This is an impressive paper whose chief contribution, I would say, is to demonstrate the power of two methodologies--machine coding and network analysis--to explore the evolution of collaborative networks. The substantive findings—reflecting hypotheses drawn from the collaborative and network literatures—are far from trivial, but are somewhat less interesting and do not greatly advance our understanding of collaborative governance. That said, the method is also impressive because it is used to track collaborative participation over a 16-year period and there a few studies that attempt to do that.

I really can't add much to the technical analysis. It seems very carefully done. The method is complex and has strengths and advantages as a method of collecting and analyzing data about collaborative governance. I think it is useful for JPART readers to learn about the methods and it may encourage others to use these techniques.

My main critique is that after reading through the very detailed treatment of the technique, I have to ask myself what I've really learning about collaborative governance. My sense is that the substantive findings are not particularly interesting, in part, because the authors don't really give much attention to actually interpreting them or discussing their implications for collaboration. This limited interpretation may be because the paper is already long and it focuses on explaining the methods and describing the analysis.

Let me support the argument that the substantive findings are less interesting than the methodological approach, providing some comments and suggestions along the way. Here is a list of the hypotheses with the findings of the study:

H1: The utility and organizations with mandatory conditioning authority will occupy more central nodes and serve in leadership positions more regularly than other organizations

Finding: representatives of utility and mandatory authority organizations occupy more central leadership roles in group meetings

This hypothesis builds on Ulibarri's prior work on FERC relicensing processes, which found utilities pay a lot of attention to agencies with mandatory authority. This is potentially problematic because these authorities may have outsized influence on collaborative outcomes.

I can't say that I find it too surprising that groups with more at stake are more engaged in the process (and hence more central). Of course, I recognize it doesn't have to be a "surprising" finding to be a valuable one. But what am I to make of this finding? Should we conclude that the collaborative process is rigged? Perhaps it would be more interesting to know if the relative position of specific mandatory authorities changed over time?

H2: Peripheral attendees will be more likely to drop off with each subsequent phase of the relicensing.

Finding: more peripheral actors are less likely to persist in process involvement.

This finding picks up on Lubell's argument about the wider ecology of collaboration and the way that it is costly to participate. Hence, less committed groups drop out over time. I've seen case studies that point to how peripheral groups drop out over time. Again, not too surprising if you think about how collaboration is costly for groups, but this does have value in demonstrating this as happening over time.

Again, what should we make of this? Theoretical work on collaboration has tried to sensitize us to the idea that groups have different motives for participating and different resources and capacities to do so.

One way you might connect H1 and H2 is the idea that over time "incumbents" will take control over collaborative process. I wish I could give exact citations here. I found this discussed recently in an article on Dutch energy transitions collaborations. I think it is this one:

Kern, F., & Smith, A. (2008). Restructuring energy systems for sustainability? Energy transition policy in the Netherlands. *Energy policy*, *36*(11), 4093-4103.

I've also seen it in an Australian case study on collaboration, which I can't find in my files. I think this can occur when less interested (peripheral) actors drop out and more committed actors take greater control over time (the Australian case suggested that these two dynamics were interrelated) . Is that how you would interpret what is happening in this case?

You may want to see the following JPART article which looks at this process of participation and inclusion over time:

Johnston, E. W., Hicks, D., Nan, N., & Auer, J. C. (2011). Managing the inclusion process in collaborative governance. *Journal of Public Administration Research and Theory*, *21*(4), 699-721.

H2a: Peripheral actors who drop out will represent organizations with less resources and/or less technical expertise.

Finding: This turns out not to be the case: holding peripheral status constant, less resourced/technical groups drop out at about the same rate

This finding goes against expectations and is interesting, but the paper could probably do a better job thinking through its implications. Maybe this requires some thinking about what peripheral status actually means in this kind of hearing process?

H3: During the planning and scoping phase, the relicensing network will be more dynamic than in later phases, with frequent changes in attending individuals and organizations.

Finding: There is stability throughout the process; instability is not higher in the planning and scoping phase

H4: During the license implementation phase, network patterns will become more stable.

Finding: Interaction is actually less stable in the implementation phase

H3 and H4 build on Provan and Kenis and Imperial to argue that there is an expectation that networks will "stabilize" over time, though that is complicated here by the fact that implementation is a post-mandated phase. Given that we don't really learning much about the meaning of stability (interpreted, for instance, in relation to qualitative research on the Baker process), the finding that instability is not higher in the planning and scoping phase and that interaction is actually less stable in the implementation phase is hard to interpret. What does it mean?

It seems to me that the expectation of stability works somewhat better for "governance networks" than for "collaborative governance." Networks institutionalize over time, but collaborative governance is often about highly contested processes. This point is making me think that the paper could have done a

better job describing what the Baker collaborative process is all about. The paper basically does this by referring to Ulibarri's prior research. That is appropriate, particularly given the length of the paper. But some qualitative description of the nature of the collaboration might have been useful for interpreting the findings.

H5: The utility will serve as a leader a higher proportion of the time during the planning and scoping phase than in later phases.

Finding: The utility remains a leader throughout all the phases.

Since this is a utility relicensing process and the utility is placed in charge of renegotiating the license (or at least this is how I understand the process), I hardly see how the finding could be otherwise. I don't really understand how it could be less central in the implementation phase either, given that it is in charge of implementing the policy change (new license).

To conclude, I think there are a couple of issues here. Perhaps the most important point is that this paper represents a very impressive data collection and analysis effort, one that certainly pushes the technical frontier of research on collaborative governance and networks. However, the results are not particularly substantively interesting and I ask myself why.

First, I think the modeling works at a particular level-of-analysis. It does a good job of capturing the relational dimension of participation over time at a highly-aggregated level. So it can be good at addressing collaborative governance at this level of analysis. Here the paper might be improved if it discussed some of the general strengths and limits of the technique as an analytical approach. It probably does a good job of addressing some issues, but not others. Perhaps in the conclusion you might suggest key questions or issues that the technique could be used to address (beyond those already addressed).

Second, I think the paper spends so much time describing the technique, that it is constrained in giving more attention to the meaning, interpretation, and implications of the findings. Why do we care about these findings? A powerful technique ought to produce powerful findings with critical implications. As I noted above, I acknowledge that the challenge here is how to do this in the scope of an article. It naturally took a lot of time to set up the technical side. So there is less time to deal with the substantive issues. But some rebalancing of technical and substantive discussions may be possible.