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Testimony before the U.S. House of Representatives,
Committee on Appropriations, Legislative Branch Subcommittee
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Dear Chairman Yoder, Ranking Member Ryan and Members of the Committee:

Thank you for considering my testimony. My name is Zach Graves, and I am the Director of Technology and Innovation Policy at the R Street Institute, a free-market think tank headquartered here in Washington. At R Street, my team's work focuses on issues such as autonomous vehicles, artificial intelligence, cybersecurity and telecommunications. Our aim, as we say, is to "make the future happen sooner." To accomplish this, we hope to encourage policies that maximize the benefits of new innovations while anticipating and mitigating their risks and externalities.

In coming here today, I'm hoping to start a discussion about how Congress equips itself with the expert advice and resources necessary to understand and tackle the growing number of innovation policy challenges that face our country.

In the past several decades, we've seen astounding technological advances that have propelled global improvements to the human condition and grounded America's leadership in the world's economy. We have, for example, made Internet access and digital commerce ubiquitous, developed new vaccines and medical innovations and expanded access to smartphones to the point that they are even becoming common in the developing world.[1]

These advances were made possible because of American ingenuity, and because America took a forward-looking approach to establish (and when appropriate, to forbear from creating) legal frameworks and regulatory policies that allowed emerging technologies to mature and flourish.[2] Because of this, American technology companies dominate the roster of most valuable firms in the world, employ millions of U.S. workers[3] and account for a significant portion of the GDP.[4]

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[1] Jacob Poushter, "Smartphone Ownership and Internet Usage Continues to Climb in Emerging Economies," Pew Research Center, Feb. 22, 2016. http://www.pewglobal.org/2016/02/22/smartphone-ownership-and-internet-usage-continues-to-climb-in-emerging-economies.

[2] For example, policies such as Section 230 of the Communications Decency Act, the Electronic Communications Privacy Act, the Internet Tax Freedom Act and the Clinton administration's Framework for Global Economic Commerce.

[3] Apple alone is responsible for creating 2,000,000 U.S. jobs. See, e.g., "Two Million U.S. Jobs and Counting," Apple, 2018. https://www.apple.com/job-creation.

[4] For instance, a PwC report estimated that in 2015, the consumer technology sector directly accounted for 5.2% of GDP – which rose to 10.3% counting indirect and induced economic activity. See "U.S. Contribution of the Consumer Technology Sector," PricewaterhouseCoopers, LLP, August 2016.

However, the breadth and scope of new technical challenges is increasing faster than ever – with issues such as securing the Internet of Things, evaluating renewed calls for extraordinary access to encrypted communications, understanding the labor effects of automation, halting the spread of antibiotic resistant diseases, regulating driverless cars, or thinking through the implications of machine learning—to name only a few. Unfortunately, however, Congress' internal capacity to tackle the associated technical complexities has not kept pace.

Earlier this year, I co-authored a white paper with R Street Vice President of Policy Kevin Kosar on the Office of Technology Assessment.[5] As you may recall, the OTA was an expert legislative support agency that existed inside the legislative branch from 1972 to 1995. Although the Congressional Research Service (also sometimes referred to as "Congress' think tank") has many virtues, it has a very different mission from that of the former OTA. Unlike CRS' focus on producing digestible summaries of existing research and giving responsive advice to Congress, the OTA focused on producing robust original research reports authored by teams of highly-credentialed scientists and engineers.[6] In developing these reports, it also conducted formal consultations with outside stakeholders in industry and academia – similar to how the Government Accountability Office currently functions.

In this way, the OTA played an important role in shaping how the United States (and other countries) approached technology issues. However, falling victim to a political landscape that demanded a symbolic sacrifice, it was defunded in 1995. This landscape emerged from the "Contract with America," a platform from the 1994 congressional campaign that helped propel Republicans to a long-sought majority in both chambers of the 104th Congress. This platform gave rise to a politically useful but flawed policy idea: namely, that of "Cutting Congress First." This was ultimately achieved with deep cuts to congressional staffing as well as legislative support agencies – including the OTA's entire $22 million budget.[7]

While the goal of cutting wasteful government spending is an admirable one, abolishing the OTA merely undermined Congress' ability to do its job in exchange for negligible savings. After all, its budget was only a tiny portion of the legislative branch budget, which itself is a tiny fraction of the overall $4 trillion federal budget. In contemplating any savings, one must also consider the trillion-dollar stakes involved

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http://www.cta.tech/cta/media/ResearchImages/U-S-Economic-Contribution-of-the-Consumer-Technology-Sector-2016.pdf.

[5] Zach Graves and Kevin Kosar, "Bring in the Nerds: Reviving the Office of Technology Assessment," *R Street Policy Study* No. 128, January 2018. http://www.rstreet.org/policy-study/bring-in-the-nerds-reviving-the-office-of-technology-assessment.

[6] See, e.g., Richard Rowberg, "How Did the Reports of OTA, the Congressional Research Service, and the National Academies Differ?", LegBranch.com, Nov. 14, 2016. http://www.legbranch.com/theblog/2016/11/14/how-did-the-reports-of-ota-the-congressional-research-service-and-the-national-academies-differ.

[7] $22 million in 1995 is about $35 million in 2017 dollars.

in setting technology policy and the high costs of getting it wrong. When it existed, the OTA also helped Congress make cost-saving decisions well in excess of its own budget.[8]

Many conservatives today – such as Senator Mike Lee, Representative Jeb Hensarling, and R Street's own Governance Project – have shown a renewed interest in strengthening the First Branch and restoring its proper constitutional role and capabilities.[9] As part of this effort, it is of key importance that Congress must have its own resources to ascertain facts. Otherwise, it is left to take the word of executive agencies, interest groups and lobbyists. This circumstance is unfavorable to the health of our democracy.

This understanding has helped inform R Street's interest in reviving the Congress's technology assessment arm, whether in the form of the OTA or a differently structured entity. Indeed, the OTA's authorizing statute remains in effect, and its funding lies within the jurisdiction of this subcommittee. It could, therefore, be revived—practically speaking—simply by including funding for a pilot in the next legislative appropriations bill.

However, I am not calling for this to happen now. It has been nearly 25 years since the agency existed and thus before jumping in, appropriate consideration must be given to what a successful technology assessment office would look like today – and admittedly, this may be quite different from what it looked like in 1995. As we discuss in our paper, there are also general points upon which the OTA's structure might be criticized. Additionally, there are a number of logistical considerations that need to be addressed.

Thus, in order to resolve these questions and open further discussion, I respectfully urge the subcommittee to request a study on what would be necessary to reestablish an independent technology assessment function inside the legislative branch. Such a study could be done by this subcommittee, through an ad hoc group of legislative branch and technical experts, or through an outside organization such as the Administrative Conference of the United States, the American Association for the Advancement of Science or the National Academy of Public Administration.

The study could answer key questions about reestablishing a congressional technology assessment function, such as:

1. What is the appropriate scope of the office? How should it prioritize economics, engineering, the hard sciences and other academic disciplines?

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[8] For example, the OTA's recommendations helped modernize the Social Security Administration's IT procurements, which saved taxpayers $368 million. Additionally, its criticism of the Synthetic Fuels Corporation contributed to billions in taxpayer savings. See, e.g., M. Granger Morgan and Jon M. Peha, *Science and Technology Advice for Congress* (Routledge, 2003), p. 69.

[9] "Article I Project," Office of Senator Mike Lee, 2016. https://www.lee.senate.gov/public/index.cfm/article1project.

2. What is the appropriate time frame to generate reports? How robust should they be?
3. What type of in-house expertise should the office have? Should reports be driven by in-house or outside experts?
4. How should it balance deep original analysis with responding to inquiries or other timely requests?
5. How should it prioritize making its resources available to rank-and-file member offices, in addition to committee staff, chairmen and ranking members?
6. How can it be structured to avoid politicization or bias, or the perception thereof?
7. How and to what extent should it engage with outside stakeholders in academia, civil society and industry?
8. Should it be structured as an independent legislative branch agency or housed within another entity like the Library of Congress? Or, should it merely expand the GAO's current technology assessment functions?[10]
9. What are the minimum viable budget, personnel, office and equipment requirements for a pilot? Where might it be physically located to allow convenient access for congressional staff?

In summary, a 21st-century Congress needs a 21st-century understanding of the world and its policy challenges. Given limited resources and a fast-paced congressional calendar, congressional offices aren't able to meet these challenges alone. With your help, we can begin a discussion about how our institutions can modernize and adapt to the demands of our changing times.

Thank you for the opportunity to share these thoughts with you.

[10] The GAO has a small technology assessment program that was made permanent in 2008.