August 11, 2019

The Honorable Joseph Heck, Chairman
National Commission on Military, National, and Public Service
Arlington, VA

Dear Chairman Heck,

My name is Nik Marda and I study Computer Science at Stanford University. This summer, as a Civic Digital Fellow, I joined 53 other students from across the country to contribute our technical skills at 6 different federal agencies.

The demand for civic technologists—engineers, designers, and product managers that build technology for the public sector—has increased dramatically in recent years. However, the government is struggling to attract civic technologists, specifically recent graduates with the skills, knowledge, and motivation to transform government services. These young technologists are taking their talents to the private sector, where the career trajectory and compensation outmatches the public sector.

To counter this trend, the public sector must provide more incentives for civic technologists. Governments, nonprofits, and engineering schools should institute loan forgiveness programs for technologists working in the public interest.

Attached is a report that summarizes the problem of attracting young technologists into the public sector, the scale of student loan debt, and the failures of existing student loan forgiveness programs. It proposes Public Interest Civic Tech University Repayment Effort (PICTURE) Grants, a loan forgiveness program for technologists modeled after successful initiatives for lawyers and doctors.

This problem is important, urgent, and within the scope of the Commission's charge. The PICTURE Grants proposal contributes valuable research and ideas. I hope that the Commission will consider this proposal and continue thinking about ways to inspire young civic technologists.

Sincerely,

Nik Marda

PICTURE GRANTS

A PROPOSAL TO EMPOWER CIVIC TECHNOLOGISTS

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SUMMARY

There is a growing need for public interest technologists. However, new computer science graduates, saddled with debt, lack incentives to take these lower-paying jobs. Universities should support public interest technologists by instituting Public Interest Civic Tech University Repayment Effort (PICTURE) grants, a loan forgiveness program for technologists modeled after successful initiatives for lawyers and doctors.

THE PROBLEM

Governments and nonprofits operate at a massive scale, creating services that last for decades and tackling society's biggest problems. However, their digital infrastructures and technical capabilities have not scaled to meet today's demands. While the private sector has thrived with access to the best talent and resources, the public sector has lagged behind.

And it shows. In 2013, the U.S. Government launched HealthCare.gov to facilitate the newly established federal health insurance exchange. However, the website was mired with significant technical difficulties, initially preventing millions of Americans from participating in the program. The website took weeks to fix and required bringing in technologists from the private sector. The final cost of HealthCare.gov was $1.7 billion, significantly exceeding the original budget of under $100 million. This failure even prompted the Secretary of Health and Human Services to resign.
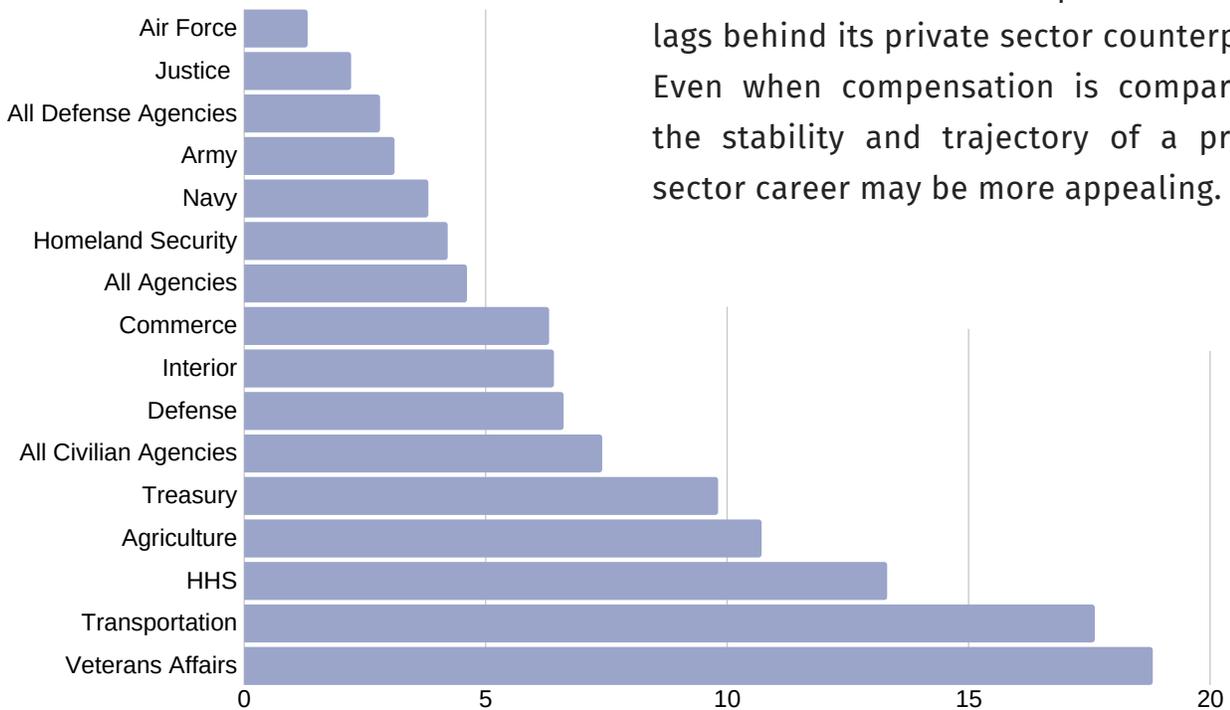
The demand for civic technologists—engineers, designers, and product managers that build technology for the public sector—has increased dramatically in recent years. These technologists not only prevent disasters like that of HealthCare.gov, but also work to proactively improve services. Government groups like the U.S. Digital Service and 18F provide technical consultation services to federal agencies. Organizations such as OpenGov and Vote.org are improving government-citizen interactions. Across the board, civic technologists are trying to leverage technological advances like big data and artificial intelligence to benefit the population at large.

# HUD DOESN'T HAVE A SINGLE TECHNOLOGIST UNDER THE AGE OF 30

However, despite the importance of this work, young technologists are not choosing careers in the public sector. For example, as of July 2019, the Department of Housing and Urban Development (HUD) couldn't count a single technologist under the age of 30 among its 8000+ employees. Overall, only 3% of the government's technical employees are less than 30 years old, compared to over 14% that are over 60 years old. This is especially concerning because recent graduates are often the most familiar with new and disruptive technologies.

Without the proper incentives to encourage recent graduates to become civic technologists, the public sector will continue to lack the necessary technical talent. Public sector compensation often lags behind its private sector counterparts. Even when compensation is comparable, the stability and trajectory of a private sector career may be more appealing.

IT employees age 60+ per IT employee under 30

As of March 2018. Data from OPM FedScope via NextGov.
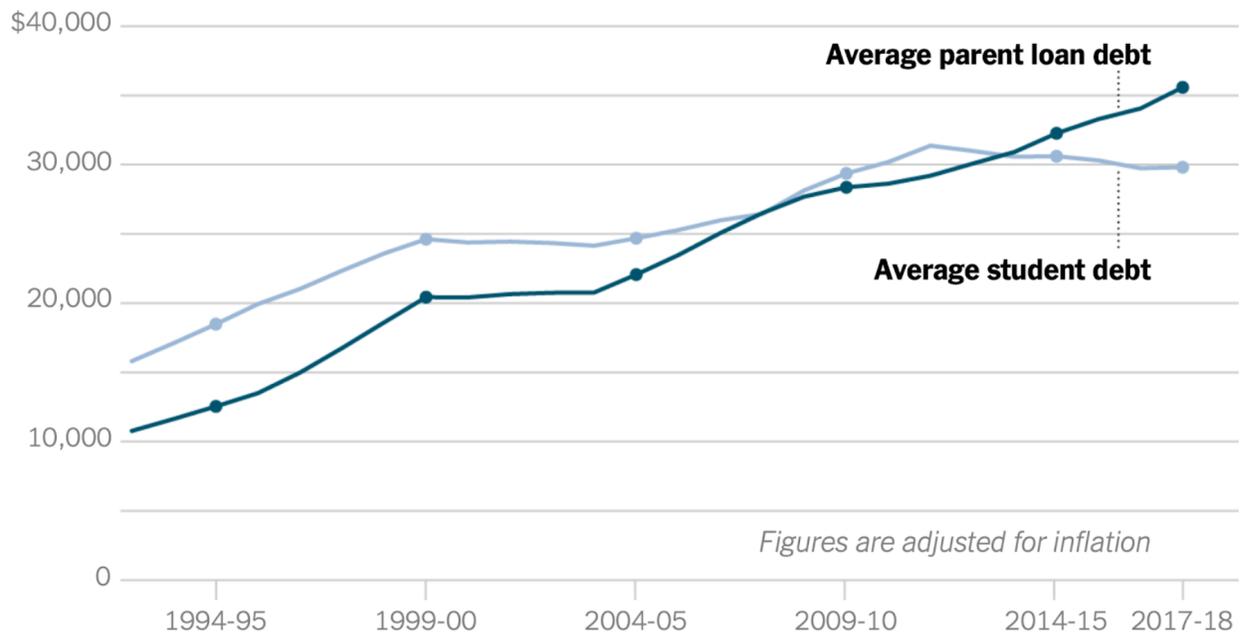
Source: Mark Kantrowitz (SavingForCollege.com)

STUDENT LOAN DEBT

One large part of this puzzle is student loan debt. The average undergraduate enters the workforce with over $35,000 in student loan debt. It should come as no surprise that recent graduates are choosing private sector jobs over their public sector equivalents. As Sophie Alexander of Bloomberg put it, "For those facing student debt, there's pressure to put those costly degrees to use and make as much money as possible."

Governments, law schools, and medical schools have all recognized the importance of public interest careers and have instituted various loan forgiveness programs for public sector work. However, nothing similar exists for civic technologists.
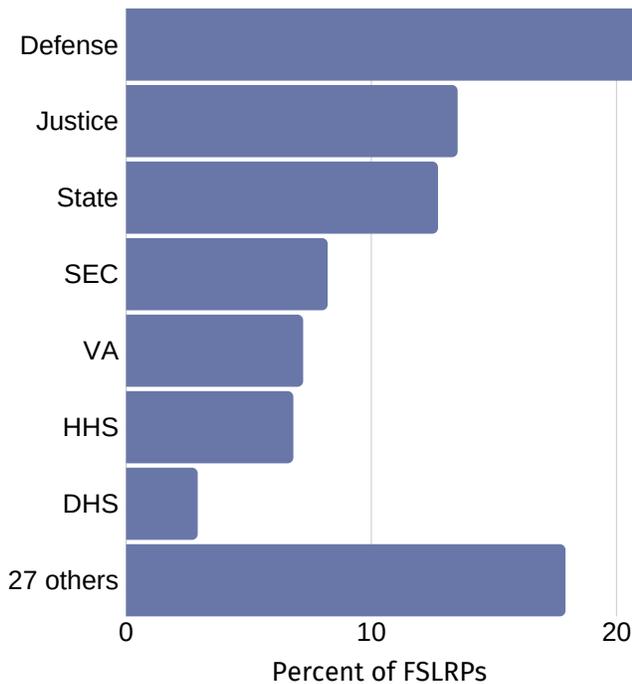
FEDERAL PROGRAMS

Federal programs have largely failed

GOVERNMENT-WIDE PROGRAMS

The federal government has tried to forgive student loans for those working in the public interest through the Public Service Loan Forgiveness program. First established in 2007, PSLF is a loan forgiveness program for full-time employees at a federal, state, or local government agency, a 501(c)(3)-designated organization, or select other employers. Eligibility for PSLF carries several specific requirements: only Federal Direct Loans under an income-driven repayment plan qualify, and borrowers must have made payments for 120 consecutive months (10 years).

In practice, these stringent requirements have led to PSLF canceling very few borrowers' loans: between October 2017 and March 2019, when the first borrowers became eligible to apply for forgiveness, just 518 borrowers out of 73,554 applicants— or less than 1% of borrowers—had their loans forgiven. Over 75% percent of applicants were denied for failing to meet criteria for repayment; additionally, more than 15% of applicants were denied for not having the required Federal Direct Loan.

Additionally, the program is also subject to political headwinds. For example, President Trump's 2020 budget proposal eliminates the program completely.

Top agencies utilizing the
Federal Student Loan
Repayment Program (FSLRP)

Data for Calendar Year 2016.
Data from OPM report,
published March 2018.

AGENCY-SPECIFIC PROGRAMS

The Federal Student Loan Repayment Program (FSLRP) authorizes federal agencies to establish their own loan repayment programs. Agencies are permitted to repay up to $10,000 in loans per employee per calendar year, with a maximum total repayment of $60,000 for one employee. In 2016, the Department of Defense has led the use of the program, accounting for 29% of all FSLRP recipients.

While this program has been successful in some departments (88% of loans forgiven were in just 7 departments) it has encountered significant setbacks in most agencies. A key problem is that many agencies lack dedicated funding for the program. Additionally, FSLRP specifies that new hires must agree to a 3-year period of service. Perhaps most importantly, this program does not cover employment in city and state governments or in nonprofits.

OTHER FIELDS

Medical and law schools have stepped in

The law and medical fields, both of which have a demonstrated need for those working in the public interest, have instituted loan forgiveness programs specific to their profession.

MEDICAL SCHOOLS

Loan forgiveness and repayment programs for medical school debt largely consist of a patchwork of programs sponsored by federal, state, and local governments, as well as some third-party organizations. These programs often target shortages of medical professionals in niche areas by providing funding for those willing to work in that area, such as many state-sponsored programs intended to fill the need for doctors serving rural areas.

The National Institutes of Health Loan Repayment Program, which supports those engaged in medical research, serves as a model for an effective loan forgiveness program. Between 2011 and 2018, applicants saw an average success rate of 50%, as compared to less than 1% for the PSLF. It has awarded approximately 1,300 grants each year, while PSLF has only forgiven 518 loans between October 2017 and March 2019.

Other targeted medical school LRPs

- *National Institutes of Health (NIH) LRP,* for those engaged in medical research
- *Indian Health Service (IHS) LRP* for those who work for 2 years in an American Indian or Alaska Native community
- State-sponsored programs to fill need for rural doctors in Arkansas, Minnesota, Oklahoma, Utah, and more

NIH LRP eligiblity

- Qualifying medical degree
- Carrying debt exceeding 20% of base salary
- Conducting research in a qualifying area
- Working at a nonprofit or government agency

LAW SCHOOLS

Loan repayment programs for those working in public interest law are administered by a variety of organizations. Many state bar associations offer loan repayment programs for pro bono lawyers. The Department of Justice Attorney Student Loan Repayment Program (ASLRP) serves as a talent recruitment program for the Department and provides loan assistance for selected students who commit three years to the Department. The John R. Justice Student Loan Repayment Program aids students who work as public defenders, and is administered at the state level.

Law schools often provide financial assistance to graduates who are working either pro bono or in the public interest. These programs are collectively referred to as loan repayment assistance programs, but individual schools may title their programs differently: Yale Law School's loan repayment program is titled the Career Options Assistance Program.

SOLUTION

PICTURE GRANTS

The Public Interest Civic Tech University Repayment Effort (PICTURE) Grant is a loan forgiveness program established for graduates who pursue careers in public interest technology. A PICTURE Grant is a forgivable annual loan for graduates who continue to meet the following conditions:

- Works for a 501(c)(3) or a city, state, or federal government,
- Holds an engineering, design, or product position, and
- Still has unpaid student loans for an engineering, design, or product degree.

Notably, these criteria exclude contractors. For many reasons (e.g. contractors are paid more, there is a smaller skills gap, etc.), contractors should not be eligible for PICTURE Grants. Additionally, a PICTURE Grants program could institute a maximum salary threshold for eligibility.

The cost of instituting PICTURE Grants would be dependent on the size, duration, and quantity of these loans. For example, a $5,000 grant for 3 years would cost at most $15,000 per person, which is less than the cost of LRAPs per person at many law schools.

ADMINISTERING THE GRANTS

PICTURE Grants can be administered by any institution whose mission is to encourage technologists to work in the public interest.

Engineering Schools

Like law schools and medical schools before them, engineering schools should establish a loan forgiveness program for graduates working in the public interest. These PICTURE Grants would promise graduates forgivable loans contingent on meeting the criteria established above. The program can be administered by the engineering school itself, or in collaboration with the university's financial aid office. Additionally, PICTURE Grants would raise on-campus awareness for civic technology, encouraging more graduates to choose careers in the public interest.

Philanthropic Organizations

Philanthropic organizations that support civic technology stand to gain a lot from instituting PICTURE Grants. This program can help nonprofits support their mission by not only bringing more engineering graduates into the public sector, but also by raising awareness of opportunities this space. Additionally, nonprofits are uniquely positioned to administer a student loan forgiveness program because they enjoy increased flexibility when allocating their financial resources. Finally, because nonprofits often engage with many organizations and individual actors, they would be especially effective at fostering a community of civic technologists by connecting recipients of PICTURE Grants with other initiatives that are funded by the nonprofit.

Government Agencies

PICTURE Grants would be a powerful tool for federal, state, and local government agencies to bolster access to young technical talent. Much like how local and state governments have instituted loan forgiveness programs to combat the lack of rural doctors, agencies would be able to use PICTURE Grants to encourage recent graduates to help where technical talent is most lacking.

Agencies could draw inspiration from FSLRP to administer PICTURE Grants. By emulating a well-established structure, agencies would be able to establish these programs more easily. Additionally, by only focusing on civic technology, PICTURE Grants would greatly alleviate the lack of dedicated funding that plagues FSLRP.

Institutions must work together to reduce the burden of student loans for potential civic technologists.

PICTURE Grants is the solution.

"Institutions must do more to enable their students to pursue civic opportunities regardless of debt."

CHRIS KUANG

Co-founder, Coding It Forward

CONTACT

picturegrants.org