



2024 SWCRS Traffic and Linking Survey Synopsis

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INTRODUCTION

The SWCRS conducts annual link and traffic related surveys to poll the public on its sentiments on how the group is utilizing the GMRS spectrum so that we can best configure our resource to accommodate the public interest at a level that's granular to our coverage area and major population areas.

The survey was announced and posted on our website, social media, and included in our monthly newsletter (sent to all members) on July 19th, and was also announced at the start of every net as part of the opening announcements during the duration of the survey. Officers of AZGMRS and Northern Arizona repeater user groups were notified via email and encouraged to notify their user bases to participate and provide feedback to us, as shared users of the spectrum.

The survey was available for all members of the public to respond to within our coverage area, and not exclusive to SWCRS members. Responders were asked to confirm that they reside within our coverage area; the intent is to collect responses that are unique and true to Arizona and New Mexico's needs.

The survey collected the following information from individuals:

1. What AZ/NM metro area are you located in?
 - a. Albuquerque
 - b. El Paso & Lordsburg
 - c. Phoenix
 - d. Safford & Wilcox
 - e. Sierra Vista
 - f. Tucson
 - g. Rural Arizona
 - h. Rural New Mexico

2. Are you a member of the SWCRS?
 - a. Yes
 - b. No

3. How do you primarily use the repeater system?
 - a. Non-user
 - b. Social Outlet
 - c. Practical Use
 - d. Emergency Communications
 - e. Other (user comment field)

4. How do you rate the level of traffic on the repeater system as currently configured?
 - a. Scale of 0 to 10 – with 0 being too little, 5 about right, and 10 too much

5. Does the SWCRS repeater system cause interference for other users of the spectrum?
 - a. Scale of 0 to 10 – with 0 being no interference, and 10 being substantial interference

6. What is your sentiment on our linking configuration?
 - a. Linked is fine, but go back to both states full time (AZ/NM joined)
 - b. Linked is fine, but leave it as is (AZ/NM generally separated)
 - c. Linked is fine, but divide into smaller cluster (user comments field)
 - d. Default to unlinked, with DTMF commands available for users to select links when needed
 - e. Unlink, with no option for users to link.

7. Do you have other questions or comments? (user comment field)

OVERALL SUMMARY FOR THE REPEATER SYSTEM

The survey results indicate general satisfaction with the current traffic levels on the SWCRS repeater system. The average traffic rating across all responses is approximately 4.2 out of 10, with a median of 5, suggesting that most users find the traffic levels 'about right.' However, there are some variations across different metro areas, which require attention.

Interference levels reported by users show an average rating of 1.0 out of 10, indicating minimal interference issues overall. However, some metro areas have reported higher interference levels that may need further investigation and action.

Linking arrangements preferences vary significantly among users, with some preferring the current state of linking, while others suggest reverting to a more interconnected system or proposing alternative linking configurations. In general, the majority of users supported maintaining the current linking arrangement, where AZ and NM are *generally* separated. Sentiment in the larger population centers (Phoenix, Tucson, Albuquerque) generally favored linking both states full time, with more sparse areas favoring the current separated linking arrangement (AZ/NM separate) or standalone defaults.

This may be attributable to different use of the system based on population density, with larger cities utilizing the system as a social outlet, and more rural areas utilizing the system as a practical resource.

SUMMARY BY MAJOR METROPOLITAN AREAS

Albuquerque

Traffic Level:	Average rating of 4.19.
Interference Level:	Higher at 1.88.
Linking Arrangement Preferences:	Mixed preferences between maintaining the current setup and linking all repeaters in both states.

Phoenix

Traffic Level:	Average rating of 4.33.
Interference Level:	Minimal at 0.57.
Linking Arrangement Preferences:	Strong support for reverting to a fully linked system across all repeaters, with some support for keeping areas linked but with the ability to unlink as needed.

Rural Arizona

Traffic Level:	Average rating of 3.63.
Interference Level:	Elevated at 1.25.
Linking Arrangement Preferences:	A majority support unlinked configurations with user-controlled linking via DTMF commands.

Rural New Mexico

Traffic Level: Average rating of 4.33.
Interference Level: Minimal at 0.78.
Linking Arrangement Preferences: Predominantly in favor of maintaining the current separated linking arrangement.

Safford & Wilcox

Traffic Level: Average rating of 4.5.
Interference Level: Higher at 2.75.
Linking Arrangement Preferences: Predominantly in favor of maintaining the current separated linking arrangement.

Sierra Vista

Traffic Level: Average rating of 4.5.
Interference Level: No interference reported at 0.0.
Linking Arrangement Preferences: Predominantly in favor of maintaining the current separated linking arrangement.

Tucson

Traffic Level: Average rating of 4.21.
Interference Level: Minimal at 0.69.
Linking Arrangement Preferences: A mix between maintaining the current separated system and reverting to a fully linked setup.

ANALYSIS OF SURVEY COMMENTS

The survey collected 43 written comments from respondents, providing valuable insights into user experiences and suggestions. The following is a breakdown of the themes and sentiment of these comments:

Linking-Related Comments:	19 comments (44%)
Interference-Related Comments:	3 comments (7%)
Positive Feedback:	14 comments (33%)
Negative Feedback:	1 comment (2%)
Average Sentiment Score:	0.20 (slightly positive sentiment overall)

Detailed Analysis by Category

Linking-Related Comments

These comments focus on preferences and suggestions regarding the linking arrangements of the repeater system.

Examples:

"I am torn between staying linked all the time or separating during peak hours. It's a difficult choice."

"This has been a vital service and necessary with linking in remote areas."

*"I'm a new member, I can only use Pinal 675 when it's linked.
More flexibility would be helpful."*

Interference-Related Comments

Comments in this category address issues related to interference experienced by users.

Examples:

*"Nets routinely cause interference to users attempting to access local repeaters.
This needs to be addressed."*

*"I really liked the flexibility to link New Mexico and Arizona, but we should
minimize interference."*

*"My chief concern is the use of the limited GMRS spectrum for linking, which
sometimes leads to interference."*

Positive Feedback Comments

These comments express satisfaction with the current system or provide appreciative feedback.

Examples:

"Thanks for listening! The system works well for most of us."

"I'm a new member, and I appreciate the service provided."

"Overall, it's been great having access to this system."

Negative Feedback Comments

A few comments express dissatisfaction or suggest improvements.

Example:

*"Too bad that SWCRS doesn't have the linking ability like it used to;
it was much better back then."*

DETAILED ANALYSIS OF INTERFERENCE IN SAFFORD & WILCOX AND ALBUQUERQUE

Based on the survey comments, there are specific concerns related to interference in the Safford & Wilcox and Albuquerque areas which were consistent with elevated overall interference scores in these areas:

Safford & Wilcox:

Interference Concerns: There is a notable concern about interference during net operations, as highlighted by the following user comment:

"Nets routinely cause interference to users attempting to access local repeaters. This needs to be addressed."

This comment suggests that scheduled nets or group communications are causing congestion or interference, making it difficult for other users to access the repeater network effectively. The use of the word 'routinely' indicates that this issue is not isolated but rather a recurring problem.

Albuquerque:

Interference Concerns: Users have also expressed concerns about the limited spectrum availability, specifically mentioning the GMRS (General Mobile Radio Service) spectrum, which appears to be causing issues with interference:

"My chief concern is the use of the limited GMRS spectrum for linking, which sometimes leads to interference."

This comment points to the spectrum limitations of GMRS when used for linking repeaters, which could be causing unintended interference. The user's emphasis on 'limited GMRS spectrum' and the resulting interference suggests that managing spectrum usage more effectively could alleviate some of these issues.

CONCLUSION AND ACTIONABLE INSIGHTS

The SWCRS is moving forward and adjusting its operation and configuration as follows:

1. The linking arrangement between Arizona and New Mexico will remain largely the same based on public feedback - Arizona and New Mexico generally separated.
2. Addressing interference & congestion concerns:
 - a. To free up spectrum in Albuquerque, Safford & Wilcox regions, and other areas within rural AZ, the following repeaters will be defaulted to standalone modes:
 - i. Guthrie 600
 - ii. Pinal 675
 - iii. East Mountain Canyon 700

Based on coverage analysis, these repeaters have higher amounts of redundant coverage with other repeaters already on the air in areas with elevated reports of interference or concerns with congestion. We'll continue to monitor these areas to see if other repeaters should be adjusted to reduce overlap and free up spectrum.

The above repeaters will remain linkable on-demand using DTMF, we encourage all members review our webpage and educate themselves on utilizing these commands and the keypads on your radios to do so. Repeaters are configured to self-reset after a 5-minute period of inactivity local to that repeater.

- b. To reduce the demand on the spectrum we're using, we will be reducing the occurrence of the following nets as follows:
 - i. Kid's Net & Tech Net will alternate every other Wednesday.
 - ii. The Sunday net will remain as-is.

Our Net Coordinator will update with the official schedule soon, please continue to check the website.

In addition, the SWCRS will develop stronger educational campaigns to discourage reg-chewing and channel monopolizing, encouraging brief use of the system rather than sustained conversations.

- c. As always, we remain committed to best serving the interests of the public in our region, which includes our members and non-member users of the GMRS & FRS service. We take interference and congestion concerns seriously and directly and continue to act accordingly. Interference can be reported via our contact form here: <https://members.swcrs.org/contact-2/>

This synopsis has been prepared by the SWCRS, consistent with our vision to best serve the public with our resources. We have historically posted this survey annually, but will increase the frequency of this effort to 6 months moving forward. The SWCRS sees our systems as a collection of valuable resources, and we actively rely on guidance from the public to best advise us how to configure these resources most effectively as a public benefit.

If you have further follow-up comments on this survey, the results, or would like to follow up separately with your survey response sentiments, please feel free to reach out to me at wqvs960@swcrs.org

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President*