to discuss the process and timeline. RWC Accountant III Kelli Butz has updated the Comprehensive Annual Financial Report (CAFR) for use by the audit team during their field work.

RECOMMENDATION
Similar to last year's process and based upon audit process best practices, the Executive Committee recommends that the RWC Board of Directors appoint a 3-person Audit Committee to meet with CLA and RWC staff to review the audit findings. The Audit Committee will recommend changes, develop a response if appropriate, and/or approve the draft findings and letters for final publication.

A second recommendation from CLA and endorsed by the Executive Committee is to maintain the same members of the previous Audit Committee. The purpose is to provide a level of consistency based upon the Audit Committee's experience with the first audit. CLA representatives suggest a rotation of Audit Committee members every two or three years.

If the draft documents are approved, CLA will formally brief the Board of Directors on the audit process and findings at the regularly scheduled January 2012 Board meeting.

Regional Wireless Cooperative

BOARD OF DIRECTORS REPORT

TO:	Regional Wireless Cooperative (RWC) Board Members	Agenda Date:	September 27, 2012
FROM:	RWC Executive Committee		Item 6

SUBJECT: **RWC CUSTOMER COST MODEL**

BACKGROUND
As directed by the RWC Board, the Operations Working Group (OWG), Executive Committee (EC), and Executive Director have been working for several years internally, and with their respective counterparts in the TRWC to address a request for operational talkgroups on the RWC network. The RWC Board authorized the temporary use of two Interoperable talkgroups, and then authorized two interim talkgroups, assigned specifically for Mesa Police investigations, on the RWC. Mesa agreed to pay the current O&M rate for the latter talkgroups. The RWC Board's authorization was granted through July 1, 2011, which has been extended to the present. The above working groups were tasked to see if a broader, more generic solution could be developed.

A lot of time, effort and research have been devoted to solving this issue. The problem is clearly not a technical issue, as there are numerous technical solutions available. The real problem is how to manage such use, and find a fair and equitable method to charge for this service.

THE ISSUE
The issue was to determine if a fair and equitable method could be developed to provide direct operational use on the RWC Network by non-Members. This effort is in support of one of the activities outlined in the TRWC/RWC Joint Chairs letter of October 25, 2010.

DISCUSSION
Several models have been proposed including the RWC's Customer model, and the TRWC's airtime billing model. The OWG and Executive committees from both the TRWC and RWC have not been able to find a mutually acceptable billing model.

Upon reviewing the issue again, the OWG and EC both recommend that the RWC Customer model be utilized to permit non-member, Public Safety agencies to essentially purchase use of the RWC network. The following are the basic premises of the Customer model:

1) The purpose of the Customer category is to provide direct, operational talkgroups on the RWC network for use by non-member Public Safety agencies.
2) Customers will be given Overlay site access only.
3) Customers will be charged twice the established O&M rate (See Attachment A).
   a) Half this rate will pay for actual O&M.
   b) The remaining half will be used as an ongoing capital recovery.
   c) Customer charges will begin immediately after customer radios are activated on the network (as opposed to beginning in the following quarter for Members).
   d) Customers will be billed for every ID assigned (e.g. a Customer may NOT have 100 radios programmed with ID's but only be billed for 30 that may be in use at any given time)
4) The RWC will determine if an agency is to become a Customer or a Member.
5) A new membership category will not be created; rather the Customer model will be handled under the RWC Overlay Site Policy.
   a) Customers shall abide by all RWC Policies and Procedures.
   b) Customers will be non-voting participants.
   c) No changes are required for the RWC IGA; Phoenix, as Administrative Managing Member, will enter into an IGA with each Customer on behalf of the RWC
   d) Generally, the Customer category should be used if:
      i) Less than 50 radios are to be used, but this is flexible and determined on a case-by-case basis.
      ii) No capital investment is required to bring the agency on as a Customer (e.g. no additional sites must be added, no additional channels added to any subsystem)
   e) The Customer category shall NOT be used for commercial participants such as SWA or PMT.
   f) The number of talkgroups allowed for each Customer is limited. The general rule is one talkgroup for every 50 users; exceptions may be made if the RWC is satisfied that traffic will be very limited on extra talkgroups.

RECOMMENDATION
The Operations Working Group, and Executive Committee request the RWC Board approve establishing the Customer category and billing model based on the premises noted above.

Attachment A

"Customer" Category Recovery (Revised Proposed Model)
Computed at 2x the Planned RWC O&M Rate

Revised: 08/01/2012

Amount to Recover	$450,000	Based on adding one channel at all 7 High sites.
Member O&M Fee/Radio/Month	$39.35	Projected O&M Rate for 2012/13; Note: The O&M rate now incorporates RWC staff and Upgrade Costs which used to be separate Special Assessments
Customer Fee/Radio/Month	$78.70	Amount to charge the Customer which includes O&M and Capital Recovery; San Diego example for Customer Fee is approx 2x the Member O&M rate

Number of Radios	Startup Fee	Annual Ongoing Cost	Cummulative Costs By Year									
			1	2	3	4	5	6	7	8	9	10
Capital Recovery Only With No Start-Up Fee												
25		$11,805	$11,805	$23,610	$35,415	$47,220	$59,025	$70,830	$82,635	$94,440	$106,245	$118,050
50		$23,610	$23,610	$47,220	$70,830	$94,440	$118,050	$141,660	$165,270	$188,880	$212,490	$236,100
100		$47,220	$47,220	$94,440	$141,660	$188,880	$236,100	$283,320	$330,540	$377,760	$424,980	$472,200
150		$70,830	$70,830	$141,660	$212,490	$283,320	$354,150	$424,980	$495,810	$566,640	$637,470	$708,300
200		$94,440	$94,440	$188,880	$283,320	$377,760	$472,200	$566,640	$661,080	$755,520	$849,960	$944,400
250		$118,050	$118,050	$236,100	$354,150	$472,200	$590,250	$708,300	$826,350	$944,400	$1,062,450	$1,180,500
300		$141,660	$141,660	$283,320	$424,980	$566,640	$708,300	$849,960	$991,620	$1,133,280	$1,274,940	$1,416,600
350		$165,270	$165,270	$330,540	$495,810	$661,080	$826,350	$991,620	$1,156,890	$1,322,160	$1,487,430	$1,652,700
400		$188,880	$188,880	$377,760	$566,640	$755,520	$944,400	$1,133,280	$1,322,160	$1,511,040	$1,699,920	$1,888,800
500		$236,100	$236,100	$472,200	$708,300	$944,400	$1,180,500	$1,416,600	$1,652,700	$1,888,800	$2,124,900	$2,361,000
600		$283,320	$283,320	$566,640	$849,960	$1,133,280	$1,416,600	$1,699,920	$1,983,240	$2,266,560	$2,549,880	$2,833,200
700		$330,540	$330,540	$661,080	$991,620	$1,322,160	$1,652,700	$1,983,240	$2,313,780	$2,644,320	$2,974,860	$3,305,400
800		$377,760	$377,760	$755,520	$1,133,280	$1,511,040	$1,888,800	$2,266,560	$2,644,320	$3,022,080	$3,399,840	$3,777,600
900		$424,980	$424,980	$849,960	$1,274,940	$1,699,920	$2,124,900	$2,549,880	$2,974,860	$3,399,840	$3,824,820	$4,249,800
1000		$472,200	$472,200	$944,400	$1,416,600	$1,888,800	$2,361,000	$2,833,200	$3,305,400	$3,777,600	$4,249,800	$4,722,000
Cumulative O&M Cost Only												
25		$11,805	$11,805	$23,610	$35,415	$47,220	$59,025	$70,830	$82,635	$94,440	$106,245	$118,050
50		$23,610	$23,610	$47,220	$70,830	$94,440	$118,050	$141,660	$165,270	$188,880	$212,490	$236,100
100		$47,220	$47,220	$94,440	$141,660	$188,880	$236,100	$283,320	$330,540	$377,760	$424,980	$472,200
150		$70,830	$70,830	$141,660	$212,490	$283,320	$354,150	$424,980	$495,810	$566,640	$637,470	$708,300
200		$94,440	$94,440	$188,880	$283,320	$377,760	$472,200	$566,640	$661,080	$755,520	$849,960	$944,400
250		$118,050	$118,050	$236,100	$354,150	$472,200	$590,250	$708,300	$826,350	$944,400	$1,062,450	$1,180,500
300		$141,660	$141,660	$283,320	$424,980	$566,640	$708,300	$849,960	$991,620	$1,133,280	$1,274,940	$1,416,600
350		$165,270	$165,270	$330,540	$495,810	$661,080	$826,350	$991,620	$1,156,890	$1,322,160	$1,487,430	$1,652,700
400		$188,880	$188,880	$377,760	$566,640	$755,520	$944,400	$1,133,280	$1,322,160	$1,511,040	$1,699,920	$1,888,800
500		$236,100	$236,100	$472,200	$708,300	$944,400	$1,180,500	$1,416,600	$1,652,700	$1,888,800	$2,124,900	$2,361,000
600		$283,320	$283,320	$566,640	$849,960	$1,133,280	$1,416,600	$1,699,920	$1,983,240	$2,266,560	$2,549,880	$2,833,200
700		$330,540	$330,540	$661,080	$991,620	$1,322,160	$1,652,700	$1,983,240	$2,313,780	$2,644,320	$2,974,860	$3,305,400
800		$377,760	$377,760	$755,520	$1,133,280	$1,511,040	$1,888,800	$2,266,560	$2,644,320	$3,022,080	$3,399,840	$3,777,600
900		$424,980	$424,980	$849,960	$1,274,940	$1,699,920	$2,124,900	$2,549,880	$2,974,860	$3,399,840	$3,824,820	$4,249,800
1000		$472,200	$472,200	$944,400	$1,416,600	$1,888,800	$2,361,000	$2,833,200	$3,305,400	$3,777,600	$4,249,800	$4,722,000
Total Cumulative Cost to the Customer Without Start-Up Fee												
25		$23,610	$23,610	$47,220	$70,830	$94,440	$118,050	$141,660	$165,270	$188,880	$212,490	$236,100
50		$47,220	$47,220	$94,440	$141,660	$188,880	$236,100	$283,320	$330,540	$377,760	$424,980	$472,200
100		$94,440	$94,440	$188,880	$283,320	$377,760	$472,200	$566,640	$661,080	$755,520	$849,960	$944,400
150		$141,660	$141,660	$283,320	$424,980	$566,640	$708,300	$849,960	$991,620	$1,133,280	$1,274,940	$1,416,600
200		$188,880	$188,880	$377,760	$566,640	$755,520	$944,400	$1,133,280	$1,322,160	$1,511,040	$1,699,920	$1,888,800
250		$236,100	$236,100	$472,200	$708,300	$944,400	$1,180,500	$1,416,600	$1,652,700	$1,888,800	$2,124,900	$2,361,000
300		$283,320	$283,320	$566,640	$849,960	$1,133,280	$1,416,600	$1,699,920	$1,983,240	$2,266,560	$2,549,880	$2,833,200
350		$330,540	$330,540	$661,080	$991,620	$1,322,160	$1,652,700	$1,983,240	$2,313,780	$2,644,320	$2,974,860	$3,305,400
400		$377,760	$377,760	$755,520	$1,133,280	$1,511,040	$1,888,800	$2,266,560	$2,644,320	$3,022,080	$3,399,840	$3,777,600
500		$472,200	$472,200	$944,400	$1,416,600	$1,888,800	$2,361,000	$2,833,200	$3,305,400	$3,777,600	$4,249,800	$4,722,000
600		$566,640	$566,640	$1,133,280	$1,699,920	$2,266,560	$2,833,200	$3,399,840	$3,966,480	$4,533,120	$5,099,760	$5,666,400
700		$661,080	$661,080	$1,322,160	$1,983,240	$2,644,320	$3,305,400	$3,966,480	$4,627,560	$5,288,640	$5,949,720	$6,610,800
800		$755,520	$755,520	$1,511,040	$2,266,560	$3,022,080	$3,777,600	$4,533,120	$5,288,640	$6,044,160	$6,799,680	$7,555,200
900		$849,960	$849,960	$1,699,920	$2,549,880	$3,399,840	$4,249,800	$5,099,760	$5,949,720	$6,799,680	$7,649,640	$8,499,600
1000		$944,400	$944,400	$1,888,800	$2,833,200	$3,777,600	$4,722,000	$5,666,400	$6,610,800	$7,555,200	$8,499,600	$9,444,000

BOARD OF DIRECTORS REPORT

TO:	Regional Wireless Cooperative (RWC) Board Members	Agenda Date: September 27, 2012
FROM:	RWC Executive Committee	Item 7
SUBJECT:	**RWC 700 MHZ NARROW-BANDING, TDMA CONVERSION AND LIFECYCLE UPGRADES**	

BACKGROUND
As a reminder, this project is necessary to meet the federal mandate to narrow-band all 700 MHz frequencies by January 1, 2017, and perform key lifecycle upgrades to replace components that are no longer supported. The issue of RWC 700 MHz narrow-banding, TDMA Conversion and Lifecycle Upgrades has been discussed at several, previous RWC Board of Directors' meetings. The project description and details will not be discussed in this report, but are included in Attachment A.

At the last Board meeting, the Board approved a tentative revised budget of $42.5 M including long term financing over six (6) years. This budget was a reduction from the earlier project estimate of $51 M (not including financing charges).

ISSUE
The purpose of this report is to advise the RWC Board of the revisions to the Motorola proposal, changes in major project drivers, and present a revised budget to accomplish this project.

DISCUSSION
There are several factors which are driving this project. These factors are:

a) Federal mandate to narrow-band all 700 MHz frequencies by January 1, 2017.
b) Federal mandate to re-band the 800 MHz frequencies.
c) Lifecycle upgrades required due to equipment no longer being supported by the manufacturer.
d) The continuing poor economic situation.

Although listed as the last factor, the poor economic situation is probably the most critical. This, coupled with the high cost of the project and the high cost of the subscriber and console replacements, make it highly desirable to extend the project completion to give the Members as much time as possible to fund the project, and the subscriber replacements in particular.

Factor (a) above, may be delayed or extended indefinitely, but there is no guarantee of any such action. Since the last Board meeting, the RWC partnered with several other agencies to file a petition with the FCC requesting an extension of the narrow-banding deadline to at least 2019 to permit Members more time to provide funding for the project. The request also noted an option to allow the local Regional Planning Committee to decide when the narrow-banding conversion should take place based on local needs. This would postpone the final conversion indefinitely. The RWC has also filed comments in support of the State of Louisiana's request for similar actions. There has not yet been any response from the FCC.

A change in factor (b) has a strong effect on this project. The 800 MHz Re-Banding treaty with Mexico has been signed. This is a major project driver if the RWC wishes to take advantage of the "Cash-Out" option and use that revenue to offset the cost of accomplishing this project. However, this driver has the opposite effect to factor (a), in that this forces a shortening of the timeline to accomplish the project. In order to use the "Cash-Out" option, the RWC must get off its 800 MHz frequencies within the same timeframe as it would take to re-band these frequencies. Based on current estimates for the re-banding project, this means the RWC must be off the 800 MHz frequencies within three years as shown in the timeline in Attachment A (Pg 10). A conservative estimate is that about $4.3 M could be used to offset our project costs, which makes using the "Cash-Out" option fiscally prudent.

Factor (c), the lifecycle upgrades, has not changed and will not be elaborated upon except to state that these upgrades must take place to keep the system up to date and supportable.

In order to work within the constraints of the project drivers, it is recommended the project be divided into two parts. The first, to be called the "hardware upgrade", must be accomplished within three years, and will make the necessary infrastructure changes and conversion from 800 MHz to 700 MHz. This will enable the RWC to comply with the 800 MHz Re-Banding requirements and use the revenue from the "Cash-Out" to offset the cost of this portion of the project. As shown in Attachment A (Pg 9), the cost of this part of the project is $25.4 M including credit from the "Cash Out" but not including any finance charges.

The second part of the project, to be called the "TDMA conversion", is the actual narrow-banding of the system which is estimated to cost $17.7 M. Although shown, on the project timeline (Attachment A (Pg 10)) as being completed in late 2016, this part of the project may be deferred depending on the outcome of the FCC petitions. Although it is highly likely the FCC will move the deadline, it is unknown if they actually will move it, and if so, by how much. Thus, there is a risk in adopting this approach. If the deadline is not moved, the RWC could be forced to complete the project by 2017 at a very high and immediate cost, or face penalties for not complying.

If the TDMA conversion is not immediate, the RWC faces additional costs to provide enough capacity for safe operation on the network during the period the conversion is

deferred. This cost is estimated at $6.9 M (with taxes) and is included in the $25.4 M cost of the infrastructure upgrade portion of the project Attachment A (Pg 9). This is the worst case cost, and staff is looking into possible alternatives to reduce this expense.

Given the complexity and unknown timeframe of the project, Staff recommends that the contingency be increased. In the original estimates, RWC, Project Management (PM), console and contingency costs were $963 K, of which contingency was about $400 K. This has been revised to provide about $1.5 M in contingency, which is still less than the normal 5% to 10% contingency for a project of this size and complexity.

Attachment A (Pg 11) shows a basic funding timeline and the funding required from each Member. This distribution of costs does not include the addition of Maricopa Police, Paradise Valley, or SRPMIC which could affect the distribution depending on when they actually become users on the network. Also, the total costs are shown as if the full project is completed by the FCC mandated deadline of January 2017. The $17.7 M shown in FY 16/17 may be deferred two (2) years or more depending on whether or not the FCC changes the deadline, and if so, by how much.

Attachment A (Pgs 12 &13) show the approximate cost of subscriber and console replacements for the RWC Members. These are estimates based on the RWC inventory, with costs approximated based on the type of radio and the most likely replacement radio. These are end user costs, are the responsibility of each Member, and are not included in the project costs. These costs are provide for information only to help assess each Member's total overall costs

As already noted, staff is looking into alternatives to reduce the cost of the capacity expansion. The following are several other areas that may reduce the total bottom line, but which cannot be estimated at this time:

a) The cash-out estimate of $4.3 M is conservative and some additional funding may be available from this option.
b) Motorola may provide trade-in credits for the STR base stations that are returned after replacement with GTR's.
c) Once the final conversion to TDMA is accomplished, Motorola may provide trade-in credit for and excess GTR's that are not longer required as part of the capacity increase.

The Board has already approved a conceptual plan to fund the project over a six year period. This plan may no longer be applicable given the two part approach being proposed. A combination of direct payment and financing may be applicable.

RECOMMENDATION
This report is for information only to the RWC Board of Directors. It is intended to provide the Board with the latest status of the project, the potential to divide the project into two parts, and the resulting cost so the Board may review the information and have time to consider the impacts and funding concerns. No decision is required at this time,

but staff requests input, guidance, and/or suggestions from the Board. A final decision will need to be made by the end of this calendar year, or very early next year.

Attachments:

A) RWC 700 MHz Narrow-Banding, TDMA Conversion, and Lifecycle Updates, and 800 MHz Re-Banding Project Details; Revised September 17, 2012

RWC 700 MHz Narrow-Banding, TDMA Conversion and Lifecycle Updates, and 800 MHz Re-Banding Project Details

Outline

1) Executive Summary

The purpose of this project is to comply with Federal mandates to narrow-band the 700 MHz spectrum used by the Regional Wireless Cooperative (RWC) by converting the RWC system to the Time Division Multiple Access (TDMA) protocol and implementing several key lifecycle changes required due to equipment obsolescence. The project also considers the Federal mandate for 800 MHz re-banding and integrates it with the overall project by converting the entire RWC network to use only 700 MHz frequencies, eliminating the need to re-band the 800 MHz frequencies.

The new status of the federal 800 MHz Re-Banding mandate, and the current financial issues pressing on all RWC Members requires dividing the project into two main phases for the infrastructure upgrade. The first phase must be completed within the next three years in order to use the Re-Banding cash-out option to offset some of the cost of this project. This phase requires the upgrade of all infrastructure and a move off the RWC's 800 MHz frequencies to all 700 MHz frequencies. The cost of this phase is $25.4 M (not including financing).

The second phase, for infrastructure upgrade, is the final conversion to 700 MHz Narrow-Banding. This phase is included in the current project funding in FY 16/17, but may be deferred until an unspecified time to permit Members a longer time frame to fund large end user costs for subscribers. The cost of this phase is estimated at $17.8 M (not including financing).

The overall project cost is $43.1 M, after applying credits. Attachment A shows the Summary of Costs for the project and compares the last project estimate with the current estimated cost. If the final Narrow-Banding and TDMA conversion is deferred, additional capacity will be required to maintain the system at reliable operational levels during the period of the deferral. These costs are currently included in the project to show the worst case scenario. Attachment B shows the Summary Costs along with an estimated timeline. Although the Board approved a six (6) year financing term, this has not been included in the current estimates due to the change in schedule with the possible deferral of final project completion until an unspecified date.

It should be noted that the FCC has NOT deferred the deadline for the Narrow-Banding mandate, therefore there is considerable risk in planning to proceed assuming there will be a deferral of the deadline. Many agencies have filed requests for deferral with the FCC, including the RWC, and while there has been no official word yet, it appears that a deferral is likely. If the FCC does not defer the mandated deadline, the RWC could face significant fines.

The final part of the project is for all of the end user changes required, such as replacing radio subscribers and Gold Elite consoles, and/or upgrading the existing MCC 7500 consoles. This portion of the project may be deferred to an unspecified date, but must coincide with completion of the second phase above. The cost for this portion of the project is borne individually by each RWC Member for their respective equipment.

2) **Description of Project Elements**

   a) 700 MHz Narrow-Banding: In order to expand the availability of radio frequencies for public safety use, the FCC has mandated that all 700 MHz frequencies be narrow-banded by 2017. Current frequency channels have a bandwidth of 12.5 KHz, and narrow banding reduces this bandwidth to 6.25 KHz. This effectively doubles the availability of frequencies. The FCC is currently requiring that all 700 MHz channels be narrow-banded by January 1, 2017. There is some movement towards extending this deadline, or putting the date for conversion in the hands of the local Regional Planning Committees (RPC's). If the FCC acts as it typically has in the past, even though an extension is likely, the FCC will NOT make any early pronouncements of an extension to keep pressure on agencies to move forward with their plans to narrow-band. Thus, unfortunately, it is imperative that until official notification is issued by the FCC, all planning must rely on meeting the existing January 1, 2017 deadline.

   b) TDMA Conversion: Frequency Division Multiple Access (FDMA), and Time Division Multiple Access (TDMA) are communications protocols which control how radios communicate with each other on a Project 25 radio network. The RWC currently uses the FDMA protocol which is part of the Phase I Project 25 Standard. TDMA is part of the Phase II standard. Instead of literally cutting the bandwidth of a channel in half, the TDMA protocol allows two radio conversations to occur on one channel. This method of narrow-banding is called six and a quarter equivalency, or 6.25e.

The RWC has been planning for the 700 MHz narrow-banding, and all 700 MHz equipment added to the RWC network is 6.25e capable. Meeting the FCC deadline with this equipment would only require a software upgrade, with some minor hardware changes to the infrastructure. Although both the TDMA and FDMA protocols may be used on the same system, they cannot be used on the same talkgroup at the same time. This limits the seamless roaming ability. Thus, in order to comply with the Federal mandate, the RWC must not only convert the 700 MHz parts of the system to TDMA, the entire network, including 800 MHz sub-systems, must also be converted to TDMA, in order to maintain seamless roaming.

c) Lifecycle Updates: As with any system, as the system ages and/or is updated, equipment and software changes and older versions, particularly hardware versions, must be replaced. Software updates are covered by ongoing contracts, but hardware upgrades are handled separately. A new System Upgrade Assurance II (SUA II) plan has been put in place which combines most hardware and all software updates in one package. This package provides updates every two years as follows: v7.11 in 2013; v7.14 in 2015; v7.xx (version number TBD) in 2017. Neither the STR Base Stations nor the Gold Elite consoles will work under software version 7.xx and therefore both would normally need to be replaced by the end of 2016. Also, the STR Base Stations and the Gold elite consoles do not support the TDMA protocol and therefore must be changed out by the end of 2016 to coincide with the FCC mandate for narrow-banding.

 The SUA II agreement is not all inclusive in that platform changes are not part of the agreement and must still be handled separately. The STR to GTR base station and Gold Elite to MCC 7500 console upgrades are the two critical platform changes that must be handled. The STR and GTR base stations are the transmitters and receivers of the system. The STR product is no longer being manufactured, will be ten years old by the time it is replaced, and, as of 2014, will no longer be supported. The STR also will not support the TDMA protocol. Other required upgrades involve consoles and subscribers which are described below.

d) 800 MHz Re-Banding: This is another FCC mandated project. Many of the existing public safety 800 MHz frequencies are interleaved with and in close proximity to 800 MHz frequencies used by the cellular carriers, and almost exclusively by Sprint/Nextel. Due to the proliferation of cellular sites, public safety users often experience debilitating interference to their communications from the cellular carriers, usually in areas in proximity to the cellular towers. Even though the carriers respond positively and try to change power levels, adjust antenna gain and orientation, the interference cannot be totally eliminated due to the proximity, and overall power of the cellular frequencies. Therefore the FCC mandated that all 800 MHz public safety frequencies be re-banded ("moved") to eliminate the proximity to cellular carrier frequencies. The new 800 MHz band is essentially moved about 15 MHz downwards, making it nearly contiguous with the 700 MHz public safety frequencies. Relocation of the 800 MHz frequencies is being funded by Sprint/Nextel in exchange for other frequencies to enhance their cellular service.

The Phoenix metropolitan area is designated part of Wave 4 (or Phase 4), which is contingent upon establishing treaties governing frequency use with bordering nations, Canada and Mexico. The treaty with Mexico was signed in June 2012 and the process will soon begin to perform the re-banding. At this time, it is most likely that the re-banding project will have to be completed within three years.

An alternative to actually re-banding the 800 MHz frequencies is the "cash-out" option. In this alternative, an agency may elect to receive a cash buy-out which may be used to get off the affected 800 MHz frequencies verses actually performing the re-banding. In the case of the RWC, the 800 MHz frequencies could be replaced with 700 MHz frequencies. Sprint/Nextel would pay, or cash-out, the RWC to make this move in lieu of re-banding. There are several requirements for using this option such as; 1) Sprint/Nextel will not pay more to move an agency than they would have paid to re-band that agency; 2) the agency must vacate the 800 MHz frequencies within the same time frame as it would accomplish the re-banding; and 3) the agency must show that it has committed any additional funding required to accomplish the move before Sprint/Nextel will pay their share.

At this time, it is estimated that about $4.3 M may be obtained from the Cash-Out option. This is a conservative estimate, and hopefully negotiations with Sprint/NEXTEL will provide more funding to offset the Members' costs.

3) Project Drivers

There are two main drivers which are forcing this project and its timeline.

The first one is what is mandating the project and that is the Federal requirement to narrow-band the 700 MHz frequencies by December 31, 2016 as explained in 2)a) and 2)b) above. This mandate drives the need to convert our infrastructure and subscribers by the December 31, 2016 deadline.

However, the second driver is forcing the project to be accomplished even more quickly than the narrow-banding mandate above, and that is the use of the 800 MHz Re-Banding "cash-out" funds to offset the costs of this project. Using these funds to offset RWC Member costs is the most fiscally prudent approach to the overall project. If these funds are used, the RWC must be off its 800 MHz frequencies within the same time frame as it would have taken to re-band those frequencies. Since the treaties have been signed, it is estimated that re-banding must occur within about three years, by late-2015 (1 year earlier than the narrow-banding deadline). Thus the project is driven by the re-banding deadline, and the infrastructure change-out and frequency change must be completed in the next three years, maximum. The RWC will have greater leverage to negotiate a favorable cash-out, the earlier we can move off the 800 MHz frequencies.

An additional driving factor is lifecycle change described in 2)c) above. While the infrastructure, base stations in particular, could be supported beyond the narrow-banding

deadline, it is difficult to determine how far beyond that date the equipment could be supported. The RWC has an extended quantity of spare base stations, but as the equipment ages and it begins to fail, those spares could be consumed quickly, or they may last for a long time; it is very difficult to predict. However, even though the equipment could be maintained longer, it will not be able to operate once the system is updated to version 7.xx in 2017. Therefore, in order to keep the system up to date and meet the federal mandates, the infrastructure must be updated to match the software update schedule. Fortunately, the software upgrade cycle and the narrow-banding mandate coincide. It must also be noted that even if the federal mandate is extended, the base stations will still need to be upgraded by early 2017.

In summary, the infrastructure change-out must be completed by early 2015 in order to make use of the 800 MHz re-banding cash out. The console and subscriber replacements, and the TDMA conversion needs to be completed by January 2017.

4) Overall Project Description

The overall project takes into consideration the requirements of all of the above factors to allow the RWC and Phoenix to comply with all federal mandates and update the system to keep it current and supportable. Motorola has provided a revised proposal, see References (a & b), which outline the cost to accomplish this project. The cost, based on this proposal, is $43.1 M to move all frequencies from 800 MHz to 700 MHz, convert the system to TDMA, and upgrade all hardware to current, supported versions of equipment. This cost includes the capacity increase and credits for the 800 MHz Re-Banding Cash-Out, but does not include financing charges

a) Infrastructure Changes

i) Description

Infrastructure changes involve two basic components. First are the changes necessary to accomplish the TDMA conversion and second are the changes required to accomplish the lifecycle updates, both described above. For the RWC, these components overlap significantly with the main component to be replaced being the STR base stations, which must be upgraded to GTR base stations. This particular change enables the RWC to meet FCC mandates as well as replace aging infrastructure that is no longer being supported.

This is a significant project which must be approached carefully since major hardware components are being changed on a critical, operational system. To facilitate keeping the system operational, with minimal impact to the users, Motorola proposed accomplishing the project in five phases. First Simulcast C would be upgraded to make its equipment ready for the TDMA conversion. Then Simulcast A & B would go through the same conversion. The third phase would upgrade the ISR sites in a like manner.

A new fourth phase has been added to provide additional capacity to the network. Original plans included converting to TDMA and accomplishing the Narrow-Banding quickly. This would have allowed for an increase in capacity on the system since channels converted to TDMA provide twice the capacity as the current channels. This also minimized the number of base stations to be converted. However, with the final Narrow-Banding and TDMA conversion being deferred to an unspecified date, the RWC network will have less capacity than is currently used due to the cost saving measure of only converting the minimal number of channels. If the final conversion date is deferred as described in the preceding sections, the network would have to operate for an extended period at reduced capacity. Therefore an additional proposal, Reference (b), was obtained providing the cost to add capacity to critical sub-systems to maintain good system performance during the deferral period. This added $6.3 M to the cost of the project. This cost may be avoided if the TDMA conversion occurs by the FCC deadline, but that would also mean all RWC Members would have to upgrade their subscribers by this time as well, and that is even more costly than this infrastructure project.

The 700 MHz subsystems (Simulcast F, H, J) are already nearly TDMA capable, but some network and server changes are required, and thus these upgrades are reserved for the fifth and final phase. The fifth phase accomplishes the final conversion to TDMA.

This proposal is based on completing the project in time to meet the current federal 800 MHz, Re-Banding timeframe of late-2015. However, although the full cost of the project are shown based on completion by January 2017, we are planning on deferring the fifth phase based on the FCC delaying the actual 700 MHz Narrow-Banding deadline. This will allow the Members more time to change out their subscribers to be TDMA capable. Attachment B shows the proposed project timeline and total funding, without financing charges. The $17.7 M shown in FY 16/17 may be deferred if the FCC deadline is extended.

ii) Cost Distribution

The cost of the infrastructure changes is to be shared among the RWC members based on the radio counts used by each Member. Attachment C shows how the cost is distributed among the Members. The radio counts are based upon the current radio counts used for the FY 2012/13 First Quarter Billing. The radio counts are assumed to remain relatively constant over the life of the project, so there will likely be some minor changes as the project progresses. These counts also do not yet include changes that will result from Maricopa and Paradise Valley Police joining the network.

b) **Other Changes**

In addition to the infrastructure changes, which are shared among the RWC Members,

each RWC Member will incur end user costs which are born solely by that Member. End User costs include radio and console replacements, and radio reprogramming. Initially, the costs associated with certain console upgrades were also in this category, but the recent addition of the System Upgrade Assurance II (SUA II) plan has included those upgrades, so they do not need to be listed as part of the end user costs. Motorola has scheduled time with each RWC Member to develop an accurate cost estimate for these other costs. This estimate is scheduled to be developed in 2012. The estimates provided below for the console replacements are only rough estimates which will be updated once better figures are available.

i)   Subscriber Replacement and Cost Distribution

The subscribers (mobile and portable radios) that are currently used on the system are not capable of supporting the new TDMA protocol required to meet the FCC Narrow-Banding mandate. Thus the entire radio fleet must be replaced in time to meet the narrow-banding deadline. These radios should have been part of regular replacement program which would replace all radios on a 7 to 10 year schedule. Even after this capital project is completed, a regular replacement program must be instituted to keep the subscriber fleet up to date. Subscriber cost estimates, based on the current inventory of Member radios, as listed in the system, are provided only to give a more complete view of the total cost of the project. The costs have been spread out over several years, but we only have until January 2017 to complete the change-out. Attachment C shows the total radio counts and costs required to accomplish this change starting in FY 2012/13 through FY 2016/17.

The total estimated cost for subscriber replacement is $79.4 M. The detailed cost estimate is contained in Attachment D, however it must be noted that this is an estimated schedule, estimated cost and estimated distribution by RWC member. Costs may likely be slightly less as better pricing is negotiated and competition between vendors increases.

ii) Console Replacement and Cost Distribution

The RWC's Gold Elite consoles are all very old and will no longer be supported by Motorola past 2018. However, these consoles will not support the TDMA protocol required for FCC Narrow-Banding by January 2017, and therefore must be replaced in time to meet that deadline.

Attachment E displays the estimated costs to replace these consoles based the most recent Budgetary Proposal from Motorola for Phoenix Police. Accurate costs must be developed by each individual RWC Member based on their own specific requirements. Until those costs are available, project costs for console replacements are estimated to be $8.6 M as shown in Attachment E.

5) References

    a)   Motorola - RWC Lifecycle Upgrades & Conversion to 700 MHz TDMA, dated February 29, 2012
    b)   Motorola - RWC LIFECYCLE AZ-10P134B - Add-On Budgetary Proposal V3
    c)   Motorola – City of Phoenix Radio Dispatch Console Replacement, Budgetary Proposal, dated September 18, 2008

6) Attachments

   AA) Summary of Costs for Narrow-Banding, TDMA and Lifecycle Upgrade
   BB) Timeline and Summary of Costs for 700 MHz Narrow-Banding, TDMA Conversion and Lifecycle Upgrades
   CC) 700 MHz Narrow Banding, TDMA and Lifecycle Upgrade Budget Distributed by RWC Member
   DD) RWC Radio Replacement Estimated Cost and Distribution
   EE) RWC Estimated Cost and Distribution of Gold Elite Console Replacements

Attachment AA:

Summary of 700 MHz Narrow-Banding, TDMA, and Lifecycle Update Costs			
	Original Proposal January 2011	Revised Proposal February 2012	Revised Proposal with Additional Capacity
Phase I: Simulcast C	$6,875,632	$3,888,500	$3,888,500
Phase II: Simulcast A&B	$21,427,006	$15,848,100	$15,848,100
Phase III: ISR's	$1,011,833	$1,042,500	$1,042,500
New Phase IV Capacity Increase	$10,000,000		$6,885,900
RWC Staff, PM, Contingency, RWC Consoles	$963,429	$963,429	$2,000,000
Credit for 800 MHz Rebanding Cash-out			($4,300,000)
Total Costs to Accomplish 700 MHz Conversion and Lifecycle Upgrade Without Narrow-Banding	$40,277,900	$21,742,529	$25,365,000
Phase V: TDMA Conversion (To be deferred along with Subscriber Upgrades)	$10,722,100	$17,737,600	$17,737,600
Grand Total Project Cost	$51,000,000	$39,480,129	$47,402,600
RWC Costs (with Re-Banding Credit)	$51,000,000	$39,480,129	$43,102,600

Notes:

Costs highlighted in yellow are new costs to provide, additional capacity due to the deferral of converting to TDMA, increased contingency, credit for Re-Banding cash-out.

Attachment BB:

Timeline and Summary of Costs for 700 MHz Narrow-Banding, TDMA Conversion and Lifecycle Upgrades					
	Current FY FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
Timelines					
700 MHz Narrow-Banding Mandate					🟥
800 MHz Re-Banding	🟨	🟨	🟨		
700 MHz Narrow-Banding, TDMA, and Lifecycle Upgrade Project					
700 MHz Conversion and Infrastructure Upgrade	🟩	🟩	🟩		
700 MHz final Narrow-Banding and TDMA					
Cost Estimates					
800 MHz Re-Banding	($4,300,000)				
700 MHz Narrow-Banding, TDMA, and Lifecycle Upgrade Project					
700 MHz Conversion and Infrastructure Upgrade	$4,300,000	$8,455,000.00	$8,455,000	$8,455,000	
700 MHz Final Narrow-Banding and TDMA					$17,737,600
Total Cost to the RWC					$43,102,600
Grand Total Project Costs					$47,402,600
Notes:					
The above costs are without financing charges.					
The costs in FY 16/17 may be deferred to an unspecified date if the FCC deadline is extended or removed.					

Attachment CC:

700 MHz Narrow Banding, TDMA and Lifecycle Upgrade Budget Distributed by RWC Member									
				FY 12/13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	Project Total
Funding Required by Year				$4,300,000.00	$8,455,000.00	$8,455,000	$8,455,000	$17,737,600	$47,402,600
Member Shares	Radio Count	%		Distribution N/A					Total by Member
Avondale	265	1.44%			$121,401	$121,401	$121,401	$254,685	$618,888
Buckeye	193	1.05%			$88,417	$88,417	$88,417	$185,487	$450,737
Chandler	967	5.24%			$442,999	$442,999	$442,999	$929,360	$2,258,356
Daisy Mountain	5	0.03%			$2,291	$2,291	$2,291	$4,805	$11,677
El Mirage	82	0.44%			$37,566	$37,566	$37,566	$78,808	$191,505
Glendale	1,558	8.44%			$713,746	$713,746	$713,746	$1,497,355	$3,638,592
Goodyear	100	0.54%			$45,812	$45,812	$45,812	$96,107	$233,542
Guadalupe	11	0.06%			$5,039	$5,039	$5,039	$10,572	$25,690
Maricopa	16	0.09%			$7,330	$7,330	$7,330	$15,377	$37,367
Peoria	898	4.87%			$411,389	$411,389	$411,389	$863,045	$2,097,211
Phoenix	10,848	58.78%			$4,969,649	$4,969,649	$4,969,649	$10,425,741	$25,334,688
Scottsdale	1,393	7.55%			$638,156	$638,156	$638,156	$1,338,777	$3,253,247
Sun City	42	0.23%			$19,241	$19,241	$19,241	$40,365	$98,088
Sun City West	38	0.21%			$17,408	$17,408	$17,408	$36,521	$88,746
Sun Lakes	30	0.16%			$13,743	$13,743	$13,743	$28,832	$70,063
Surprise	401	2.17%			$183,705	$183,705	$183,705	$385,391	$936,505
Tempe	1,580	8.56%			$723,824	$723,824	$723,824	$1,518,498	$3,689,971
Tolleson	29	0.16%			$13,285	$13,285	$13,285	$27,871	$67,727
Total Distributed Costs	18,456	100.00%			$8,455,000	$8,455,000	$8,455,000	$17,737,600	$43,102,600

Note: Costs in FY 16/17 may be deferred if the FCC mandated deadline is extended or removed.

Attachment DD:

Estimated Subscriber Replacement Costs for RWC Members			
RWC Member	Radio Count to Replace	Estimated Cost	Comments
Avondale	251	$1,500,315	PD and Fire
Buckeye	178	$1,082,027	Fire already converted
Chandler	810	$4,195,746	PD, Fire and Muni
Daisy Mt Fire District	3	$15,081	Fire Only
El Mirage	74	$461,081	PD Only, Fire already converted
Glendale	1,871	$10,329,246	PD, Fire, Muni, and Cache
Goodyear	262	$1,223,895	PD, Fire
Guadalupe	4	$27,576	Fire already converted
Maricopa	6	$41,364	Fire Only; PD not yet on
Peoria	760	$3,275,507	PD, Fire and Muni
Phoenix	9,500	$45,337,930	PD and Muni Only; Fire already converted
Scottsdale	468	$2,454,183	PD, Fire and Muni
Sun City	8	$47,200	Fire Only
Sun City West	28	$96,303	Fire Only
Sun Lakes	21	$141,792	Fire Only
Surprise	280	$1,680,374	PD Only, Fire already converted
Tempe	1,384	$7,255,634	PD, Fire and Muni
Tolleson	38	$225,150	Fire already converted, PD not yet on
Grand Total	15,946	$79,390,404	

Notes:

1. Radio counts may differ from the billing counts since some radios have already been converted and are thus not included in the replacement calculations, and the inventory numbers used for these calculations were obtained after the counts used for billing.

2. Costs vary from jurisdiction to jurisdiction based on the types of radios in use by each jurisdiction, and the number of radios that have already been upgraded. For example, the radio count for Sun City is 42, but only 8 radios remain to be converted.

3. These costs are only estimates and provided for illustration and to show the overall magnitude of the cost. Each jurisdiction is responsible for its subscriber replacement and the costs associated with same.

Attachment EE:

City	Location	Gold Elite	MCC 750	Gold Elite Replacement Cost	MCC GPIOM to VPM Upgrade Cost
RWC Console Replacement and Upgrade Cost Estimate					
Avondale	Police	4		$228,000	
Avondale	Contingency			$22,800	
Chandler	Police		6		
Chandler	EOC		2		
Glendale	Police	12		$684,000	
Glendale	Contingency			$68,400	
Peoria			10		$210,000
Peoria	Contingency				$21,000
Phoenix	Police (PCOM)	30		$1,710,000	
Phoenix	Police (PPSB)	22		$1,254,000	
Phoenix	Fire (FS41)	12		$684,000	
Phoenix	Fire (FOPS)	21	1	$1,197,000	$21,000
Phoenix	Fire (EOC)	2		$114,000	
Phoenix	Fire (CTC)	1		$57,000	
Phoenix	Sky Harbor	9		$513,000	
Phoenix	Calvin Goode (City Operators	2		$114,000	
Phoenix	Contingency			$564,300	$2,100
Scottsdale		11		$627,000	
Scottsdale	Contingency			$62,700	
Surprise	Police		7		$147,000
Surprise	Contingency				$14,700
Tempe	Apache		15		
Tempe	South Substation		3		
Tempe	EOC		1		
Sub Totals		126	45	$7,900,200	$415,800
Totals		171		$8,316,000	
RWC	ROC		1		$21,000
RWC	ROC	2		$114,000	
RWC	Wireless Svcs	2		$114,000	
RWC	Contingency			$22,800	$2,100
Sub Totals		4	1	$250,800	$23,100
Totals		5		$273,900	
Grand Total		176		$8,589,900	

Notes:

1. Gold Elite replacement costs based on a per unit value of $57,000. This cost is based on dividing the total cost of the most recent proposal by the number of consoles replaced.

2. The contingency is necessary to account for differences in engineering, network equipment, connectivity, at each dispatch location, that is not included in the per unit cost in (1) above.

3. Chandler and Tempe have MCC 7500 consoles with VPM modules, hence no upgrades are required.

Regional Wireless Cooperative

BOARD OF DIRECTORS REPORT

TO:	Regional Wireless Cooperative (RWC) Board Members	Agenda Date: September 27, 2012
FROM:	David Felix, RWC Executive Director	Item 8

SUBJECT: **EXECUTIVE DIRECTOR'S REPORT**

The purpose of this report is to provide an update on the following five items:

A. STRATEGIC COMMUNICATIONS PLAN

BACKGROUND
The Regional Wireless Cooperative (RWC) and the Phoenix UASI received an award of technical assistance from the Federal Department of Homeland Security (DHS) Office of Emergency Communications (OEC) to enable stakeholders in the metropolitan region to develop a Strategic Communications Plan (SCMP).

THE ISSUE
Federal DHS Contract Support, with oversight from Arizona's Public Safety Interoperable Communications (PSIC) Office, facilitated the first of two strategic planning and development workshops to develop a SCMP. The development workshops will be the first key step towards developing a regional plan that identifies current and future requirements and documents the region's strategic.

The draft SCMP was distributed to workshop participants for review in preparation for the next workshop scheduled for Thursday, October 4th at Maricopa Association of Governments (MAG).

RECOMMENDATION
This item is for information and discussion.

B. AWARDS

BACKGROUND
The RWC and TRWC submitted joint nominations for the MAG Desert Peaks, Law Enforcement Coordinating Committee (LECC) and International City/County Management (ICMA) awards.

The RWC and TRWC received a MAG Desert Peak Award for Community Partnerships and the LECC's Award for Community Partnerships for Public Safety.

RECOMMENDATION
This item is for information and discussion.

C. FEDERAL COMMUNICATIONS COMMISSION PETITION

BACKGROUND
The Executive Director will provide an update related to the Federal Communications Commission (FCC) mandate that all 700 MHz frequencies must be narrow-banded by 2017.

THE ISSUE
The RWC Board of Directors approved the Executive Director to pursue signatures and filing petitions with the FCC to delay or waive the 2017 deadline to narrowband 700 MHz. The FCC is addressing the State of Louisiana's petition which was one of the models used by the RWC/TRWC's submission. Hopefully, in addressing Louisiana's petition, the FCC will modify the 2017 deadline for narrowbanding 700 MHz for all States and systems across the country.

RECOMMENDATION
This item is for information and discussion.

D. MARICOPA PD TRANSITION ONTO THE RWC

BACKGROUND
The City of Maricopa Police Department, as an RWC member, is transitioning from the Pinal County radio communications and dispatch systems onto the RWC network and Buckeye PD dispatch services.

THE ISSUE
The City of Maricopa PD has been working with the RWC and Buckeye PD to convert their fleet of mobile and portable radios for use on the RWC network, and to establish the required infrastructure to contract for dispatch services with the Town of Buckeye Police Department. The target date for completion of this project is October 1, 2012.

RECOMMENDATION
This item is for information only.

E. SALT RIVER PIMA MARICOPA INDIAN COMMUNITY

BACKGROUND
The Salt River Pima Maricopa Indian Community (SRPMIC) is in the process of modernizing their public safety radio communications system. As part of this process, they are determining if joining the RWC is a viable alternative.

THE ISSUE
Earlier this year, the SRPMIC hired Federal Engineering to assist them in conducting a technical assessment and develop alternatives for upgrading the SRPMIC public safety radio communications system and the benefits of membership in the RWC. RWC and Phoenix ITS staffs held several meetings and shared information for Federal Engineering's report to SRPMIC.

RECOMMENDATION
This item is for information only.