

Interim Report B

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I.

Introduction

This document is a continuation of Interim Report A: a pastiche of graphs, tables and brief narratives capturing Committee Member work on the online WSAC Decision model. The purpose of these packet materials is to provide fodder for discussion in the December meeting and to help fulfill the goals of Recon.

This document contains a preliminary analysis of the City's and Ctte-member ratings and the changes the Ctte-members made to those ratings.

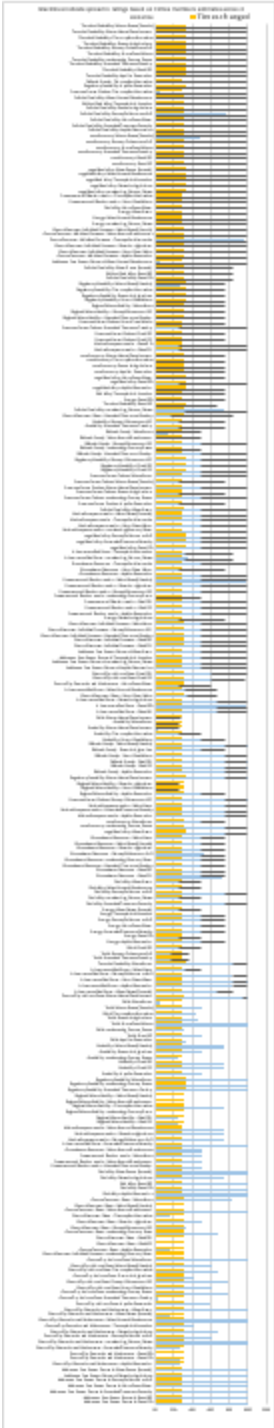
The second person—'you'—refers to the Ctte Members.

To make in-meeting references to the graphics easier, we picked up the numbering of the substantive sections where we left off in Interim Report A, starting with roman numeral IV. For the same reason, this document starts with Appendix B

You can relate this report back to the website by going to https://www.decisionharvest.com/dhroot/dhowners/santacruz/vre-ports/scwsac_recon_cmtee_comments.asp

Don't worry about the tokens—we aren't gathering data any more.

The 'graph of all graphs' is decomposed in section VIII!



IV. Usage Statistics: Ratings Changes

As a Ctte, you were conscientious about changing the City’s ratings across all scenarios, as you can see in Figure IV.1. Seven of you made changes to all three scenarios; six did two. Your efforts were evenly distributed. Therefore, variance across scenarios is not an artifact of your work patterns. (For graphs exploring these patterns further, see Appendix B and also II.2 from the first Interim Report.)

As described in the last report, you were stalwart in rating *political feasibility* and fell away on *legal feasibility*. Understandably.

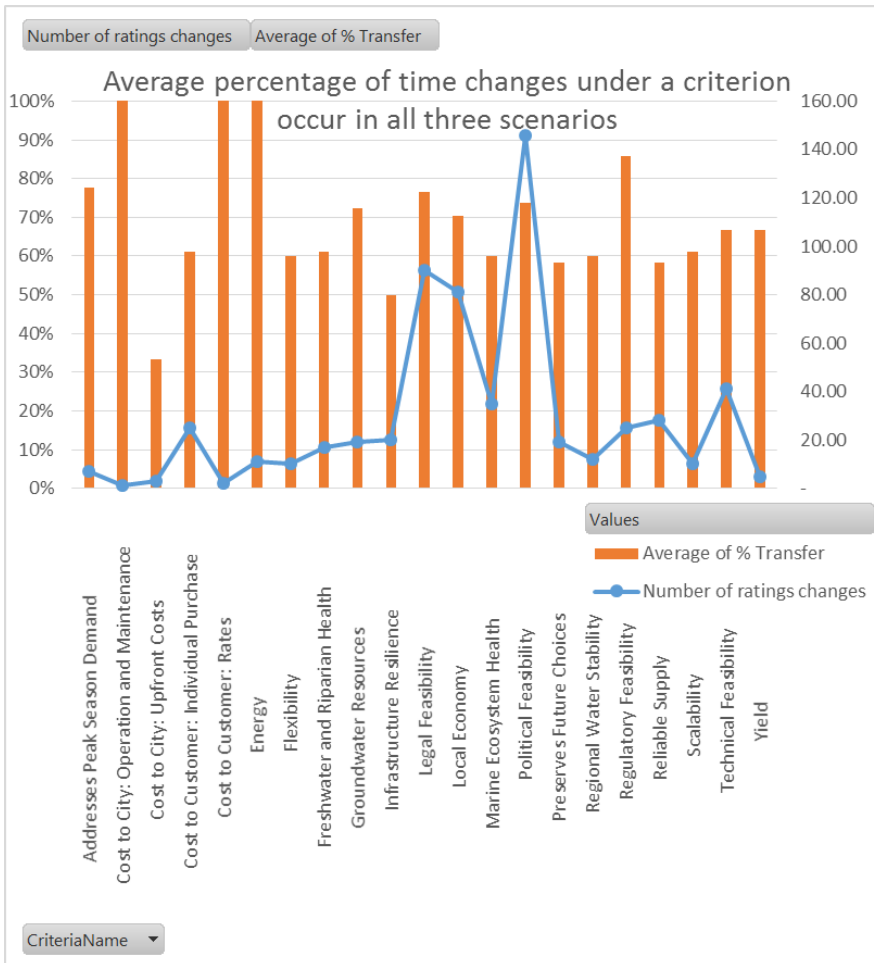


Figure IV.1. Ratings Changes across Scenarios

Focus on the places where the blue line—the number of ratings changes—spikes up. Then look to the left—that number shows the percentage of time ctte members re-rated that criterion for all three scenarios.

V. Variance in Ratings Across Criteria and Proposals

Figure V.1 shows the variance in the City’s ratings by criteria. You can see here that *political feasibility* has no variance—that is because these ratings were set at a default (the same, unvaried default) and left for you to rate properly later. *Legal feasibility* has a very small variance because of Carie’s goof—remember that **Water Smart** was erroneously set one measure off of the default? Look at the ratings x criterion variance for **Water Smart** and you can get a sense of scale. Fortunately the real variances are significantly greater.

Why do you care about this? Wide variances suggests that you have a set of approaches that has an interesting range for nearly all the criteria, which in turn makes for a useful palette to use in portfolio-building.

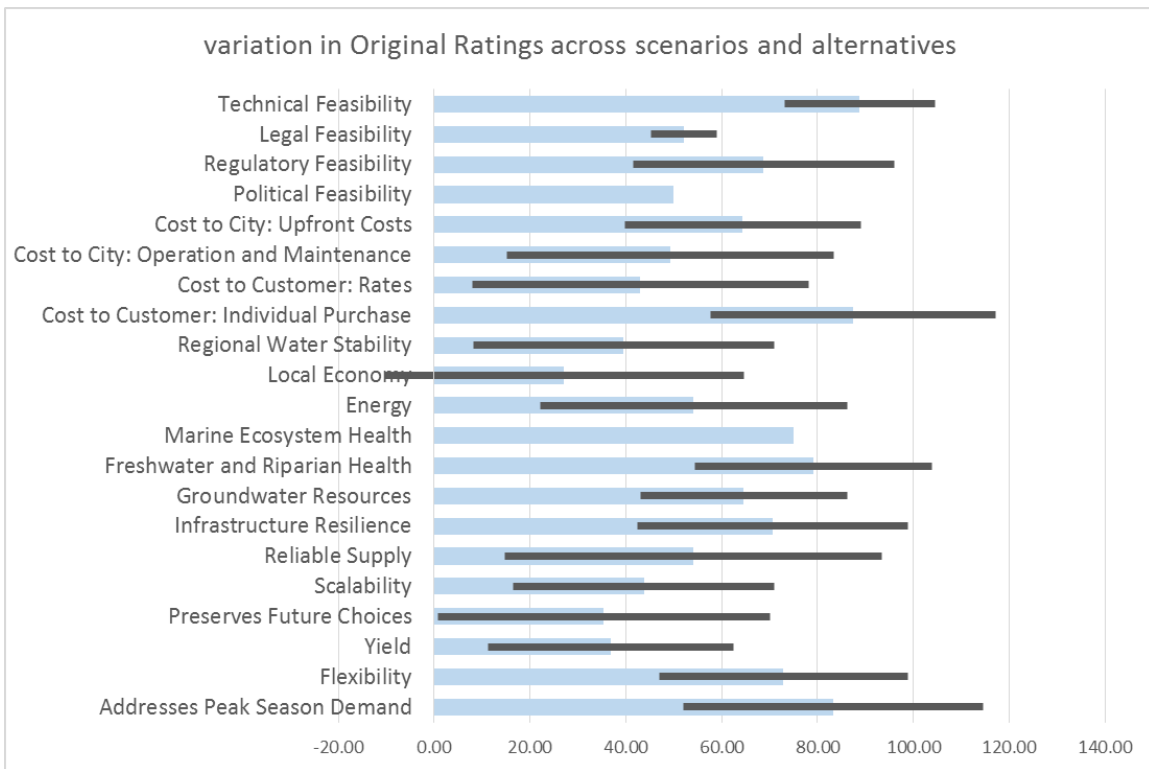


Figure V.1: Variation in the City’s Original Ratings

Figure IV.2 shows the same information, but this time by proposal. At first glance, this doesn’t mean much—it lumps all the ratings for, say **Water Smart** and then says how much they varied from their weakest to their strongest subcriterion. What we find interesting is the fact that the proposals got similar levels of review. To Carie, this looks like the pattern of people who are seeking understanding rather

than the pattern of people who are posturing for an outcome. Or, as Philip said “blah is good.”

If you wish to see this graph broken down by scenario, please refer to Appendix B, where you can see that the ‘blah’ we like so well holds up scenario by scenario.

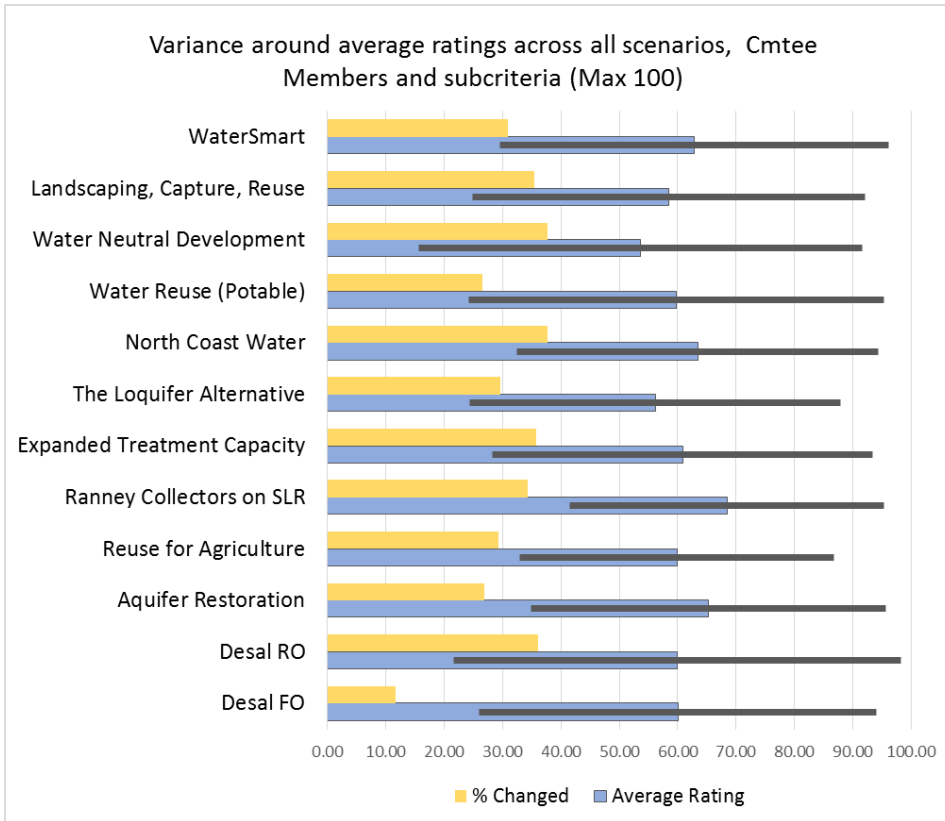


Figure V.2: Committee Rates Evenhandedly

One other thing to think about in Figure V.2: if the average rating for a proposal is ~ 60 out of one hundred (and they do hover around there), remember that even if you weigh a subcriterion as being very important, it will be watered down about 60% on average by its imperfect rating. (Think of the stacked bars with which you are familiar—imagine you gave the white section a heavy weight—it’s still only going to be filled up 60%-ish. To get 100% on the white part of the bar you would need to put all your weight on that subcriterion and have it be rated much, much higher than average.)

VI. How Much did Ratings Change across Scenarios?

As expected, the ratings were seldom different from simplified scenario to simplified scenario—in its original ratings the City only changed *local economy* and *reliable supply*. The Ctte did see more reasons to change the ratings across scenario, as you can see in Figure VI.1—thank you, Ctte, for that nuance. The results make sense: *cost* hardly changes, except for *individual purchase*. *Political feasibility* ratings go up as the gap worsens. And so forth.

Not surprising, but a good gut check. These trends also confirm that Ctte members are putting a lot of thought into this work.

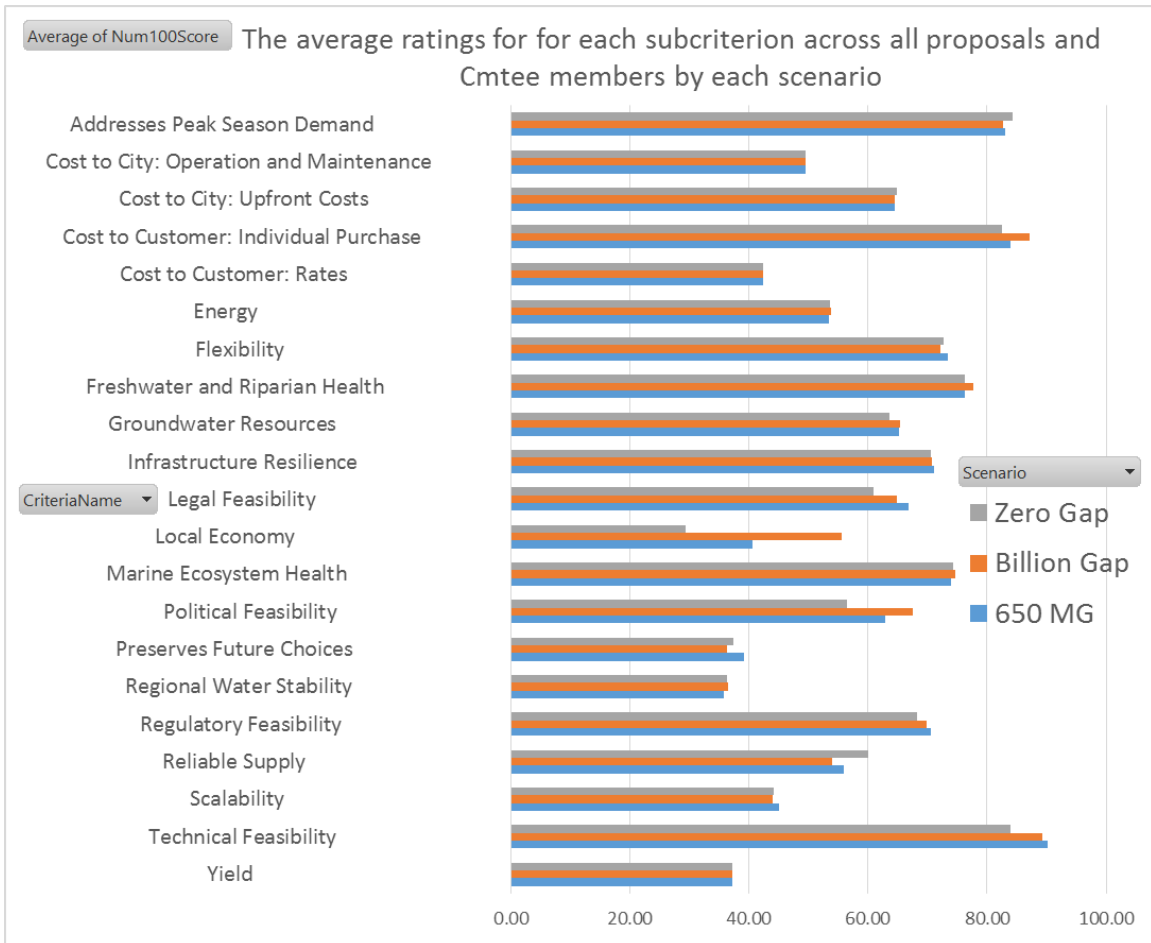


Figure VI.1: Comparing Average Ratings for Subcriteria Across Scenario

VII. When Did the Committee Members Change Ratings?

In Figure VII.1, you see the criteria the City rated and the number of times a Ctte member changed those ratings, by criterion. This is a useful foreshadowing of the sensitivity ratings you’ll discuss in the December meeting. It sure looks as though *marine ecosystem health* and *technical feasibility* will be important for your eventual agreement, more so than (for instance) cost.

Overall, we were struck by how infrequent these Ctte changes to City ratings were.

As one skeptic put it “they didn’t change the ratings because they don’t know enough yet.” Yes, of course. As you learn more, the tension between City and Ctte ratings opinions (or among Ctte-members) will intensify and relax, intensify and relax. But that doesn’t change the optimism we see in these generally low change numbers, especially when we consider the evidence that Ctte members gave these ratings a great deal of thought. (Remember, the maximum would have been more than 300.)

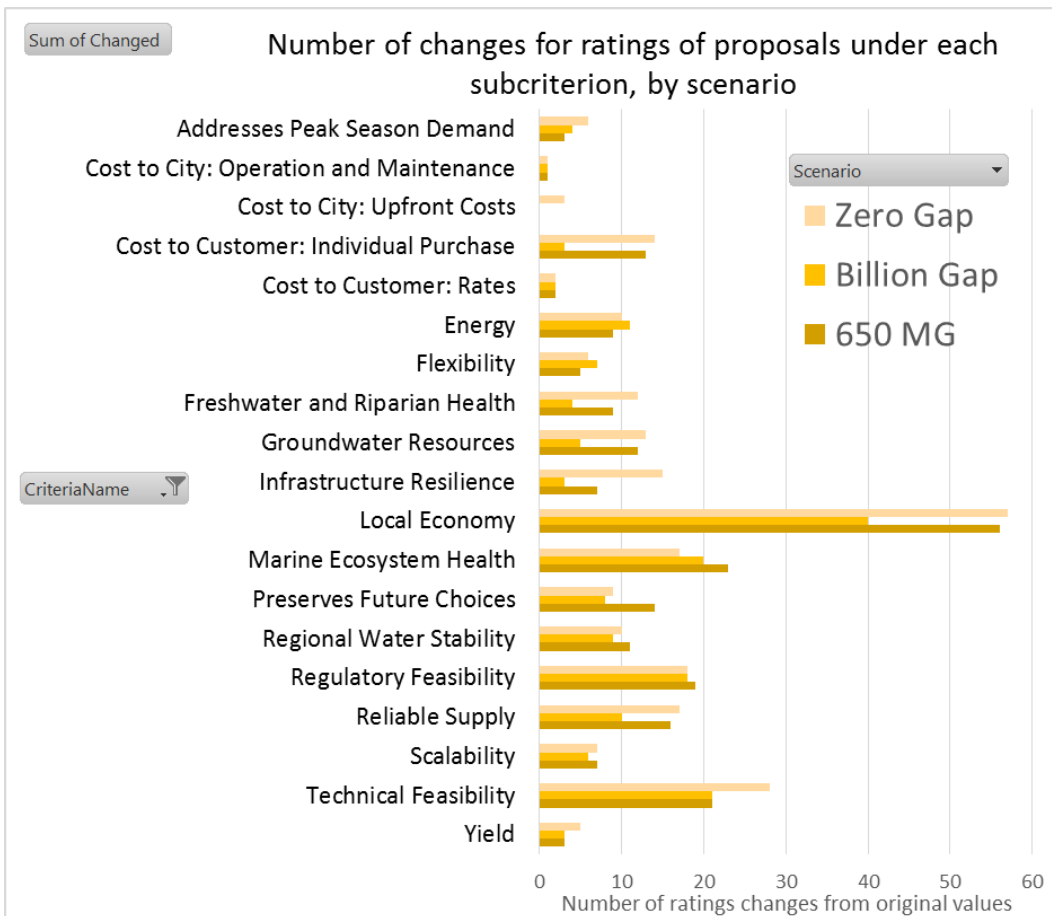


Figure VII.1: Which Criteria Were Changed the Most, by Scenario

Figure VII.2 shows the same information, but by proposal:

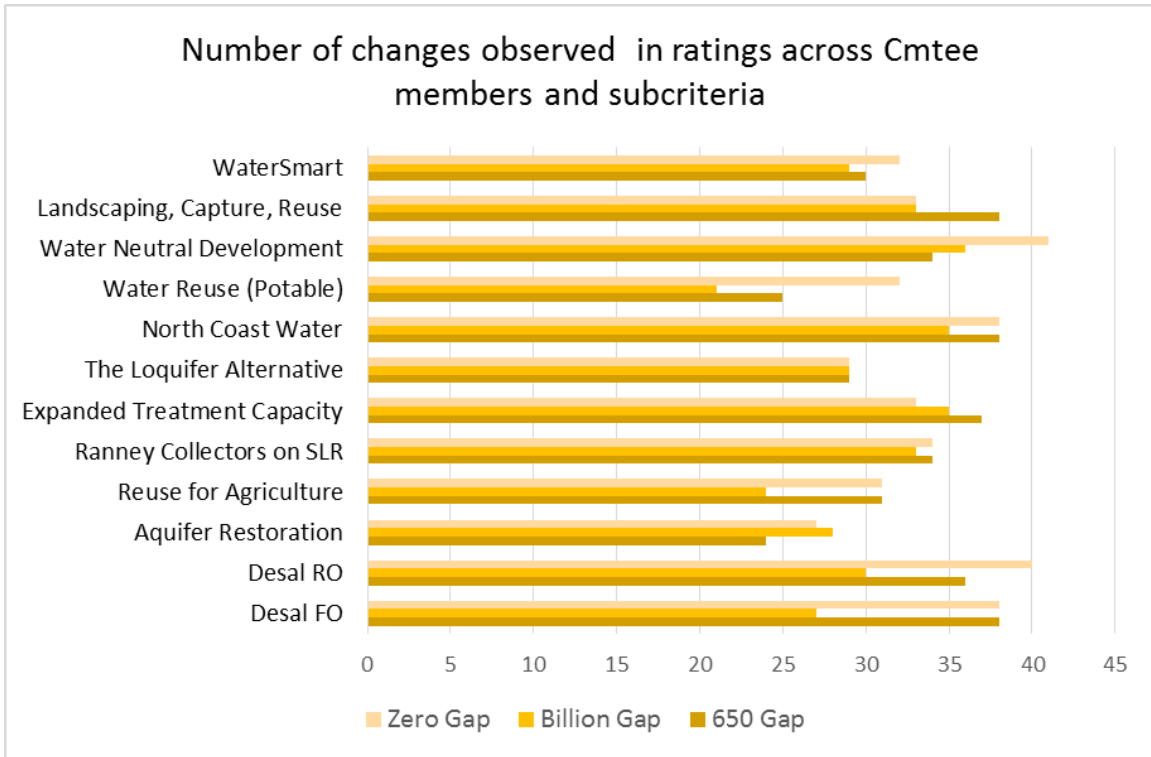


Figure VII.2: Which Proposals had the Most Ratings Changes, by Scenario

VIII. Variation in Ratings by Rating

The graphs before were interesting for trends and gut checks. But they suffer from a lot of noise.

To eliminate the noise, we go to the graph of all graphs (you will remember this from the Convention) showing the variance for each pairing of a proposal and a subcriterion (such as **Loquifer** by *Regulatory Feasibility* or **Desal RO** by *Peak Season Demand*). One per row, 252 rows.

Within each row, you see that the black bars stretch from the lowest value entered by any Cmte member in any scenario, and extend to the highest-ever value on the right: a true min-max. If the city ratings were left unchanged, there is no black bar. (There are 74 left-unchanged rows—that means everyone agreed, for every scenario, with the city for 74 out of the possible 252 areas of dis/agreement!)

The rows are ordered from the broadest min-max to the narrowest:

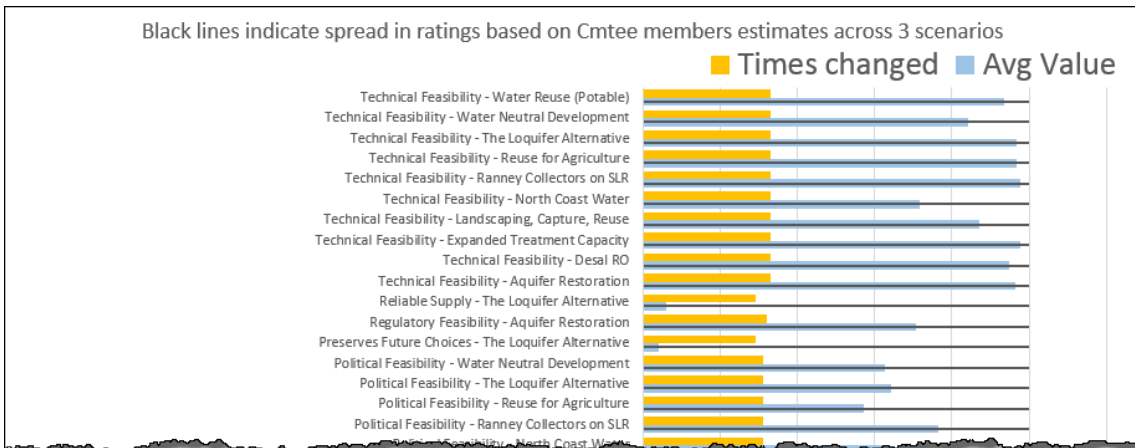


Figure VIII.1: Section of the Graph of all Graphs For Illustration Purposes

The 44 ratings where Cmtee members entered values ranging from 0 to 100 are worth examining. Many were in response to questions about *Feasibility*.

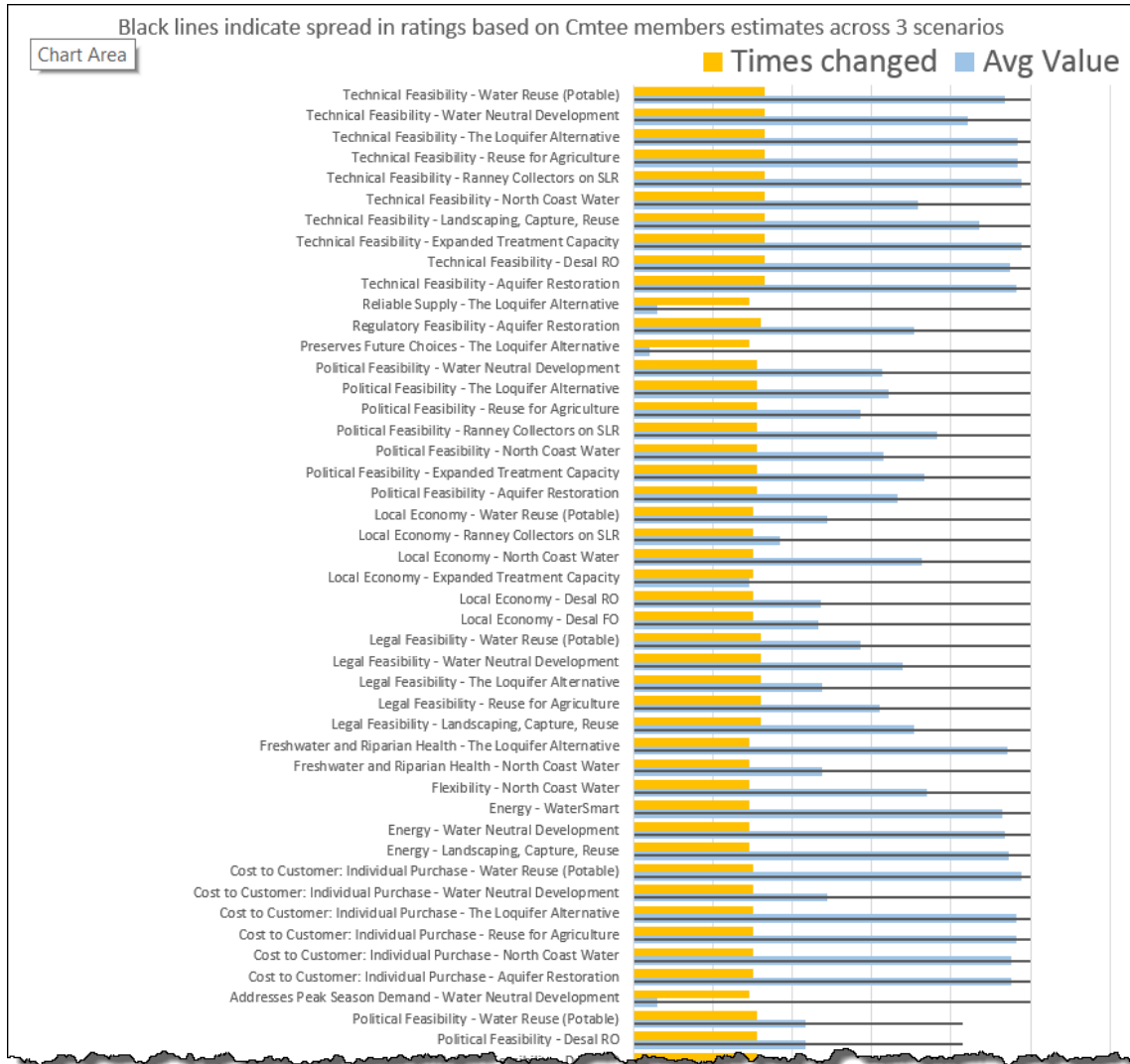


Figure VIII.2: The Subcriterion x Proposal Pairings with the Widest Ratings Spreads.

Throughout this analysis, we spent a lot of time checking the results for soundness. Was this peculiar? Did the two graphs support the same story? Is this what we might have expected? The heavy min-max for *technical feasibility* felt odd. Philip examined this in detail and realized that it relates to the fact that one Cmtee member changed the *technical feasibility* ratings for all the proposals--except **Water Smart**—to zero. This does crowd out the other information. We are working now on a graph that can correct for this without doing a disservice to the person who gave out the large

serving of technical zeros, probably by using standard deviation. But at the moment we haven't figured out a version of the *graph of all graphs* that has *more* information without driving you into a cognitive breakdown. Hang on! We will figure out an 'absorbable' version of this graph.

IX. Up Next?

In this packet, you have uncertainty information provided by the City—the uncertainty related to their original ratings. Philip needs to merge this uncertainty with your data and set the stage for a discussion about uncertainty, decision scores and sensitivity analysis for the December meeting.

Please let Carie know if there are any other analyses you would like to see at the meeting. If we can, we'll perform them. Thank you for your attention and for the beautiful work you did providing this data.

Appendix B. Miscellaneous Graphs

