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Testimony before the U.S. House of Representatives, Committee on Appropriations,
Legislative Branch Subcommittee

Dear Chairman Ryan, Ranking Member Herrera Beutler, and members of the committee:

My name is Zach Graves. I am the head of policy at Lincoln Network, a non-profit organization whose mission is to help bridge the gap between Silicon Valley technologists and entrepreneurs, and DC policymakers. Last year, I came to speak to you about improving institutional capacity on science and technology issues within the Congress.[1] Thanks to a bipartisan effort originating in this subcommittee, the FY 2019 appropriations bill included two important provisions on this subject. One provided for a major study conducted by the National Academy of Public Administration. The other provided for the elevation and expansion of GAO's technology assessment program.

While the NAPA study is still in progress, GAO has reorganized (and significantly expanded) its program into a 15th mission team, called "Science, Technology Assessment, and Analytics" (STAA). This activity comes in the wake of growing interest in reviving the Office of Technology Assessment,[2] and there is still debate within the Congress as to which location is most suitable for a technology assessment office. My remarks today are not focused on answering this question.[3] Instead, I hope to provide context for the current debate, and offer recommendations for how to responsibly scale GAO's program if the Congress decides to pursue it.

While interest in reviving OTA has become more salient, it is not a recent idea. Over the years since its defunding, there have been numerous efforts to revive it.[4] These go all the way back to 1995, when an unsuccessful effort was made to avert its demise by relocating it under CRS.[5] Since then, failed efforts to refund OTA, which has its authorizing statute still in effect, have

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[1] See: "Testimony of Zach Graves before the Legislative Branch Subcommittee," April 17, 2018. https://2o9ub0417chl2lg6m43em6psi2i-wpengine.netdna-ssl.com/wp-content/uploads/2018/04/LegBranchAppropsTestimonyOTA.pdf.

[2] See, e.g., Kevin Kosar, "GAO versus the ghost of OTA: Who will win the science and technology assessment race?" Legbranch.org, March 20, 2019. https://www.legbranch.org/gao-versus-the-ghost-of-ota-who-will-win-the-science-and-technology-assessment-race/; Also see "Future Congress," a group I co-organized comprised of over 40 organizations and several dozen prominent individuals. See: www.futurecongress.org.

[3] The debate over OTA vs. GAO is a question of which location has the least significant challenges to building this capacity. For OTA, the challenges are primarily political. For GAO, they are primarily institutional. See: Zach Graves, "Rebuilding a technology assessment office in Congress: Frequently asked questions," R Street Institute, September 25, 2018, pp. 12-13. https://www.rstreet.org/2018/09/25/rebuilding-a-technology-assessment-office-in-congress-frequently-asked-questions/.

[4] "Technology assessment: Legislative activity," Future Congress Wiki. https://github.com/zachgraves/futurecongress/wiki/Technology-assessment:-Legislative-activity.

[5] H.Amdt. 451, 104th Congress.

come up repeatedly.[6] These didn't fail for purely partisan reasons; they came up in Democrat-controlled congresses, Republican-controlled congresses, and ones like today's. They often had bipartisan support, as well as opposition.

In 2001, these efforts were directed at creating a pilot technology assessment program in GAO with $500,000 in dedicated funding.[7] Its first study, "Using Biometrics for Border Security," was released in November, 2002. This report was reviewed favorably in an external evaluation, which concluded GAO "did a very good job" on its inaugural assessment, but raised concerns the nascent program would face significant challenges to build its own culture and scale its capabilities.[8] In the next couple of years, funding for the pilot was expanded to $1 million, allowing the production of 2-3 reports a year.

An effort soon came together to build off of the GAO pilot's initial success. In 2004, Rep. Rush Holt, D-N.J.,[9] introduced legislation (with 9 other Democrats and 5 Republicans as original cosponsors) to elevate the GAO pilot to a formal technology assessment office in GAO called the "Center for Scientific and Technical Assessment" (CSTA).[10] This office would have imported some main structural features from OTA, such as its bipartisan, bicameral Technology Assessment Board. The CSTA proposal went through a review process that incorporated feedback from civil society experts, as well as the office of then Comptroller General David M. Walker. While the proposal was favorably received and had bipartisan support, it failed to move forward, seemingly due to its large budget requirements.

In the years that followed, GAO's tech assessment program has kept running, producing a handful of reports each year. It has also attracted critics who believe it failed to live up to OTA's mission, arguing that GAO's internal bureaucracy has proven too restrictive to foster the dynamic, forward-looking culture that made OTA successful.

Criticisms of GAO's program aren't entirely misplaced. It's certainly true that, up to 2018, it has fallen short of OTA based on nearly any metric. This includes the quality and robustness of its work, its capacity to advise the Congress on technical issues, and its ability develop an independent culture from its parent agency. But this also isn't a fair comparison. The question before you now isn't whether GAO's program, which has had a fraction of OTA's budget and little structural autonomy, has filled this role already. Indeed, up until this point, the GAO program has essentially been a two decade-long pilot. The question now is whether GAO is capable of filling this role, and if so, what are the necessary steps to make it successful.

While the challenges to reviving OTA are primarily about scarce resources and partisan politics, STAA's principle challenges are primarily institutional. Thanks to the efforts of this committee and Comptroller General Gene Dodaro, GAO's primary challenge – that of finding the necessary resources – seems to have been addressed. Its next challenge is figuring out how to structure a

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[6] 2 U.S.C. §§ 471-481.

[7] H. Rept. 107-259, 107th Congress.

[8] M. Granger Morgan, Jon M. Peha, *Science and Technology Advice for Congress* (Routledge, 2003), Appendix 3.

[9] Rep. Holt had also been one of the strongest champions for reviving OTA.

[10] H.R.4670, 108th Congress.

nimble, semi-independent, and forward-looking research unit within another large agency, while mitigating potential conflicts in mission, function, and process. These were concerns that Rep. Holt and others saw and spent considerable time contemplating two decades ago. If they are to be resolved and adapted to the needs of our current environment, it will require the steady oversight and expert guidance of this committee and other stakeholders.

As a starting point, I believe there are some key structural features GAO should adopt to support the scaling up of its new team. These are:[11]

1. **Establish an advisory council:** STAA should establish an advisory committee comprised of experts from academia, industry, and think tanks. The function of this group would be to offer ad hoc advice to the Comptroller General and STAA directors on matters such as research design, peer review, and related issues. Importantly, it should also produce periodic recommendations visible to relevant stakeholders in Congress and the public.

2. **Encourage the inclusion of policy options analysis in STAA reports:** One of the most valuable features of OTA reports was providing policymakers with an authoritative, multi-disciplinary analysis of the tradeoffs of different policy options. STAA could be encouraged to copy and adapt this feature in its long-form reports. Since this is an issue that could create tension with the procedures of its parent entity, it may benefit from special attention by this committee.

3. **Promote talent flow from outside STAA:** OTA widely utilized temporary contractors for its reports. This helped bring in top-of-market talent and specialized experts, and facilitated the development of expert networks outside Congress. STAA should be encouraged to explore greater utilization of the Interpersonal Mobility Act, or other mechanisms, to bring in outside talent on an individual project-basis.

Beyond encouraging the structures above, there are several important questions the committee should investigate:

1. **What is the right level of structural independence for STAA?** While GAO's technology assessment program now has its own mission team, it is still a component of the GAO bureaucracy. GAO's auditing and investigations functions, which are primarily ex-poste, require a fundamentally different approach than technology assessment work, which is primarily ex-ante. In particular, conflicts might arise in preserving the independence and brand of the auditing function while allowing for independent and forward-looking technology assessments. Thus, it would be valuable to determine whether the current arrangement is ideal, or whether greater structural independence would be valuable.

   This might include the following issues: (1) What is the current approval process for STAA reports, and now many entities must sign off prior to release? (2) Are there ways

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[11] Note that I have not had access to GAO's strategic plan for STAA, and it is possible one or more of these items may already be covered there.

to streamline the release process and give the STAA director(s) more autonomy? (3) What internal incentives or management practices would help promote STAA's mission? (4) Should STAA's audit-related work and technology assessment work be split up into separate teams, or are there beneficial synergies?

2. **Is STAA's current peer review process adequate?** The production process for GAO technology assessments involves robust internal review, which draws on important expertise from the office of the Chief Economist, as well as other teams. But it has been criticized for not having a robust external peer review process vs. OTA. Issues to be considered: (1) Are criticisms of GAO's peer review process justified? (2) If so, what process changes should be considered? (3) How will potential changes affect the timely release of reports?

3. **How should STAA be encouraged to think outside the OTA box?** Despite popular debate pitting OTA against GAO, technology assessment work is only one of STAA's four stated focus areas, which include establishing an audit innovation lab, audits of federal S&T programs, and compiling and utilizing best practices in the engineering sciences.[12] This is in contrast to OTA's statutory mission, which is broadly focused on anticipating the impact of technology on society. While some of OTA's big successes were related to government technology programs, it also spent a great deal of effort on regulatory matters primarily affecting the private sector.[13]

   With GAO resources and specialized expertise at its disposal, STAA's comparative advantage is likely at the intersection of S&T and the federal government. Out of our $4 trillion annual federal budget, there are hundreds of billions in science and technology-related expenditures that would benefit from STAA's growing expertise and capacity. Even if OTA were reconstituted, there would seem to be plenty of work to be done in this area that STAA may be better suited for.

   The following issues should be considered: (1) How should STAA prioritize its resources across these four areas? (2) Is STAA weaker at pure regulatory policy vs. evaluating government-related programs? (3) If so, should it take steps to address these challenges, or adjust its focus and resource allocation to its strengths? (4) Is there a strong market for intermediate-length reports that are in between CRS reports, which tend to be short summaries of existing literature, and OTA-style reports, which tend to be long and comprehensive? If so, how should STAA prioritize these? (5) What other gaps are there in S&T policy that STAA might be well positioned to engage in?

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[12] "Our New Science, Technology Assessment and Analytics Team," Government Accountability Office, January 29, 2019. https://blog.gao.gov/2019/01/29/our-new-science-technology-assessment-and-analytics-team/.

[13] This included recommendations that helped modernize the Social Security Administration's IT procurement strategy, saving taxpayers $368 million, and analysis that helped curtail wasteful spending on the Synthetic Fuels Corporation, saving taxpayers $60 billion. See: Morgan and Peha, p. 69.

4. **Is GAO's report request process ideal for STAA?** Currently, STAA follows GAO's Congressional Protocols[14] to prioritize and fill requests from Members of Congress. Like OTA, this prioritizes requests from Committees. Unlike OTA's request process, GAO seems to make it easier for subcommittees–rather than just full committee chairmen and ranking members–to request reports. But, unlike STAA, OTA had a Technology Assessment Board made up of twelve Members evenly divided by party and chamber. It is debatable whether this structure would be as functional in today's environment, or whether it would slow down or politicize the process. However, it did serve to get broader buy in across Congress in the prioritization and structure of reports. It would be worth investigating whether the current request process at GAO should be customized for STAA and whether there is a need for an entity like the TAB, whether formal or purely advisory.

To address these and other questions, the committee should consider requesting a follow-up report by the National Academy of Public Administration, or similar entity, looking at methodological and institutional design issues for STAA, and investigating whether there are other structures it should consider importing from OTA or elsewhere. It may also be worth commissioning an external evaluation of STAA technology assessments (similar to the one for its pilot study). An evaluation of this kind will help provide a factual basis for continued discussion, as the debate will be sure to continue in the coming years.

Thank you for the opportunity to testify.

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[14] "GAO's Congressional Protocols," Government Accountability Office, July 17, 2017. https://www.gao.gov/assets/690/685901.pdf.