Regional Wireless Cooperative
Board of Directors
Agenda
March 28, 2013

	ITEM	PRESENTER
1)	**Call to Order, Roll Call and Opening Comments**	Vice Chair Campbell – El Mirage
2)	**Approval of RWC Board Meeting Minutes from January 24, 2013** **This item is for information, discussion and action.**	Vice Chair Campbell – El Mirage Est. 2 min
3)	**RWC Board of Directors Chairperson Nominating Committee** The purpose of this item is to select a committee to nominate a new Board Chairperson. **This item is for information, discussion and action.**	Vice Chair Campbell – El Mirage Est. 10 min
4)	**RWC Auditor Selection Update** The purpose of this item is to provide an update on the selection of the auditor for the RWC Financial Statement Audit. **This item is for information, discussion and action.**	Ms. Kelli Butz – RWC Accountant III Est. 10 min.
5)	**RWC Subscriber Unit (Radio) Rate for FY 2013/2014** The purpose of this item is to request approval of the subscriber unit rate for the Fiscal Year 2013/2014 budget. **This item is for information, discussion and action.**	Ms. Kelli Butz – RWC Accountant III Est. 10 min.
6)	**RWC 700 MHz Narrow-Banding, TDMA Conversion and Lifecycle Upgrades and Special Assessment** The RWC Board is requested to approve this project, its estimated total funding, and authorize the RWC to make the FY 13/14 Special Assessments only, in July 2013. This is for the Hardware Upgrade portion of the project only at this time. **This item is for information, discussion and action.**	Mr. Bill Phillips – Phoenix ITS Est. 10 min.

7)	**Executive Director's Report**
	  a. Strategic Communications Plan
	     • Governance Working Group (Brad Hartig)
	     • User Outreach Forums
	  b. RWC Inventory & Value Report
	  c. Media Request
	
	This item is for information and discussion.
		Mr. David Felix – RWC Executive Director
		
		Est. 15 min.

Regional Wireless Cooperative

Board of Directors
Agenda
March 28, 2013

8)	**Call to the Public** **This item is for information only.**	Vice Chair Campbell – El Mirage
9)	**Announcements & Future Agenda Items** The purpose of this item is to communicate any Board announcements or future agenda items. The date of the next Board Meeting: May 23, 2013 from 10:00 – 11:30 a.m. **This item is for information only.**	Vice Chair Campbell – El Mirage
10)	**Adjourn**	Vice Chair Campbell – El Mirage

Board of Directors
2013 Meeting Schedule

Date	**Location**
Thursday, January 24 10:00-12:00	Maricopa Association of Governments (MAG) 302 North 1st Avenue, 2nd Floor Phoenix, AZ 85003
Thursday, March 28 10:00-11:30	Maricopa Association of Governments (MAG) 302 North 1st Avenue, 2nd Floor Phoenix, AZ 85003
Thursday, May 23 10:00-11:30	Maricopa Association of Governments (MAG) 302 North 1st Avenue, 2nd Floor Phoenix, AZ 85003
Thursday, July 25 10:00-11:30	Maricopa Association of Governments (MAG) 302 North 1st Avenue, 2nd Floor Phoenix, AZ 85003
Thursday, September 26 10:00-11:30	Maricopa Association of Governments (MAG) 302 North 1st Avenue, 2nd Floor Phoenix, AZ 85003
Thursday, November 21 10:00-11:30	Maricopa Association of Governments (MAG) 302 North 1st Avenue, 2nd Floor Phoenix, AZ 85003

Board of Directors
MINUTES
January 24, 2013

Maricopa Association of Governments
302 N. 1ˢᵗ Avenue
Phoenix, Arizona 85003

Board Members Present			Board Members Absent
Paul Adams*	Jim Haner	Chris Nadeau*	Bob Costello
John Bennett	Bob Hansen	Tim Van Scoter	David Fitzhugh
Wade Brannon (10:06am)	Brad Hartig	Susan Thorpe	Mark Gaillard
Steve Campbell	Danny Johnson	Paul Wilson	Marc Walker
Wayne Clement	David Lind*	Ed Zuercher (10:13am)	
Chris DeChant (10:12am)	Mark Mann*		
Mike Frazier	Charlie Meyer		
*Board Alternate			

Staff and Public Present

Mirela Borsan	Domela Finnessey	Ron Parks	Nick Spino
Kelli Butz	Dave Heck	W. Perea	Mike Sumnicht
Jim Casi	Kacie Howard	Bill Phillips	Randy Thompson
Dave Clarke	Rick Kolker	Michelle Potts	Shannon Tolle
Dave Collett	Doug Mummert	John Rush	Tim Ulery
Jesse Cooper	Cy Otsuka	Vicky Scott	

1. Call to Order, Roll Call and Opening Comments

Chair Thorpe called the meeting to order at 10:02 a.m. Roll call was taken and a quorum reached.

Mr. David Felix addressed the Board members and the public and welcomed them to the meeting. Since this is first meeting held at the Maricopa Association of Governments (MAG) facility, Mr. Felix informed everyone of the amenities available.

2.   **Approval of RWC Board Meeting Minutes from November 15, 2012**

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

3.   **RWC Annual Audit for Fiscal Year 2011/2012**

Mr. David Felix briefed the Board on the audit process and where it currently stands. The Audit Committee met with CliftonLarsonAllen on January 10th and accepted their findings.

Mr. Felix introduced Mr. Ron Stearns and Ms. Irma Ashworth from CliftonLarsonAllen. Mr. Stearns addressed the Board and presented the audit findings to them. They did a comparison audit between last two fiscal years and presented them jointly. They have issued an unqualified opinion letter showing that it was a clean audit of the financial statements. Also, there was no fraudulent activity found during the audit and did not identify any material weakness or deficiency related to the audit.

Mr. Stearns then presented on RWC assets, revenues, and expenses. The RWC currently has $97,000,000 in total assets, with $95,600,000 being buildings/equipment/hard assets and $1,500,000 in cash. The total liabilities and accrued expenses are $989,000.

The RWC revenue was over $8,400,000 (an increase of over $1,000,000 from previous year) and the total expenses exceeded the revenue by over $3,600,000 but that is directly attributable to the depreciation of capital assets which had a total depreciation of $9,900,000.

Mr. Stearns mentioned two insignificant findings; accounts not being reconciled and closing out of construction progress accounts. These findings are very minor, and do not interfere with the RWC being financially sound.

Mr. Haner, a member of the RWC Audit Committee, thanked Mr. Felix, Kelli Butz, and other staff for all the hard work on the audit.

Mr. Felix thanked Kelli Butz for her hard working getting the Comprehensive Annual Financial Report (CAFR) corrected and printed in time for the Board meeting.

4.   **RWC 700MHz Narrow-Banding, TDMA Conversion & Lifecycle Upgrades**

Mr. Felix stated that this item was a review from previous meetings, but is very important because of the large financial impact to all of the members.

Mr. Bill Phillips presented a review of the upcoming project and deadlines. Project required due to the FCC mandate for 700MHz narrow-banding by January 2017 as well as infrastructure upgrades/replacements that are necessary. A detailed

project cost was given to all Board members, but budget conditions are still being discussed. The project has been divided into two parts, part one being the hardware upgrade with a cost of $25,400,000 (deadline of November 2015) and then the second part being the TDMA conversion with a cost of $17,700,000 (deadline of January 2017). Overall project, including the credit that will be given, will be $43,100,000.

Mr. Phillips also mentioned that the January 2017 deadline may change based on rulings from the FCC, but we are unsure at this time what will happen, so it is best to proceed as if the deadline is still set because there could be penalties that could be assessed if we do not comply. If the 2017 deadline is extended, then the RWC would be required to add capacity at a cost of $6,900,000.

Mr. Phillips also went on to discuss other costs to members that also need to be budgeted. Some of those costs are: non-TDMA capable subscriber replacements, dispatch console upgrades (MC7500 series), and in-building treatments will need to be able to handle the 700MHz frequencies (as well as 800MHz for the overlap time period). These in-building treatments may be in member owned facilities or privately owned facilities, but both will need to be looked at and upgraded as needed.

 The timeline for the project was reviewed, but also noted that some of those deadlines are fluid and not set at this point. Financing options are still being discussed, but a plan has not been solidified; each member may do choose a different option.

Mr. Campbell questioned if public safety had any influence over requiring private buildings to have correct, up-to-date in-building treatments. Mr. Phillips replied that every city is different, but some fire marshals have the ability to require and inspect in-building treatments, but must be careful because of increased liability on the side of the fire marshal.

5.   RWC/TRWC Joint City Manager's Meeting

Chair Thorpe informed the Board that there was a meeting held on December 17th with herself, Ed Zuercher, Charlie Meyer, Chris Brady and John Kross. This meeting was held to discuss the two systems, and look to future possibilities between the two. There was a valuable discussion between the two groups, about both the history of the systems and also current efforts to bring the two systems back together. There is cautious optimism and it seems that the TRWC goal is to have the two systems as close as possible without actually reintegrating the two systems. The two sides, along with the Governance Working Group and Technical Working Group will continue down the current path and see what possible outcomes are created. The ultimate goal is seamless operation for the end users of the systems.

Mr. Meyer addressed the Board with his views of the meeting, and explained how

he was slightly disappointed by the results. There was a commitment to continue progress on merging the two systems, but not re-integrate.

Mr. Brad Hartig informed the Board of the ongoing work of the Governance Working (GWG) group which has members from both the RWC and TRWC. The GWG has heard the results of the December 17th meeting, but will proceed with coming up with the best possible options for the two systems. The group chose to use a decision matrix concept to identify criteria and assign a weight to it; then come up with different options that best address the criteria and then will make suggestions as to the best possible options.

The Board agrees that the GWG should continue the efforts to identify options for joining the two systems.

Mr. Felix briefed the Board about the work of the Technical Working Group (TWG). The TWG was briefed by Motorola on the ISSI system and given budget estimates for this option. Technical roadmaps for the RWC and TRWC have been compared and are very close with the only difference being the current software version.

Mr. Paul Wilson asked for clarification on what the key issue is between the two systems; if it was Mesa or Phoenix being the Administrative Managing Member. Chair Thorpe reiterated that the comments in her notes were made by Mesa City Manager Chris Brady based on his opinions and past history. Mr. Ed Zuercher stated that the City of Phoenix is not opposed to another regional entity taking over the system(s) as Managing Member. Mr. Hartig explained that a regional entity managing the system is being looked at by the GWG.

Mr. Meyer also wanted to add that the December 17th meeting was held at the City of Mesa, and they really did want to bring up the past history between the two systems. It was made clear that the City of Phoenix does not want to run the systems. Mr. Meyer feels like it is up to the GWG to make progress between the two systems.

6. **RWC Inventory of Programs Status Overview for Fiscal Year 2013/2014**

Mr. Felix presented to the Board the Inventory of Programs that was submitted to the City of Phoenix Budget and Research Department. The process asked for enhancements accomplished by the RWC and the completion of the seven overlay sites, completion of the COPS System Capacity Increase, and the completion of the Simulcast J sites were listed in this category.

Next, the upcoming priorities for the RWC were listed as Phase 1 of the 700MHz infrastructure funding/conversion, to negotiate a cash-out option for the 800MHz re-banding process, and the completion of the Joint RWC/TRWC Strategic Plan were mentioned here.

Challenges were also asked for, and for this Mr. Felix mentioned having to

maintain adequate funding for the 700MHz transition, maintaining strong relationships and system compatibility with all other systems around the State. A strategic overview was also given to explain how the RWC will go about dealing with the listed priorities and challenges.

7. **Executive Director's Report**

   a. **Federal Communications Commission Petition** Mr. Felix addressed the Board that he did have an update from the FCC in regards to the petition submitted to extend the January 2017 deadline. The FCC is circulating an item to address this mandate and also a Notice of Proposed Rule Making (NPRM) seeking comment on the deadline. We still do not have a good estimate of when the FCC will make a ruling, but it is still being worked on and moving forward.

   b. **Project Update**
   Mr. Felix mentioned that the Paradise Valley project is still underway and they are working through location issues with a private land owner and other neighbors in the area. The Town will proceed with condemnation or look at easement options to ensure they are able to use the site that will best for coverage.

   c. **Super Bowl 2015**
   Mr. Felix mentioned to the board that planning for the upcoming 2015 Super Bowl has begun but will go full force after the 2014 Super Bowl. The RWC will need to be aware of the planning needed for this event and the possible impact to the upgrade project. Also, the in-building treatments for the stadium and other necessary venues will need to be looked at to make sure they are upgraded as needed.

   d. **Meeting with Motorola VP Brenda Herold**
   A meeting was held with Motorola VP Brenda Herold, Mr. Felix, Mr. Mike Sumnicht, Mr. Bill Phillips, and Mr. Ron White. Conversation was held to talk about the system and where Motorola is going in the future. There were two items that Mr. Felix brought up to Ms. Herold that were of concern to the RWC. Ms. Herold agreed to go back to her staff at Motorola and see what resolutions she can come up with.

   e. **Interoperability and Associates Update**
   An updated list of all Interoperability and Associate partners was included in the Board packet. Also shows the number of approved subscribers for each partner.

8. **Call to the Public**

None

9. **Announcements and Future Agenda Items**

Mr. Campbell suggested that there be a presentation by the AZ Broadband Network to help bring information to the Board. Mr. Felix will work with Mr. Michael Britt to see what can be scheduled.

Chair Thorpe announced that she has accepted a position with the City of Corpus Christi which she will start on March 18th. A new Chair will need to be determined.

10. **Adjournment**

Chair Thorpe adjourned the meeting at 11:08 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: March 28, 2013
FROM:	David Felix, RWC Executive Director	Item 3

SUBJECT: **RWC VACANT CHAIR NOMINATION PROCESS**

BACKGROUND
With the departure of Ms. Susan Thorpe, the RWC Chair position has been vacated. Per the RWC Governance, Vice-Chair Chief Steve Campbell has assumed the role of Chair until the Board of Directors elects a new Chair as specified in the RWC Governance.

THE ISSUE
In accordance with the RWC Governance, Section 3.2.1.2.1, Chair and Vice-Chair; "The Board of Directors shall elect one of its Members as the Chair." It further states that the Vice-Chair, "…shall execute the duties of the Chair during the absence or disability of the Chair." This language suggests a short-term situation where it is anticipated that the elected Chair would return to assume the Chair duties. The RWC Governance does not specify a process for addressing the permanent vacancy of the Chair position that faces the Board today.

Similar to replacing the Chair or Vice-Chair when they reached their 2 year term limit, it would be appropriate to follow the same process used in past election processes. This entails appointing a nominating committee of three Members of the Board of Directors to review potential candidates and make a recommendation to the full Board of Directors for election at the next Board meeting.

RECOMMENDATION
The RWC Executive Committee recommends that the Board of Directors solicit three volunteers from the RWC Board of Directors to serve on the nominating committee to nominate a new Chairperson. The nominating committee will submit a name or names of interested Board Members at the next Board of Directors meeting in May 2013 for formal election.

BOARD OF DIRECTORS REPORT

TO:	Regional Wireless Cooperative (RWC) Board of Directors	Agenda Date: March 28, 2013
FROM:	Kelli Butz, RWC Accountant III	Item 4
SUBJECT:	**RWC AUDITOR SELECTION UPDATE**	

BACKGROUND
The RWC governance states that an audit of RWC financial records will be conducted annually.

THE ISSUE
The RWC staff sent the audit solicitation to ten firms listed on the City of Phoenix, City Auditor Department's Qualified Vendor List. The RWC obtained the following response: seven proposals were received, and three firms were unresponsive. The summary below outlines each responding firm's estimated hours and fees:

Firms	Hours	Fees
Heinfeld, Meech	300	$32,900
Grant Thornton	212	$23,320
Henry and Horne	128	$19,505
Eide Bailly	200	$19,000
Price Kong	130	$19,000
Moss Adams	190	$18,900
CliftonLarsonAllen	146	$17,000

RWC staff reviewed each proposal and found that each firm was well qualified with various hours and fees. After reviewing each proposal, it was determined that CliftonLarsonAllen has extensive experience auditing joint ventures, proposed audit hours are in line with other similar audits, they have experience using the SAP accounting system, and they performed the audit for the RWC the last two fiscal years. A common industry practice is to retain the same auditing firm for a five year period; therefore, CliftonLarsonAllen was selected as the auditor for the RWC financial statements.

The audit timeline would be as follows: June - kickoff meeting, September - field work, October – final financial review; November – opinion letter.

<u>FUNDING</u>
The RWC approved budget for fiscal year 2013/2014 allocated $21,000 for audit expenses. By selecting CliftonLarsonAllen, the RWC will have a budget savings of $4,000, which will be adjusted during the budget process in the fall.

<u>RECOMMENDATION</u>
The RWC Executive Committee has been briefed and recommends Board approval of CliftonLarsonAllen as the auditor for the RWC financial statements.

BOARD OF DIRECTORS REPORT

TO:	Regional Wireless Cooperative (RWC) Executive Committee	Agenda Date: March 28, 2013
FROM:	Kelli Butz, RWC Accountant III	Item 5
SUBJECT:	**RWC FISCAL YEAR 2013/14 SUBSCRIBER UNIT RATE**	

BACKGROUND
On November 15, 2012, the RWC Board of Directors approved the budget for fiscal year (FY) 2013/14, with the understanding that the subscriber unit rate would be set in the spring of 2013. The purpose of this report is to present the FY 2013/14 subscriber unit rate.

THE ISSUE
The subscriber unit rate is determined by dividing the staffing, operations, and maintenance budget by the estimated number of units to be on the network in FY2013/14. The rate for FY2013/14 has been calculated to be $39.75, which is an increase from the current rate of $39.35. The increase in the rate is the result of decreased units on the network.

Annual Staffing, O&M	**$ 8,237,764**
Subscriber Units	**17,269**
Monthly Subscriber Rate	**$ 39.75**

THE ISSUE (continued)

The summary of the RWC's 2013/14 budget by member is reflected below for planning purposes. Members' distribution amounts for the 700MHz Narrow Banding, TDMA, and Lifecycle Upgrades in this schedule will be discussed further in agenda item number six.

RWC 2013/14 Budget Detail by Member					
Member	Radio Count	Staffing / O&M	SUAll System Upgrade	Narrow Banding, TDMA, Lifecycle Upgrade	Minimum Balance	Total Budget
Avondale	279	$ 133,090	$ 43,087	$ 120,604	$ -	$ 296,781
Buckeye	227	108,285	35,056	87,836	-	231,177
Chandler	916	436,956	141,460	440,090	-	1,018,506
Daisy Mountain	6	2,862	927	2,276	-	6,064
El Mirage	90	42,932	13,899	37,319	-	94,150
Glendale	1,261	601,530	194,740	709,059	-	1,505,328
Goodyear	100	47,703	15,443	45,511	-	108,657
Guadalupe	11	5,247	1,699	5,006	-	11,952
Maricopa	139	66,307	21,466	62,805	4,196	154,773
Paradise Valley	0	-	-	-	-	-
Peoria	899	428,846	138,835	408,687	-	976,369
Phoenix	9,818	4,683,444	1,516,221	4,937,014	-	11,136,678
Rural Metro	90	42,932	-	-	-	42,932
Scottsdale	1,368	652,572	211,264	633,966	-	1,497,801
Sun City Fire	42	20,035	6,486	19,115	-	45,636
Sun City West	43	20,512	6,641	17,294	-	44,447
Sun Lakes	30	14,311	4,633	13,653	-	32,597
Surprise	411	196,058	63,472	182,498	-	442,028
Tempe	1,511	720,786	233,348	719,071	-	1,673,205
Tolleson	28	13,357	4,324	13,198	-	30,879
Estimated Totals	**17,269**	**$ 8,237,764**	**$ 2,653,000**	**$ 8,455,000**	**$ 4,196**	**$ 19,349,960**

RECOMMENDATION

The RWC Executive Committee recommends Board approve the FY 2013/14 subscriber unit rate in the amount of $39.75.

Regional Wireless Cooperative

BOARD OF DIRECTORS REPORT

TO:	Regional Wireless Cooperative (RWC) Board Members	Agenda Date: March 28, 2013
FROM:	RWC Executive Committee	Item 6
SUBJECT:	**RWC 700 MHZ NARROW-BANDING, TDMA CONVERSION AND LIFECYCLE UPGRADES**	

PURPOSE
The purpose of this report is to review the 700 MHz Narrow-Banding, TDMA Conversion and Lifecycle Upgrade project, and request the RWC Board approve the project, its estimated funding authorize Special Assessments for Fiscal Year 2013/14.

BACKGROUND
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 again included in Attachment B.

DISCUSSION
At the January Board meeting, the Board was again advised of the main project drivers, which are listed below, as a reminder, but will not be discussed again:

  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.

As previously reported, the project was 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 in the table below and Attachment B (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 (See table below).

Although shown, on the project timeline (Attachment B (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.

Summary of 700 MHz Narrow-Banding, TDMA, and Lifecycle Update Costs	
Hardware upgrade	
Phase I: Simulcast C	$3,888,500
Phase II: Simulcast A&B	$15,848,100
Phase III: ISR's	$1,042,500
New Phase IV Capacity Increase	$6,885,900
RWC Staff, PM, Contingency, RWC Consoles	$2,000,000
Total Costs to Accomplish 700 MHz Conversion and Lifecycle Upgrade Without Narrow-Banding	$29,665,000
Credit for 800 MHz Re-Banding Cash-out	($4,300,000)
Total Cost of Hardware Upgrade with Re-Banding Credit	$25,365,000
TDMA Conversion	
Phase V: TDMA Conversion (To be deferred along with Subscriber Upgrades)	$17,737,600
Grand Total Project Cost	**$47,402,600**
RWC Costs (with Re-Banding Credit)	**$43,102,600**

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 (See Table above). This is the worst case cost, and staff is looking into possible alternatives to reduce this expense.

The project costs have not changed since last reported (See the table above). However, there have been significant changes in radio counts which affect the distribution of costs among the Members. The addition of new Members and radios has also been taken into account, and there will likely be further changes that need to be considered. At this time, the predictions account for the following changes:

a) Addition of Maricopa Police(122)
b) Reductions in Phoenix Fire and Police radios (-1030)
c) Reductions in Chandler Police (-51)
d) Reduction in Glendale Police (-297)
e) Addition of Goodyear Police (260)
f) Addition of Paradise Valley Police (63)
g) Increase in Scottsdale Fire (200)
h) Other changes as noted by Members.

Since Members need to be able to predict their budgets as accurately as possible the radio counts will be recomputed each year in September, and those counts will be used to set the cost distribution and Special Assessments for the following Fiscal years; this will give Members time to adjust their capital budgets accordingly. The Board has been shown a budget based on radio counts from July of 2012, and these radios counts, with the addition of the City of Maricopa, will be used to determine the Special Assessment for FY 13/14. The FY 13/14 Special Assessments, and predicted budgetary assessments, by Member, are shown in Attachment A. The special assessments are divided into two portions, one representing the Hardware Upgrade, which must be accomplished by November 2015, and one for the final TDMA conversion, which is likely to be delayed until an as yet unspecified date. Members should note that the assessments have changed slightly from those last reported due to the updated radio counts. Also note that the assessments for Goodyear (Police) and Paradise Valley are not yet included due to the uncertain dates at which these entities will actually come onto the network. At this time, the Board is being asked to consider only approving the special assessments for the Hardware Upgrade phase of the project.

As previously reported to the Board, the introduction of the Transition Administrator's local representative indicates that the TA and Sprint/Nextel will soon begin the negotiation process for Re-Banding. Also, the State of Louisiana was granted a delay to 2024 to accomplish their 700 MHz Narrow-Banding. This may be a positive indicator that the FCC will extend the Narrow-Banding deadline giving the Members more time to complete their radio replacements, and delay the TDMA conversion portion of the project.

The project costs cited above are only for the infrastructure changes necessary to the project. There are other items, which are the responsibility of the end users that significantly add to the overall cost of the project. These other items are:

a) Replacement of all non-TDMA capable subscribers.
b) Upgrade all dispatch consoles to the MCC 7500 series. Users of 4000 series consoles need to work with Motorola regarding upgrades/replacements.
c) Upgrade all in-building treatment systems to be 700/800 MHz capable.

All of these items have been discussed in the past; this is just a reminder to ensure that all Members are considering all aspects of the project. The radio replacements must be

accomplished by the time the infrastructure is converted to TDMA. As pointed out above, this date is currently January 1, 2017, but is very likely to be delayed. Consoles need to be upgraded within the next three years to coincide with the hardware upgrade, so that consoles remain compatible with the infrastructure and software version. Note that there may actually be a short period of time to extend the console replacements beyond three years, but this is not recommended.

Finally, if any in-building treatment systems have been used to enhance in-building radio coverage, those systems must all be converted to handle both 700 and 800 MHz frequencies. Note there are two aspects of in-building treatments to consider; a) treatment systems owned by the Member, which are the responsibility of the Member to upgrade, and b) commercial/private buildings that have been treated, for which the Member may need to advise the owner of the need to upgrade their systems. Since databases for the latter do not necessarily exist, this may be an issue that will not become known until after the fact. The timeframe to upgrade these systems must coincide with the hardware upgrade portion of the project since the system will be converted to all 700 MHz within that period.

RECOMMENDATION
The RWC Board is requested to approve this project, its estimated total funding, and authorize the RWC to make the FY 13/14 Special Assessments only, in July 2013. This is for the Hardware Upgrade portion of the project only at this time. Special Assessments, also for the Hardware Upgrade, for FY 14/15 and FY 15/16 will be brought to the Board for authorization in September of each preceding fiscal year. Finally, Special Assessments for the TDMA Conversion will be determined after a final date for the transition is announced by the FCC. The Executive Committee recommends approval as stated above.

Attachments:

  A) RWC 700 MHz Narrow-Banding, TDMA Conversion, and Lifecycle Updates, Special Assessments by Member
  B) RWC 700 MHz Narrow-Banding, TDMA Conversion, and Lifecycle Updates, and 800 MHz Re-Banding Project Details; Revised March 19, 2013

Attachment A: RWC 700 MHz Narrow-Banding, TDMA Conversion, and Lifecycle Updates, Special Assessments by Member

700 MHz Narrow Banding, TDMA and Lifecycle Upgrade **Hardware Upgrade** Distributed by RWC Member						
	FY 13-14		FY 14-15		FY 15-16	Project Total (With Re-Banding Credit)
Funding Required by Year	$8,455,000		$8,455,000		$8,455,000	$25,365,000
Member Shares	Radio Count	Amount	Radio Count		Radio Count	Total by Member
Avondale	265	$120,604	279	$137,316	292	$138,700	$396,619
Buckeye	193	$87,836	227	$111,723	217	$103,075	$302,634
Chandler	967	$440,090	916	$450,828	915	$434,625	$1,325,543
Daisy Mountain	5	$2,276	6	$2,953	6	$2,850	$8,079
El Mirage	82	$37,319	90	$44,295	90	$42,750	$124,364
Glendale	1,558	$709,059	1,261	$620,627	1,261	$598,975	$1,928,661
Goodyear	100	$45,511	100	$49,217	360	$171,000	$265,728
Guadalupe	11	$5,006	11	$5,414	11	$5,225	$15,645
Maricopa	138	$62,805	139	$68,412	151	$71,725	$202,942
Paradise Valley	0	$0	0	$0	63	$29,925	$29,925
Peoria	898	$408,687	899	$442,461	902	$428,450	$1,279,599
Phoenix	10,848	$4,937,014	9,818	$4,832,132	9,818	$4,663,550	$14,432,695
Scottsdale	1,393	$633,966	1,368	$673,289	1,568	$744,800	$2,052,055
Sun City	42	$19,115	42	$20,671	42	$19,950	$59,736
Sun City West	38	$17,294	43	$21,163	43	$20,425	$58,882
Sun Lakes	30	$13,653	30	$14,765	30	$14,250	$42,668
Surprise	401	$182,498	411	$202,282	417	$198,075	$582,856
Tempe	1,580	$719,071	1,511	$743,670	1,586	$753,350	$2,216,091
Tolleson	29	$13,198	28	$13,781	28	$13,300	$40,279
Total Distributed Costs	18,578	$8,455,000	17,179	$8,455,000	17,800	$8,455,000	$25,365,000

Attachment A: RWC 700 MHz Narrow-Banding, TDMA Conversion, and Lifecycle Updates, Special Assessments by Member, Continued

700 MHz Narrow Banding, TDMA and Lifecycle Upgrade **TDMA Conversion** Distributed by RWC Member		
	FY TBD	
Funding Required by Year	$17,737,600	
Member Shares	Radio Count	Amount
Avondale	292	$290,976
Buckeye	217	$216,239
Chandler	915	$911,792
Daisy Mountain	6	$5,979
El Mirage	90	$89,684
Glendale	1,261	$1,256,579
Goodyear	360	$358,738
Guadalupe	11	$10,961
Maricopa	151	$150,471
Paradise Valley	63	$62,779
Peoria	902	$898,838
Phoenix	9,818	$9,783,582
Scottsdale	1,568	$1,562,503
Sun City	42	$41,853
Sun City West	43	$42,849
Sun Lakes	30	$29,895
Surprise	417	$415,538
Tempe	1,586	$1,580,440
Tolleson	28	$27,902
Total Distributed Costs	**17,800**	**$17,737,600**

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

Outline

1) Executive Summary
2) Description of Project Elements
   a) 700 MHz Narrow-Banding
   b) TDMA Conversion
   c) Lifecycle Updates
   d) 800 MHz Re-Banding
3) Project Drivers
4) Overall Project Description
   a) Infrastructure Changes
      i) Description
      ii) Cost Distribution
   b) Other Changes
      i) Subscriber Replacement & Cost Distribution
      ii) Console Upgrades & Cost Distribution
5) References

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, called the Hardware Upgrade, must be completed by about November 2015 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 (Including the 800 MHz Cash-Out credit, but not including financing).

The second phase of the infrastructure upgrade, called the TDMA Conversion, 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. 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 must coincide with completion of the Hardware Upgrade 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 by about November 2015.

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 radio counts September of FY 2012/13. The radio counts are adjusted in each following FY based on the anticipated radio counts in September of the previous FY. This will give some stability and enable jurisdictions to plan accordingly for the following budget year. These counts take into consideration the additions of Maricopa, Goodyear Police, Paradise Valley, additional radios for Scottsdale Fire, as well as radio count changes submitted by the RWC Members..

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 2013/14 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**

    A) Summary of Costs for Narrow-Banding, TDMA and Lifecycle Upgrade

    B) Timeline and Summary of Costs for 700 MHz Narrow-Banding, TDMA Conversion and Lifecycle Upgrades

    C) 700 MHz Narrow Banding, TDMA and Lifecycle Upgrade Budget Distributed by RWC Member

    D) RWC Radio Replacement Estimated Cost and Distribution

    E) RWC Estimated Cost and Distribution of Gold Elite Console Replacements

Attachment A:

Summary of 700 MHz Narrow-Banding, TDMA, and Lifecycle Update Costs	
Hardware upgrade	
Phase I: Simulcast C	$3,888,500
Phase II: Simulcast A&B	$15,848,100
Phase III: ISR's	$1,042,500
New Phase IV Capacity Increase	$6,885,900
RWC Staff, PM, Contingency, RWC Consoles	$2,000,000
Total Costs to Accomplish 700 MHz Conversion and Lifecycle Upgrade Without Narrow-Banding	$29,665,000
Credit for 800 MHz Re-Banding Cash-out	($4,300,000)
Total Cost of Hardware Upgrade with Re-Banding Credit	$25,365,000
TDMA Conversion	
Phase V: TDMA Conversion (To be deferred along with Subscriber Upgrades)	$17,737,600
Grand Total Project Cost	**$47,402,600**
RWC Costs (with Re-Banding Credit)	**$43,102,600**

Attachment B:

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 C:

<table>
<tr><td colspan="11" align="center">700 MHz Narrow Banding, TDMA and Lifecycle Upgrade
Full Project Cost
Distributed by RWC Member</td></tr>
<tr><td></td><td colspan="2" align="center">FY 13-14</td><td colspan="2" align="center">FY 14-15</td><td colspan="2" align="center">FY 15-16</td><td colspan="2" align="center">FY TBD</td><td align="center">Project Total (With Re-Banding Credit)</td></tr>
<tr><td>Funding Required by Year</td><td colspan="2" align="center">$8,455,000</td><td colspan="2" align="center">$8,455,000</td><td colspan="2" align="center">$8,455,000</td><td colspan="2" align="center">$17,737,600</td><td align="center">$43,102,600</td></tr>
<tr><td>Member Shares</td><td>Radio Count</td><td>Amount</td><td>Radio Count</td><td>Amount</td><td>Radio Count</td><td>Amount</td><td>Radio Count</td><td>Amount</td><td>Total by Member</td></tr>
<tr><td>Avondale</td><td>265</td><td>$120,604</td><td>279</td><td>$137,316</td><td>292</td><td>$138,700</td><td>292</td><td>$290,976</td><td>$687,596</td></tr>
<tr><td>Buckeye</td><td>193</td><td>$87,836</td><td>227</td><td>$111,723</td><td>217</td><td>$103,075</td><td>217</td><td>$216,239</td><td>$518,873</td></tr>
<tr><td>Chandler</td><td>967</td><td>$440,090</td><td>916</td><td>$450,828</td><td>915</td><td>$434,625</td><td>915</td><td>$911,792</td><td>$2,237,335</td></tr>
<tr><td>Daisy Mountain</td><td>5</td><td>$2,276</td><td>6</td><td>$2,953</td><td>6</td><td>$2,850</td><td>6</td><td>$5,979</td><td>$14,058</td></tr>
<tr><td>El Mirage</td><td>82</td><td>$37,319</td><td>90</td><td>$44,295</td><td>90</td><td>$42,750</td><td>90</td><td>$89,684</td><td>$214,049</td></tr>
<tr><td>Glendale</td><td>1,558</td><td>$709,059</td><td>1,261</td><td>$620,627</td><td>1,261</td><td>$598,975</td><td>1,261</td><td>$1,256,579</td><td>$3,185,240</td></tr>
<tr><td>Goodyear</td><td>100</td><td>$45,511</td><td>100</td><td>$49,217</td><td>360</td><td>$171,000</td><td>360</td><td>$358,738</td><td>$624,466</td></tr>
<tr><td>Guadalupe</td><td>11</td><td>$5,006</td><td>11</td><td>$5,414</td><td>11</td><td>$5,225</td><td>11</td><td>$10,961</td><td>$26,607</td></tr>
<tr><td>Maricopa</td><td>138</td><td>$62,805</td><td>139</td><td>$68,412</td><td>151</td><td>$71,725</td><td>151</td><td>$150,471</td><td>$353,412</td></tr>
<tr><td>Paradise Valley</td><td>0</td><td>$0</td><td>0</td><td>$0</td><td>63</td><td>$29,925</td><td>63</td><td>$62,779</td><td>$92,704</td></tr>
<tr><td>Peoria</td><td>898</td><td>$408,687</td><td>899</td><td>$442,461</td><td>902</td><td>$428,450</td><td>902</td><td>$898,838</td><td>$2,178,437</td></tr>
<tr><td>Phoenix</td><td>10,848</td><td>$4,937,014</td><td>9,818</td><td>$4,832,132</td><td>9,818</td><td>$4,663,550</td><td>9,818</td><td>$9,783,582</td><td>$24,216,277</td></tr>
<tr><td>Scottsdale</td><td>1,393</td><td>$633,966</td><td>1,368</td><td>$673,289</td><td>1,568</td><td>$744,800</td><td>1,568</td><td>$1,562,503</td><td>$3,614,558</td></tr>
<tr><td>Sun City</td><td>42</td><td>$19,115</td><td>42</td><td>$20,671</td><td>42</td><td>$19,950</td><td>42</td><td>$41,853</td><td>$101,588</td></tr>
<tr><td>Sun City West</td><td>38</td><td>$17,294</td><td>43</td><td>$21,163</td><td>43</td><td>$20,425</td><td>43</td><td>$42,849</td><td>$101,732</td></tr>
<tr><td>Sun Lakes</td><td>30</td><td>$13,653</td><td>30</td><td>$14,765</td><td>30</td><td>$14,250</td><td>30</td><td>$29,895</td><td>$72,563</td></tr>
<tr><td>Surprise</td><td>401</td><td>$182,498</td><td>411</td><td>$202,282</td><td>417</td><td>$198,075</td><td>417</td><td>$415,538</td><td>$998,394</td></tr>
<tr><td>Tempe</td><td>1,580</td><td>$719,071</td><td>1,511</td><td>$743,670</td><td>1,586</td><td>$753,350</td><td>1,586</td><td>$1,580,440</td><td>$3,796,531</td></tr>
<tr><td>Tolleson</td><td>29</td><td>$13,198</td><td>28</td><td>$13,781</td><td>28</td><td>$13,300</td><td>28</td><td>$27,902</td><td>$68,181</td></tr>
<tr><td>Total Distributed Costs</td><td>18,578</td><td>$8,455,000</td><td>17,179</td><td>$8,455,000</td><td>17,800</td><td>$8,455,000</td><td>17,800</td><td>$17,737,600</td><td>$43,102,600</td></tr>
</table>

Attachment D:

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
Paradise Valley	0		Will purchase all new radios as part of joining the system
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 E

				Gold Elite Replacement Cost	GPIOM to VPM Required
City	Location	Gold Elite	MCC 750		
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		Y
Peoria	Contingency				
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	
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	
Scottsdale		11		$627,000	
Scottsdale	Contingency			$62,700	
Surprise	Police		7		Y
Surprise	Contingency				
Tempe	Apache		15		
Tempe	South Substation		3		
Tempe	EOC		1		
Sub Totals		126	45	$7,900,200	
Totals		171		$7,900,200	
RWC	ROC		1		Y
RWC	ROC	2		$114,000	
RWC	Wireless Svcs	2		$114,000	
RWC	Contingency			$22,800	
Sub Totals		4	1	$250,800	
Totals		5		$250,800	
Grand Total		176		$8,151,000	

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

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

4. Those Cites that do require a GPIOM to VPM Upgrade are covered under the SUA II Plus Agreement, and therefore have no costs shown for this upgrade.

BOARD OF DIRECTORS REPORT

TO:	Regional Wireless Cooperative (RWC) Board Members	Agenda Date: March 28, 2013
FROM:	David Felix, RWC Executive Director	Item 7

SUBJECT: **EXECUTIVE DIRECTOR'S REPORT**

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

A. STRATEGIC COMMUNICATIONS PLAN

BACKGROUND
The Executive Director and Mr. Hartig will provide an update regarding the work of the Joint RWC/TRWC Strategic Planning process, Governance Working Group and planning for a future "user outreach forum".

B. RWC INVENTORY AND VALUE REPORT (see attachment)

BACKGROUND
The purpose of this item is to provide the Board with an overview of the results of an RWC Inventory and Value Report completed by Phoenix ITS Radio Service personnel.

C. MEDIA REQUEST

BACKGROUND
The Executive Director will provide information regarding an Arizona Republic story in development which will report on the RWC/TRWC networks and management relationships.

BOARD OF DIRECTORS REPORT

TO:	Regional Wireless Cooperative (RWC) Board Members	Agenda Date:	March 28, 2013
FROM:	Administrative Managing Member		Item 7 Attachment

SUBJECT: **RWC Asset Value Report**

PURPOSE
The purpose of this report is to advise the Board of the completion of a total system inventory and compilation of asset value. This report is for information only

BACKGROUND
The RWC Network has been changing and growing ever since it first officially came on-line in 2004. System and lifecycle upgrades, expansion of interoperability capabilities, general improvements, and the addition of Members have all contributed to changing the network equipment and configuration.

DISCUSSION
Due to the above many changes that have occurred since 2004, the Wireless Services staff, under the Administrative Managing Member, conducted a complete inventory of all RWC equipment at all RWC sites. This inventory took several months to complete. Although equipment lists were maintained diligently and were modified and updated as system changes occurred, this is the first complete inventory from the ground up.

The summary of the inventory is shown in Attachment A. It is broken out by major system components such as buildings, generators, network infrastructure, RF infrastructure, etc. At this time the overall value of all this equipment is about $113.3 M. This only includes fixed infrastructure assets and not any end user equipment such as subscribers, consoles, and control stations. This value is based on the current list cost of the components. The complete inventory has been entered into SAP Plant Management and a spreadsheet with the data is available.

Note that the value shown above is not the actual equity of the Members. Equity is computed based on the actual total investment by the Members, which includes the amount actually spent on equipment, engineering services, design services, installation costs, project management, etc.

RECOMMENDATION
This report is provided for information only.

Attachments: RWC Asset Summary Report (March 2013)

RWC Asset Summary Report (March 2013)

RWC Asset Summary Report (March 2013)			
Object	*Object Type Description*	*Object Type*	*Total Costs*
Buildings			
	Shelter Fire Suppression	203502	$742,000
	Communications Shelters	203503	$19,367,750
	Badge Entry Systems	203506	$113,826
	Out Door Enclosures	202905	$1,500
	Video Systems	203505	$394,500
	Total		$20,619,576
Communication Towers	Total	203501	$2,299,000
Generators	Total	203504	$1,470,810
DC Power Plants			
	DC Power Plants Chargers	203301	$843,684
	DC Power Plants Batteries	203302	$3,676,377
	DC power Plant Inverters	203303	$928,212
	Power Plant UPS	203304	$78,476
	Battery Plant -12 VDC	203305	$96,384
	Battery Charger -12 VDC	203306	$2,782
	Total		$5,625,915
RF Infrastructure			
	Comparators	203203	$2,465,100
	RX Filters & Antenna Eq.	202813	$757,500
	Duplexers	202812	$9,100
	Receiver Multicouplers	202811	$1,687,174
	Triple Isolators	202810	$439,570
	Combiners	202809	$1,201,750
	Direction Finding Equipment	202904	$9,250
	GTR8000 BS	201814	$578,000
	Equipment Cabinets	201813	$1,033,250
	GTR8000 Six Packs	201815	$25,250,000
	STR3000 BS	201812	$24,759,900
	Quantar BS	201811	$798,160
	Total		$58,988,754

RWC Asset Summary Report (March 2013), Continued

Object	Object Type Description	Object Type	Total Costs
Network Infrastructure			
	Ambassador Electronics	203405	$1,342,728
	Central Electronics Bank	203403	$5,014,784
	Network Modems	203216	$5,469
	Network Security Eq.	203215	$151,100
	Network Printers	203214	$15,460
	Network Equipment Other	203213	$9,500
	Network PC Client	203211	$354,745
	Network Frequency Standards	203210	$1,921,157
	Network Channel Banks	203209	$1,671,154
	Network Moscad Monitoring	203208	$501,456
	Network Interface	203207	$525,317
	Network Monitors	203206	$115,631
	Network Switch	203205	$1,189,397
	Network Servers	203204	$4,089,577
	Network Routers	203202	$1,871,204
	Network Site Controller	203201	$4,071,243
	Gold Elite Work Station	203401	$10,000
	Centracom Interface Electronics	203402	$10,400
	MGEG	203404	$1,466,580
	Total		$24,336,902
	Grand Total		$113,340,957