

THE BROOKINGS INSTITUTION
THE BUSINESS CASE FOR EXPANDING APPRENTICESHIPS:
FEDERAL AND EMPLOYER PERSPECTIVES

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Introduction and Framing:

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Opening Remarks:

THE HON. SUZANNE BONAMICI (D-Ore.)
U.S. House of Representatives

Employer Panel:

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Contributing Editor
Washington Monthly; Author, "Abandoned: America's Lost Youth and the Crisis of Disconnection"

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Fireside Chat with Members of Congress:

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THE HON. JOHN HICKENLOOPER (D-Colo.)
U.S. Senate

THE HON. DAVID P. MCKINLEY (R-W.Va.)
U.S. House of Representatives

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P R O C E E D I N G S

MS. GOGER: Good afternoon, everyone. I am Annelies Goger, and I'm a Rubenstein fellow here at the Brookings Metropolitan Policy Program. Dr. Richard Reeves and I are really excited to bring you this event today, where we'll invite some of the most committed voices on expanding apprenticeships throughout the country to talk about, "The Business Case for Expanding Apprenticeships."

This is a very timely conversation because on February 5, the U.S. House of Representatives passed the National Apprenticeship Act of 2021. This act, if enacted, would provide a lot of support to expand apprenticeships beyond the trades where they have been successful for decades, but also provide more inclusion and diversity within the existing system.

In the U.S., we have spent most of our public education investments in trying to send everyone to college. But the problem with this is we haven't been very successful at this and we're also leaving a lot of people behind. We're leaving behind people who can't afford to go to college or to take on a lot of student debt. And I can relate to this as a first generation college graduate, who is still struggling to pay down my college debt. We're also leaving behind people who like to learn with their hands, learn by doing, and people who are like my father, who learned woodworking in high school and enjoyed the creativity of being able to build things.

And, finally, we're leaving behind a lot of employers who are looking for a mix of skills that balance somebody who has some basic fundamentals from the classroom, but also has some experience learning the specific equipment they have, or solving the types of problems that are specific to their industry. In the United States about a third of Americans actually have a college degree which means that for two-thirds of Americans we don't have many options for them to get access to a quality job, except to say go back to college. Apprenticeship offers an alternative to this because apprenticeship blends a structured education opportunity over the long-term with paid on-the-job learning opportunities under the close supervision of a mentor. A lot of people often ask what's the difference between an apprenticeship and an internship, so I'll share a quick example. Let's say you're an intern at a winery, and you might spend your day cleaning up after a tasting or stocking some bottles. It might be good for some networking, but it ends in a few months.

On the other hand, a viticulture apprentice would spend many years working under the

wings of an experienced winemaker and by the end is basically a winemaker themselves. This is what apprenticeship can do. The COVID-19 situation has actually made this situation much more acute, not only because of the mass layoffs that we're seeing across the country, but because these layoffs has particularly affected America's youth. And we have learned from previous recessions that an early stage disruption in someone's career can have long-term impacts on their earnings and career outcomes. So there is really no time like the present that we could have this conversation about how to provide more options for people to access quality jobs and a family sustaining wage.

One of the biggest barriers to expanding apprenticeship beyond the trades is that outside of that narrow set of sectors, a lot of employer who aren't really familiar with apprenticeship, don't know really how to get started, and don't know what the costs and benefits are. The conversation today, hopefully, will shed some light on this. In addition, a lot of ecosystem actors such as industry associations, community colleges, workforce boards, and community organizations often help reduce the costs for employers, especially small- and medium-size employers that can't take on the full costs of starting a program from scratch themselves. And this bill, the National Apprenticeship Act of 2021, will take a lot of steps to help enhance that ecosystem and go beyond just the patchwork of things that we have right now. Another thing that we're going to hear a lot today about, I hope, will be how to be intentional about inclusion and diversity within apprenticeship. Registered apprenticeship currently doesn't have a great track record. For example, about 88% of apprentices are male.

And so, as we talk about expanding apprenticeship, we have to figure out how to be intentional about what elements will actually help increase access for people who may be very talented but are often very --- are overlooked in the regular hiring process. A few quick housekeeping items before we get started. If you have any questions, you can tweet them at #ExpandApprenticeships. And this event is going to be recorded and posted on the Brookings Event website, so you can share that. And also, my colleagues and I, just released a brand new FAQ for employers on apprenticeships and this is also available on the brookings.edu website. It is now my great honor to introduce Congresswoman Suzanne Bonamici, a fierce advocate for quality jobs and childcare, among other issues, and one of the co-sponsors of the National Apprenticeship Act of 2021. Welcome, Congresswoman Bonamici.

MS. BONOMICI: Well, thank you so much, Annelies. And thank you to Brookings for

inviting me to join you today for this very timely discussion about how to expand registered apprenticeships and how to best support workers during and after the pandemic. In my home state of Oregon -- and I want to say, Annelies, I appreciated the viticulture example -- and around the country registered apprenticeships, pre-apprenticeships, and youth apprenticeships are helping workers access employment, and they're particularly helping people with barriers to employment.

This is even more important at a time when millions of people are out of a job because of the coronavirus pandemic and as significant sectors of our economy are on the verge of transformation. The way I'd like to look at it is having a path for everyone. Right now working families are struggling, facing uncertainty, economic hardship, anxiety about the future. According to the Department of Labor, approximately four million people are now classified as long-term unemployed after being out of work for more than six months and that total is likely an undercount. Recent reports have suggested that as many as seven million jobs may not return to the labor market after the pandemic. Many unemployed individuals will need meaningful upskilling and reskilling opportunities to reenter the workforce, and many workers who are currently employed will need additional training as the future of the work evolve.

Registered apprenticeships are often lifechanging opportunities, especially for women, people of color, and other workers who have historically faced barriers to employment. Last summer I held a roundtable discussion -- virtual, of course -- with apprentices, pre-apprentices, and union leaders from across northwest Oregon. And I spoke with apprentices, like, Lacey. She said, "I don't know where I would be or what I would be doing without her apprenticeship." She was with Labor Local 737. And Lacey said, "It made it possible to pay my bills and feed my kid." And Lacey's story is just one example of many. Registered apprenticeships are paid on-the-job training opportunities with a 94% employment rate upon completion, and an average annual salary of more than \$75,000.

More importantly, registered apprenticeships also provide workers with the support services they need to succeed, like, tools, work attire, transportation, childcare, and, importantly, mentoring opportunities. So, in the coming months, Congress is going to crafting a recovery package to build back better with a specific focus on creating infrastructure that's manufacturing and clean energy jobs -- so infrastructure, manufacturing, and clean energy jobs. There is a lot of potential there. The transition to a clean energy economy will create a demand for more workers, and there is already an

unmet need for skilled workers in the energy efficiency sector. Last year, I visited with apprentices at the IBEW Local 48 in Portland, Oregon. So they have a partnership with NECA, The National Electrical Contractors Association. And IBEW's electrical apprenticeship program just demonstrates how our transition to a clean energy economy provides an extraordinary opportunity to create good paying jobs.

So efforts at the NECA IBEW Local 48, Electrical Apprenticeship Training Program -- it's a mouthful, but it's a great example of why we need to protect and strengthen our registered apprenticeship system. As a senior member of the Education and Labor Committee, I frequently advocate for workers and students who need our help and support. So, earlier this year, as you heard, I joined Congressman Scott in co-leading the bipartisan National Apprenticeship Act to create nearly one million new registered apprenticeships, youth apprenticeships, and pre-apprenticeships over the next five years. Our bill invests \$3.5 billion to scale up apprenticeship opportunities to streamline access to apprenticeships for workers and employers, and, importantly, to expand apprenticeships into new in-demand industry sectors and occupations. Industry partnerships are a helpful tool in scaling up registered apprenticeships and I have an example. The Oregon Manufacturing Innovation Center, OMIC, in northwest Oregon, is bringing together industry leaders with educational institutions including, Oregon Institute of Technology, Oregon State University, Portland State University, Portland Community College, to develop a registered apprenticeship program in advanced manufacturing. So my Bipartisan Partners Act, which is included in the National Apprenticeship Act, is modeled on the efforts at OMIC to help small- and medium-sized businesses develop registered apprenticeships.

The bill supports industry partnerships that bring together employers, education, training, labor, community-based organizations to create paid on-the-job training programs that meet the needs of employers in the region and provide workers with support services. So, last month, the House passed the National Apprenticeship Act with bipartisan support. The bill has strong support in the Biden-Harris administration. And our expectation is that we hope the Senate will take it up soon.

I will keep working with my colleagues on the Education and Labor Committee to support registered apprenticeships so we can get this bill signed into law and implemented. These opportunities provide workers with quality training, portable credentials, high wages, support services, and a pathway to a permanent job. But registered apprenticeships do more than train a workforce, they change lives for

the better. So thank you again for inviting me to join you today. I look forward to our continued work together and a great conference.

MS. GOGER: Thank you so much, Congresswoman Bonamici, all really excellent points. And now I'd like to introduce you to Ann S. Kim, Contributing Editor for Washington Monthly. And she's going to tell you about our panel.

MS. KIM: Great. Thank you so much, Annelies. Thank you so much, Annelies. I am Ann Kim. I am a contributing editor at Washington Monthly magazine. And I have the distinct privilege of moderating a panel featuring some of the employers and thought leaders who have really been out front thinking about apprenticeship, modernizing the model, and advocating for it.

So what they'll be doing is offering some kind of ground level insights about the programs they have created, as the title of this session suggests, making the business case for apprenticeships. If you would like to submit a question to them, you can send an email to events@brookings.edu, or you can reach out on Twitter using #ExpandApprenticeships.

So joining me on this panel are: Maria Flynn, she is the CEO of the non-profit, Jobs for the Future; Obed Louissaint, who is VP for People and Culture at IBM; Vivek Nair, who is the engineering manager at the cloud computing firm, Twilio; and Noel Ginsburg, who is the founder of CareerWise Colorado and CEO of Intertek Plastics. So if we could begin with Maria, if you could start us off. Annelies has alluded a little bit to what the post-pandemic future is going to look like. But if you can set the broader context for us, what do you see as the major challenges for businesses and workers? And how does apprenticeship fit in the strategy for the recovery?

MS. FLYNN: Yeah, absolutely. Thanks so much, Ann. And just to build on what Annelies said, so we're at this moment where we are marking this one-year anniversary of COVID and the really devastating impact that it has had on our economy and our labor market. And within that context we know that young people particularly are being hit very hard. And to put that in some context, as of January, the unemployment rate for 16 and 19-year-olds was over 14%, so more than double the national unemployment rate. The rate for 20 to 24-year-olds was a bit better, but still over 1.5 times the national rate.

So we know that, you know, within this crisis there is an even kind of more devastating

crisis for young people in today's economy. And that comes at a time when our post-secondary institutions and our not higher ed system in general is also going through a major disruption due to COVID. And young people are seeing a lot of competition for jobs that typically, you know, a young person might get. And that's because, as we see in a lot of economic downturns, you have workers with higher skill levels with more work experience who are competing for those entry level jobs. So those are just a number of reasons why in addition to, you know, older workers, I think, apprenticeship and those really important pre-apprenticeships pathways that the Congresswoman spoke to just really make a lot of sense, both for the individual and the employer.

And so just five, like, quick points on why I think that this is, you know, an important match, like, at a really critical moment for our country. So one is the fact that as an earn and learn model, young people or workers in general are not accumulating debt while they are getting this really critical training experience. Second, is that, you know, for folks who like, as it was mentioned, to kind of learn by doing, it really has that inherent connection between the academic learning and the applied learning. So individuals can really see the relevance to what they're learning and how that is applied on the job. Third, it really helps them build a very active and relevant professional network and the social capital that comes along with that. It also gives them that early experience in the workplace so they are able to build those employability skills that are so important, as we move through our careers. And then, finally, it also isn't just entry into that first job, but apprenticeships can also truly lead to that career advancement. So it is really, you know -- the first job and the jobs that come after that as part of this apprenticeship pathway.

So I think there was a lot of reasons why it makes sense, and I know we're going to dig into this more. But I think, you know, a few things that are kind of barriers to scaling this more right now, one is funding. And the legislation that the Congresswoman mentioned is certainly key to that. As Annelies mentioned and really digging in the diversity, inclusion, and equity component is critical. I think there is issues around clarity. I think, you know, it is confusing, I think, both for employers, but also for workers, on how to find these opportunities and how to kind of take that first step, so a lot to dig into today for sure.

MS. KIM: Obed, if I can turn to you. IBM has been out front for a really long time dealing with some of the challenges that Maria has mentioned. But also, you have also seen firsthand the

benefits of how apprenticeship plays out. Can you talk a little bit about why IBM opted so early on to embrace apprenticeship as a model for its human capital development, and how it fits into the company's mission and what the jobs of the future are going to look like?

MR. LOUISSAINT: First of all, thank you so much for facilitating this panel. What an important topic and then we feel privileged to be able to speak about our experience and hopefully share some insight of things that we have learned and we're continuing to learn.

So, first, let me start with saying that, look, as a company, we firmly believe that organizations that are deploying market-changing technologies have a responsibility to: One, prepare people for the way the technologies will reshape jobs; and then, second, is ensuring that economic opportunity is created by those innovations is inclusive, right, so it includes everyone.

And at the start of this conversation, we talked about that individuals with degrees only represent a third of the population. It's about bringing everyone along. We also know that while the coronavirus has accelerated digital transformation, we also know based on -- also data that was -- I won't recap -- but has been already highlighted has widened the gap between those who have the skills and those who don't. Right? So we have got to find ways, if we're going to create economic opportunity, an inclusive way to close those particular skills gaps. And we also knew even before the virus, right, is that we had a number of jobs in our industry ion tech that continued to go unfulfilled. And now we have a number of individuals who are unemployed or do not have access to those jobs. So we have to find ways in which to bridge those particular gaps. So, as we're shifting the paradigm with regard to talent, that is one of the ways in which we will help to bridge the gap between where we need to be and where we are today.

So our response to that has been -- we coined a new term about five years ago around, "new collar," and the needs are appreciating jobs that are not white collar jobs, not blue collar jobs, but ones that are modern, high income, also good wage earning jobs, so that you can earn a sustainable wage and continue to grow and benefit from the economic opportunity that's being created. Today, in our business, about 50% of our jobs do not require a four-year degree; whereas, if you went several years back, about four or five years back, that would have been over 90% of our jobs that don't require degrees. So we have gone through and then say, what are the real skills that are necessary, and then how do you

source for the skills rather than credentials that are not necessarily necessary and have other inherent biases in them?

Now, 50% of our jobs do require a degree. So people say, "Well, are degrees not important anymore." Of course, they are. They just have a place. So we have to be thoughtful about when we set up barriers to entry for jobs and then how do you close those particular gaps. So we learned a number of things, and then I would say in the last several years. We learned, namely, four things around scaling apprenticeships. So they're so important to now our overall talent portfolio, but as we have deployed them we learned four things.

One is change starts at the top. And, as leaders, change is on us to set the tone for how we use and create more equitable pathways. And then, so it's not just words. Right? But it's action. And one of the things that our leadership does is we invite individuals who have gone through apprenticeships or our P-TECH program into our environment, where into our leadership sessions, into conferences, to tell their stories so that our leaders can get a clear view of what these individuals are capable of when they have the right solutions and the right services to help them. Second is, we have to review our job requirements, right, and then taking out those unnecessary barriers. So, hence, going from the 90% plus to now 50% not requiring the four-year degrees.

Third is, showcasing those amazing stories, right, so we do have to showcase the amazing stories. And it was so nice to hear some of the stories. Here we have our own stories. You know, I think about Asuri, who is an individual who started -- she started as an apprenticeship about two years ago, and then she completed the program just last year. And then, now, she was the first generation to go to community college, as she was working on her apprenticeship. She also went at night to earn her own degree, is now a mainframe administrator, so is earning a very good, livable wage. I think about a friend of mine, a personal friend of mine, who was laid off last spring, and she was thinking about how does she restart her career as a mid-career professional. And then so while she was in the retail space, she started to take some of our courses online around data science. And then, just yesterday, just yesterday, it was the beautiful call to get from a friend that says, you know what I accepted the IBM apprenticeship in data science. And so she is going to now start her new journey. So last year, you know, over a decade as a retail professional and now is starting in data science.

So we have got to share those amazing stories so that it helps our organization recognize that there is many different ways in which to gain and build talent. And then the last of those four things that I call out is building the right wraparound solutions to ensure that the students, the professionals are successful that means the right onboarding activities. But it's not enough just at the start, right, providing the right mentors, training those mentors, and then having the right levels of check-ins and continuous learning as we go. The average IBM-er spends about 80 hours a year learning. Our apprentices are up to, like, 400. Okay? So they are earning, they are learning, and they are getting digital credentials and badges. And then when we look at teams that have a mix of, you know, our traditional degreed recruits, as well as our apprentices and our P-TECH grads, we see that those teams that have a more rounded set of capability and skills they innovate more, they are more inclusive teams. So we are seeing the business value and the benefit of these particular programs.

MS. KIM: So IBM is a huge company. But, Vivek, we can turn to you. I mean Twilio has shown that you can be a smaller company and also adopt apprenticeships as a successful model. Can you speak a little bit to that? And also, I want to pull a theme that I know that I talked about: what is inclusion? Some of the presentations I have seen about Twilio's program talks a lot about improving diversity and using apprenticeship as a means of diversifying, especially the tech sector, which hasn't been particularly known for diversity, so if you could touch on that as well.

MR. NAIR: Most definitely, and thank you, -- and Maria, and Obed, for your eloquent remarks so far. I'm a lowly practitioner of apprenticeships, and I only started doing this about three years ago. And I look forward to being on this panel to share what I have learned so far. To your point, as a company, Twilio has had a focus on diversity, equity, and inclusion for the past 20 years. And we have set broad goals of having 50% of our workforce globally identifies women by the end of 2023. In the U.S. having strong representation for underrepresented talent and having folks really feel like they belong at this organization. So let me share my screen and tell you a little bit about Twilio's journey when it comes to apprenticeship and how that takes us towards that goal. So, first of all, a little bit about Twilio. We're an organization that, as Ann mentioned, is focused on cloud communications, have about 26 offices globally, are at about 5,500 people, our workforce globally.

Let me tell you more about Hatch. We have been really intentional about Hatch, and

focusing it as a software engineering apprenticeship for underrepresented individuals from non-traditional backgrounds. In the U.S., this includes demographics such as gender identity, race, sexual orientation, and many others. And but, more specifically, we have been looking at non-traditional educational and professional backgrounds such as people who may have had a bootcamp certificate, might have had some campus community credit, or those who might be self-taught, as well. The way we structured this was six months in duration. The whole point is, as Obed mentioned, creating a really intentional onboarding experience for the first two months, then really embedding the apprentices with strong mentors on teams for another four months. And we're constantly assessing the performance, giving them feedback, really nurturing them with the real intent of converting them to full-time employees.

And let me just let the metrics speak for themselves. We have had six cohorts since 2017. Again, we are small organization, our numbers are small, but we have offered 43 apprenticeships across many teams since then and about six cohorts. And we have a goal of achieving 100 by 2023, which is a significant portion of our workforce. The success metrics have spoken to our business leaders; 94% of our apprentices have converted to full-time roles in the organization, and another 94% of those continue to be with the company. So it's not just about the number offer, the number we convert, and the number we retain. It's also about how they grow within the organization. So what we found is that 45% of our apprentices who are eligible for promotion have been able to do that which is in line with other sources of talent that we have had such as, new college graduates, etc.

Their tenure in that entry level position is about in line with other sources of similar talent, and overall people have a really strong opinion of the program after having gone through it. And with specific focus on the diversity, equity, and inclusion front, we found that over two-thirds of the folks coming into the program identify as underrepresented in one or more demographics; more than half the individuals identify as female or non-binary. And, in most cases, they are bringing some transferrable knowledge from previous experience, the previous lived experience, previous professional experience and that's the value they bring to the organization in helping us think different and build better products. And, you know, numbers are a little bit dehumanizing. I just want to end with my favorites, like, which is the partners and the community that helps us find all of this talent. We have local partners, like, Tech SF in San Francisco; DEDO, that's Denver Economic Development and Opportunity in Denver; and a few

other bootcamps, Tech-R Oakland is another one that's near and dear to my heart.

And, finally, it's the people. At the end of the day, there are 43 stories that we have had come to Twilio, another 57 to come, and many more to create. So I just want to end that this really impacts individual light. These are people who might have otherwise not had an opportunity to work in this industry. And I'm just really excited for the doors that's opened for many more people to come.

MS. KIM: Vivek, your last slide, showing that the ecosystem and the community and the network that was created by the apprenticeship program is actually a perfect Segway into the question that I want to ask Noel. The organization that you found at CareerWise has really revolutionized in many ways that connection between education, and career. And I want to bring up this issue of the skills cap, as well. Because there has been, you know, many employers talk about that mismatch between what students get in school and what workers need on the job. Can you talk about how CareerWise came to be, and how apprenticeship kind of fits -- is the heart of that model that you have developed in Colorado, who are creating those connections and building a network out there?

MR. GINSBURG: Sure, I'd be happy to share with that story and it really starts actually with how I grew up. You can almost say by luck of birth, I had an apprenticeship because I would go to work with my dad -- he was in the food business when I was a young kid -- to drive a forklift before I could drive a car. And when I went into university, I had the opportunity to do a business plan, and I ended up founding a manufacturing company in the beginning of my senior year and leaving university to run that business full-time, although it only had 12 employees. Because I didn't know how to run a plastics company, I knew early on if I was to be successful I would have to find talent that knew what I didn't, And manufacturing in Colorado is not a big thing. It's not like the Midwest. So that journey spanned decades of time.

But I knew that talent development would be key to the success of my business, so the first place I went were our schools assuming if I didn't have the talent it was probably because of them. And what I learned is it wasn't the case; that over the years the lack of business engagement in education, not just being consumers of education, but producers, as well, was fundamental is the gut instinct that I had. And then, second, I was fortunate enough to be a sponsor through the I Have a Dream Foundation of 42 intercity kids from a housing project that had a 90% dropout rate in Denver. And after

10 years of working with those young people, my wife, myself, and later my kids because they were born during that time, we graduated over 90% of those kids, and it sent me on a journey to find a solution that could scale. It's one thing for 42, but can you do that for a city, a state, or a country? And that led me to an institute in Switzerland where I learned that 70% of their population had an apprenticeship that started -- and this is key -- when students were in high school; and that when they graduated the average starting wage was over \$50,000.

So I knew that right then that what I had been looking for, for decades existed in another country. What surprised is it wasn't just about advanced manufacturing or the trades. It was banking and finance the chairman of UBS started as an apprentice. So I quickly reached out to our governor, Governor Hickenlooper, now Senator Hickenlooper, and asked him to bring back the delegation and he did. And because of that we were able to form CareerWise just about six months later. We just graduated our first cohort of apprentices that started in their junior year of high school. And so the reason is really two-fold. One is, there is a growing need for talent in this country. We are not solving the problem. We point the finger at education whether it be K-12 or higher ed and say, it must be them.

And I'm convinced it's not them; it's all of us and business has a responsibility. So when we formed CareerWise, we recognized that just starting an organization or apprenticeships within business is not easy. If you don't have the frameworks, the tools, the technology, the competencies that are trained to, an apprenticeship, a registered apprenticeship model that the USDOL has it can help create credentials across the country, we wouldn't succeed. So we set out on that journey and have now between Colorado, and our other affiliates around the country, have brought in over 700 apprentices. They're in the process of changing their future trajectory of their life.

And I'll share with you a story of just one student, Enjenique (phonetic), who works at Pinnacol Assurance. We're a comp insurance provider in our state with over 600 employees. And she had been in an online school in Aurora when she heard about apprenticeship. And I asked her -- she had now completed two years of her apprenticeship -- how has apprenticeship changed her view of her future?

And Enjenique said, after thinking a moment, "Honestly I didn't think I had a future before my apprenticeship at Pinnacol. But what I have learned is I have value; that I can, in fact, contribute to

the success of this company and, in turn, they have given me an opportunity I could not have imagined.” Enjenique graduated from her apprenticeship this summer. She is on her way to get a two-year degree, possibly a four-year degree, paid for by Pinnacol. She was hired by them and now makes a living wage right out of high school and is continuing her education. So, for Pinnacol, who now has over 5% of their workforce as apprentices, it's changing the nature of their business, how they train and develop employees. And for a company that four years ago had the same requirement that you had to have a four-year degree, that no longer exists in their employee handbook because they recognize talent comes in many forms. And if we're going to deal with the issues of inequality in our country, we need a system that serves all of our people. An apprenticeship, you can start with an apprenticeship and end with a Ph.D. It's not a limiter; it actually expands opportunity.

MS. KIM: Thank you. I want to start us all off with one question, and then turn to some of the questions we have been getting from the audience. We have a lot of great questions. We'd love to answer as many of them as possible. The question I have first for all of you is that, you know, the programs you describe are pretty intensive; they're time-intensive; they're resource-intensive, especially when you're talking about wraparound supports. And you do hear employers expressing concern that they don't want to invest in a worker only to lose them to a competitor. How do you address the concerns that you may hear from other employers about, you know, poaching, we're losing a young person that they have invested so much time and energy into? Noel, maybe you want to start that.

MR. GINSBURG: It's interesting. When we were on our trip in Switzerland and I remember one of the participants, somebody asking that question. And a gentleman that runs one of the largest -- they have about a thousand employees here in Colorado -- said, you know, people say that me and I answer them by saying, what if you don't train them? So the answer is, you don't really have a choice in our businesses. And if you create an education and workforce system like they have in other countries, then an apprentice may not stay with my company, but they are in a marketplace that they have the training, the experience, and the whole economic outcome for business as well as their citizens improve. So the real risk is, what happens if you don't train them?

MS. KIM: Obed, do you weigh-in here?

MR. LOUISSAINT: Sure, yeah.

MS. KIM: What happens with that end to apprentices?

MR. LOUISSANT: I'd love to build on that. And then, one is, you know, when we look at our own workforce there are a couple of things that are characteristics of the people who are most engaged and are more retentive. That is: they are spending tons of time learning; opportunities are created for them so they are finding their way and they're navigating; they're getting promoted; they're working on group projects; and they have great mentorship; and then when you think about the elements of a good apprenticeship program it has all of those things. So it's inherently in an engaging model and we have seen a high level of retention of the individuals that we have invested in. So, as we have invested in them, they have turned around and invested back into the firm. And, you know, it becomes a business.

So, it's a business imperative and I think we do this because we need to close the skills gap. But we also find that we're creating greater levels of loyalty to the organization by investing back into these individuals. We have then worked with 40 other organizations, right, through the Consumer Tech Association to try and share some of these models so that companies can get started, right, so with this particular program. So don't shy away, lean in, and then there is tools and capability that we'd love to be able to share so that more companies could engage in this type of talent model.

MS. KIM: Marie, I think I actually have a question for you from the audience that I'd love for you to weigh-in on. It's from Greg Miller, who is the co-founder of Health Tech Alley. He asks, "There are many apprenticeship programs out there. What might be some of the distinguishing features of highly effective programs?"

MS. FLYNN: This is for Maria, for me? Great, awesome. So, one is, I would say, programs that are really looking at expanding their pipeline for workers, so going beyond their traditional sources of talent and really looking to see how can, through their apprenticeship program, can they truly be expanding diversity of their workforce? And so, a lot of times that means partnering with community organizations, like, what Noel has in Colorado, your workforce, or the other community-based organizations. So I think that's a great attribute. I think also looking to see how can you build connections with community colleges and other post-secondary institutions so that there can be some post-secondary credit attached to the apprenticeship as well. And, definitely, as we have heard from

several folks that element of those support services whether that be mentoring or other services to really enable that folks can succeed in the apprenticeship pathway. And then, just one point on the prior question, I think that one benefit of apprenticeship that differs from a lot of employer-sponsored training models is that ability to truly align from the very beginning on your specific skill needs and the competencies that you're looking for.

So rather than having an individual go through, you know, have a program, and then come to your doorstep, and then having to train them you're able to really drive that alignment upfront. And I think that's really a unique element of this approach that's really key, particularly in, you know, the pace of how much things are changing in our labor force right now.

MR. NAIR: I'd love to add to that. I think the most successful apprenticeships don't see apprenticeships as a built on component for hiring, but as something that's taught through end-to-end. So, for instance, for Twilio it meant really thinking about the hiring process. Are we assessing for skills that are actually required for the job to be done? Onboarding. Are we equipping the people we have hired with skills and knowledge they effectively need to do the job done? Performance reviews. Are we actually assessing people for the work they're doing, or have we created some level of obstruction away from that which makes it really difficult for people to understand what they should be going towards? And then, finally, creating a true sense of culture and the community within the organization to support and champion the apprentices and also create the cohort feeling where they don't feel isolated. Those are some really important aspects for Twilio.

Going back to the previous question, I always think of retention issues as a check engine light for the organization. And what I have found is that our apprentices are/aren't highly sensitive to things such a toxic culture or management on clear direction. So when I hear apprentices leaving the organization, it makes me think where in this entire process did something go wrong and how can we double-down and not only improve the program but help the broader organization improve as a whole.

MS. KIM: So I have another question. Oh, I'm sorry.

MR. GINSBURG: Can I just add a little bit to what Maria and Vivek said?

MS. KIM: Yeah, sure, absolutely.

MR. GINSBURG: And that is, you know, in my company we tried to do apprenticeships

for decades unsuccessfully. And what we learned and what I have brought to CareerWise, and what we're trying to do is build the infrastructure to make it possible to do the things that Maria and Vivek were talking about. So what does look like? If you're doing a youth apprenticeship program connecting with the schools, allowing approvers, creating a marketplace that's safe for student, is a digital technology that we created that helps facilitate our work whether it's in Denver, or with our affiliate in New York City, or D.C., or in Indiana. Without that, you can't make those connections.

Second, developing with the input of industry, what those competencies are that are trained to. It's not about seat time. It's about actually having that information by which you can train to, and then a performance management system that our apprentices now use that will provide feedback to our education system in terms of data points. Here are the competencies that businesses are training for right now, and here are the gaps, and here is where education can join in with us. So I think technology is an important piece of the infrastructure that will allow this work to scale. Otherwise, it will be a nice program serving a few thousand young people or adults.

MS. KIM: So we have about five minutes left in a very long list of questions. So I'm trying to find what to ask here. But here is a question that goes on the student side of things. You know apprenticeship has a reputation that might be 40 years old. You know, what is the argument to students that they should think about apprenticeship as a career track and maybe not opt for the traditional four-year college trend?

MR. LOUISSAINT: I'll jump in here and say, earn and learn. (Laughter) I remember having this conversation with my niece because she read a recent blog of mine that was talking about apprenticeships. And she was, like, why didn't you tell me about this sooner? You mean I get to earn and learn at the same time? So I think a very focus on building on a modern skills and capability, continuous learning, learning modern skills that are directly applicable to gain a living wage and also a connection to a career path that is to value from.

MS. FLYNN: I completely agree with that and I would -- I think the challenge here is actually on two levels. So, one is, how do you help to kind of demystify apprenticeship for those folks who are providing guidance to young people whether they be parents, or counselors, or folks at a workforce board. I think too often there are a lot of misunderstandings about apprenticeship even though

through many presidential administrations I think there has been a lot of push in this area. I still think there is a lot of fundamental misunderstanding, so how do you make it clear?

And so, then I think the second level then is appealing to the individual themselves. Right? So I think you have a system level clarification issue, and then you have how do you make that case to the individual young person or worker? But I completely agree that the debt-free approach is definitely a standout characteristic and that ability that to really integrate -- (crosstalk) -- with post-secondary. That's not an either/or pathway. It can really be a combined pathway to lead to really terrific outcomes.

MR. MAIR: Can I add, make a small plug for registered apprenticeship here? Specifically, so Twilio's Hatch program was first registered with the DOL through Tech SF, which is an initiative by San Francisco's Office of Economic and Workforce Development. And the really important benefit for the apprentice here is a transferrable credential by the Department of Labor for a certain occupation which moves with them after they leave the organization as well. So there is a degree of legitimacy to apprenticeship over something as just casual, like, an internship or something. So when done correctly by the employer there is an additional benefit for the learner so.

MR. GINSBURG: And I would add to that as well, Vivek. For the employer, many of our employers in New York City are companies, like, JP Morgan Chase, Amazon, Google. They do business across the country, and they don't want to do business 50 different ways.

And with a registered apprenticeship there is that standard that can then be used in JP Morgan across the country or with Bank of America and that's a real value-add to building a system as opposed to just a program.

MR. LOUISSAINT: And then I think that having those, it is super important that we think about these roles not just as jobs, but as a pathway to a career. When we have digital credentials that are portable, then it puts you on a path to a career which is why we registered all of our 24 different apprenticeships involved.

MS. KIM: So, final question, very quickly, we're about to hear from policymakers who are championing apprenticeships. What is the one thing that you would like Congress administration to do on apprenticeships? So, Maria, let's start with you and just go down the line, and then we are going to turn it

over to Richard.

MS. FLYNN: Yes, I'd say, pass the National Apprenticeship Act of 2021 would be my headline. You know I think funding is really needed to help take this model to scale. We can do a lot of tinkering around the edges without funding. But I think the boost of resources would really help take this to the next level.

MS. KIM: Noel, do you want to go next?

MR. GINSBURG: Sure. Years ago, I worked with Governor Romer and sat on the National Governance Association Roundtable on School to Career; millions were spent. Money was poured into, billions, to something that never sustained itself. So the advice I would give is really two-fold: make the investment in the infrastructure that makes this possible and that infrastructure is beyond just our universities, and our community colleges, and our K-12 system although they're critical.

It's also in the industry intermediaries that need to be a long-term player in this work that will define the competencies, the technologies that will support this. And then, remember, at the end of the day, if industry doesn't do this, this is a wonderful idea that other countries are able to implement. So how we engage with legislation to support the startup costs for this work, not to sustain or pay wages, but to help train their coaches, their supervisors, and their HR departments to support something like this is essential.

So let's not spray and prey with lots of money, let's be very strategic.

MS. KIM: Vivek?

MR. NAIR: I am not intimately familiar with the Act. But my main ask is to really invest in the infrastructure that glues learners, institutions or trainers, and employers. Right now there is a lot of goodwill from organizations and employers that want to hire apprentices but are unable to invest or offer scholarships. There might be a skill mismatch between what organizations are training individuals on and what they need and we need a nexus that brings together these different players and also funds programs appropriately to create the ecosystems that this country currently lacks that, as we rightly pointed out, many others do now.

MS. KIM: And, Obed, you have the last word.

MR. LOUISSAINT: So since my colleagues here have already talked to very specific

programs, I'm going to say the tenacity to stick at this particular topic over the long horizon. It doesn't get fixed overnight and it needs the partnership of industry, education, and government, and policymakers over a long horizon. We are at the cusp of, you know, really diversifying changing the way that we're thinking about workforce transformation, stay the course and be tenacious; and then, you know, continue to grow our apprenticeship programs and the policies that enable those programs.

MS. KIM: A huge thank you for all of our panelists. And thank you to everyone out there for joining us. I'm going to turn things over now to Richard Reeves at Brookings Institution.

MR. REEVES: Thank you for moderating that panel. It was absolutely fascinating. And they have given some marching orders to our next two guests, who I hope will be joining us now.

I think we have heard word "timely" mentioned quite a few times. I think it's therefore a great moment for us to have this conversation. So I'm delighted to mention two of those who are kind of in the thick of it in terms of legislating on this issue of apprenticeships.

We're going to hear from Senator John Hickenlooper, who is the junior senator of Colorado, having won election to that office last year, but no stranger to public office having also served as the governor of Colorado and before that as the mayor of Denver, and then he is also a businessman. In fact, both of our final guests are businessmen having co-founded a brew pub in Denver called the Wind Coup, which to this day sponsors the Annual Beer Drinker of the Year competition. I think that's right, Senator?

GUEST: Yes.

MR. REEVES: Great. Well, I'd love to talk about that, but I certainly won't have time -- but a businessman as well as a politician. And then we're going to hear from Representative David McKinley, who is the U.S. representative for West Virginia's 1st Congressional District.

He, too, speaks as both a member of Congress and as a businessman, in fact, founding owner of a successful engineering company in West Virginia. I think it's also important to note that in the context of his debate he has been supportive of the National Apprenticeship Act, and one of the relatively few numbers of Republicans I think thus far have been largely supportive. And so we'll get into that I'm sure in this brief conversation. But let me just start by thanking both of you for your precious time and on such an important issue. So great to have you both here. So let's dive straight in. Obvious

apprenticeships are one of those issues, particularly in the U.S., it seems to me, where the proportion of warm words of enthusiasm to actual legislation is particularly high. That's true generally, but perhaps no more so than here. We do now have some legislation that's in place that's potentially proceeding.

I'm just going to ask each of you, what do you think have been the main barriers thus far to making progress, especially bipartisan progress, which I think we could all agree is essential in this area, or at least desirable? And how far does the bill go in terms of addressing those historic barriers to progress?

Senator Hickenlooper, let's start with you.

MR. HICKENLOOPER: Sure. Again, that's a 30 minute question.

MR. REEVES: You have three minutes.

MR. HICKENLOOPER: (Laughter) yeah, right, exactly. So I got involved and Noel Ginsburg, who was just on your previous panel, came to me about eight years ago, seven-and-a-half years ago and described the problems he was having finding, you know, a well-trained, sufficiently ready workforce.

And he began this process that led to CareerWise while I was governor and I saw firsthand the appetites that's there, the necessity in terms of allowing our economy to grow, and how genuinely bipartisan the issue should be. And I think that the Act that we're all discussing is a great step. I don't think it gets everything done that we want to get done. But, you know, I mean one of the problems historically has been that, as a country, we did such a great job of convincing every young person they should go to college. And I think the consequences of that are self-evident; a lot of kids went to college but didn't graduate, they ended up with a lot of debt. I mean we got 70% of our young people that graduated from high school don't go to college, aren't going to get a college degree, and yet they are essential to whether we can innovate, continue to grow our economy.

It's not just technology although that's part of it. It's about hospitals and advanced manufacturing, like, what Noel does. It is everything you can imagine under the sun. And it's not going to be just apprenticeships for 17, 18-year-olds. It's going to be apprenticeships all throughout life. I think we're going to go through these waves of innovation and automation. And we're going to have waves of people at risk of losing their careers. You know I had a masters in geology, came out to Colorado in

1981, I had a company car. I thought I'd be a geologists for my whole life, but there was a long recession in the mid-80s, our company got sold, I got laid off, along with 10,000 other geologists. And so I ended up not just opening one brew pub, which is the greatest thing one could do in life, to a certain extent, outside of having children, but I also opened a whole bunch of brew pubs and other restaurants, and I built a career out of that; I was lucky. Many of those geologists had a struggle when they had to reinvent themselves and learn new skills. And I think this apprenticeship approach allows us to look at skills training from a whole new light, on-the-job learning, where people are getting paid while they're learning. And I think it has potential. And I think this Act is a great start to really solve a major challenge in this country.

MR. REEVES: Thank you. Congressman McKinley, I'm going to come to you. Obviously, you have a long track record of interest in these issues. Can you speak a little bit to what you think the barriers have been thus far, and how far you think that this bill goes?

MR. MCKINLEY: Yes, of course. I think one of the things I would agree with the Senator is that we had over the years -- I think our forefathers gave us some bad advice and that was that we all ought to go to college; everyone ought to go to college. And so the curriculums all across America all have been structured that way. And when we talk to the schools today, we're finding out they have very few people going into the vocational education program; there is a stigma associated with that,

So we've got to get past this stigma and that also applies -- I see a very parallel relationship in the apprenticeship program where people that -- let's look at it. Let's give that give that consideration. Now, Richard, I wasn't opening bars and restaurants. I was opening construction companies and building buildings. And I have been doing this since '65, think about that, you know, I've got some gray hairs as a result of doing that. And but one of the things that we have really come to appreciate in the building trade is using their apprenticeship program, and we see the advantage. But we also knew that they had to break out of there, what they had been taught, that anyone who is going to be a carpenter or electrician there must be something wrong with them, maybe there is a deficiency or something. We've got to get past that because for us to build a good strong middle class we have to have people willing to work with their hands. And so we have been working on this for years. And as I have all through my construction career before coming to Congress, it was all structured around

supporting our apprenticeship programs. And in West Virginia we have a vibrant, very robust program. And I think, what I'm hoping through this legislation, we can use the construction as the model of how we can spread that out to other segments of our economy because it's worked very well in construction.

MR. REEVES: Well, I'll just observe, of course, that bars are usually in buildings so there is a harmony between your work. But can we talk a bit, a little bit just about how the politics of this plays out? Because we have heard from the panel before how important it is to have a consistent policy architecture, right. There are few areas of policy where you want lots of changes all of the time. But this is one that clearly needs a long-term commitment and that speak to bipartisanship. Can you speak a little bit, Congressman, to what the concerns are perhaps on your side of the aisle and with the current Act, the current bill and the approach and in order to try and build more bipartisan consensus? And what is it that's leading many of your colleagues to not wish to support this legislation?

MR. MCKINLEY: A lot of it and -- well, let me back and start again on this. I think a lot is because there is a misunderstanding what this does. Because, typically, the apprenticeship programs have been through union-affiliated groups. And I'm going to try to educate the members on my side of the aisle that this has -- it's not -- building trades maybe apply that, but if we're going to go into aerospace, or we're going to do high tech, and other, we need workforce. I think the best tool I've got, if we ever go forward with this, is reinforcing out. When they talk to their employers back in their district, I feel very comfortable that the overriding notation that they get from that is that, where do I get my workforce? Where is my workforce for tomorrow? So, putting aside, this is not union or non-union, this is just there is a workforce shortage, how do we do it? How do we fill this thing in? So I'm the tenth most bipartisan member of Congress. So I think what a hoot that is that they are emerging.

Because I understand it's black or white. It is not red or blue. These are ways, if we can talk together -- and I'm going to work on that. I'm going to use that influence, or whatever I have developed over the last 11 years, to try to develop relationships where we can spread that concept of the construction apprenticeship program to all of these other sectors. Because every one of them is telling us we've got -- we don't have a workforce.

MR. REEVES: So, well, I think we have all noticed the concentration of political power in West Virginia in recent years, Congressman. So may I bow to your elbow? But Senator Hickenlooper,

you're been around this issue a long time and you have looked at it various perspectives. It does feel as if, as the Congressman just suggested, that so those who aren't close to this debate it sort of boils down to whether you are on the side of unions or on the side of employers. Right?

And so some people have this attachment that they think versus a union, we want more employer involvement. That's one of the reasons why Annelies, I think, led this event to be around employer involvement, right, because I think that there is this strong agreement that employer involvement is required. Is that a correct characterization of some of the barriers here? And what do you think about the prospects in the Senate and how will you kind of help to shepherd this through the Senate?

MR. HICKENLOOPER: Well, and first let me tell David that I agree with him that we have got to have people working with their hands. It's an essential part of this country. My older brother, Sidney, is an automobile mechanic, so he had me rebuilding my first Chevy 2832 when I was 18-years-old. There is a joy to understanding how things go together and how they work. And at leads to all, I mean, it really does help you go and understand how nature works, how systems work, how business works. In terms of the politics, I'm from the school that, you know, is we train people in skills, they have a choice whether they want to organize and form a labor union or not. And if the aerospace workers want to have a union or, you know, if the tech workers in Silicon Valley feel they are not getting a fair shot and they want to organize, so be it. I think people should have that right to organize. The skills training shouldn't have anything to do with that. Skills training should recognize that these are great jobs. And I think, again, as I built these restaurants -- and most of them were in old warehouses and we renovated the whole building and the lofts and mixed use projects.

And I spent most of my time with the carpenters and the plumbers and the electricians just because I kind of liked -- the relationships became deeper for me in a lot of ways. And that experience of building things and having it come together, I understand exactly what David is talking about that that is a natural inclination of people. What does Democrat or Republican have to do with that? You know, in many ways, as we build things and whether those things are aerospace systems or a brew pub it's the same thing. We're actually taking what's there. We're organizing and investing ourselves, it's capital into it, and we're creating jobs.

This is what makes countries great and succeed. Anyway, I think that's -- I will look forward to -- you know, I'm going to chair the Employment and Workplace Safety Subcommittee on the Health, Education, and Labor Committee in the Senate. And I really look forward to discussing this bill with Republicans and Democrats because I think it should be, not unlike infrastructure, it should be a place where we can get an alignment of self-interests, an alignment of effort.

MR. REEVES: So there is this potential to depoliticize the issue somewhat and become more bipartisan. It is striking to someone coming from Europe to the U.S. that there is a very different brand to apprenticeships in the U.S. And I agree with what both of you have said around the stigma of this is very often something that people are thinking about for other people's children rather than their own. It's very often seen as something which is, you know, not seen as a credible alternative to college. Have either of you seen any examples though from overseas? I know actually I think we just heard, Senator, you were in Switzerland. And is there anything we can learn from what other countries have done? I'll start with you, Senator Hickenlooper.

MR. HICKENLOOPER: Well, just real quickly, and you heard that Noel Ginsburg organized and we took 50 people. We had the CEOs of 10 of the largest companies. We had the superintendents of school districts, foundations, the head of higher education, the head of K-12. We had everybody for a whole week. There is only one time in my eight years as mayor, eight years as governor, where I spent a whole week doing one thing and that was exploring the apprenticeship system in Switzerland. And, you know, it's very similar to Sweden and Norway.

I mean what it allows, it allows kids to make their own decision; government isn't telling them which way they have got to go. So it is perfectly suited to an American implementation. But I think it's also worth pointing out that the largest bank in Europe, UBS, their CEO started out as an apprentice. He didn't get his college degree until he was in his twenties, he got to decide and mold his life. Is he a blue collar, or he a white collar? I mean now he is the CEO of the largest bank in Europe. This apprenticeship model allows people to construct their lives as they want.

MR. REEVES: Yep, yep. Congressman McKinley, are there any thoughts? Can we learn from abroad on this that we can bring home to America?

MR. MCKINLEY: Well, yeah, other nations don't stigmatize this like we do for some

reason. We have just got to get past that. So it's not so much I can learn from other nations that may be. Germany, particularly, has a very robust program there. But I'm also going to say, I think we can break through some barriers by talking on a pocketbook, a wallet issue. Here it is that you can say to someone, if you go into the apprenticeship program, you're going to come out of that much like vocational education.

You're going to come out of that with maybe making 70, \$80,000 a year, and in zero debt, as compared to going to college for four years and having a degree in French literary studies that you might have, like, or geology, that John did when he went out to Colorado and find out there is not a great market for that perhaps. But why are we struggling? Let's show people what a pocketbook, they can make money at this and a lot of money and instantly with it. Again, the one I'm most familiar with has been the construction trades; that they're working at the same time they're earning money while they're going to school. So it has some great advantages to it, but I haven't seen as much, as maybe John was talking about others, I haven't seen the attachment yet, the union, non-union, not from the real world. But I do hear from the members here, when I talk to other members of Congress about embracing this concept immediately their reaction, is this union?

I'm trying to explain to them it has nothing to do with it. This is being able to have workforce in all aspects of what we need to build this economy. As it comes back out of this pandemic, we're going to need people available quickly. So I like this, I like the idea of making sure that we teach them first, it doesn't cost you anything. You're going to earn a good living at something that you can -- you can buy a house with; you can buy a car, or a truck, or whatever with it, right away, and with no debt. I want to make sure people understand that aspect of the apprenticeship program.

MR. REEVES: Yeah. Because, again, I think you're right. I have noticed that people made that connection immediately. And it's also striking that even as people become more aware of the costs of college and the potential lower returns in some cases to college, the policymaker solution is to make college free and write off everybody's debt rather than encourage alternatives which I think speaks, it speaks to just how strong this grip is of the idea of college.

But I want to ask you both another question. Because I think one of the reasons for some resistance to this kind of thing in the U.S. may have a slightly more understandable cause, if you

like, which is the concern about tracking, particularly, in high school. So the evidence suggests that the earlier you start giving people vocational opportunities in high school and certainly thereafter, the better. But in the U.S. the idea of public high schools, the idea of tracking, the idea of saying to someone, you know, even when they're still in high school, let alone their 18, right, you are going down that track, is very problematic in the U.S., partly, because of its history around race. But it's largely unproblematic in Europe. Right? It's, like, what are you good at? What do you want to do? And it's integrated into the system. Can you speak a little bit to whether that's correct that there is still this concern about tracking people to early and that has inadvertently led to a devaluation of vocational training, particularly, in the early years? Congressman, would you like, starting with you on that?

MR. MCKINLEY: I am aware that there was a tracking issue. I never experienced it back in the '60s, maybe it's more prevalent now. But, again, as we have started phasing away from the vocational education, I don't like those kinds of studies or tests given to someone to find out you're going to be better as a carpenter than you would be going to -- I don't like that because some people never -- they don't test right. They're going to have to, and it's going to have to evolve, so maybe I can learn from what they have done in Europe. But I want people to make that call when they're ready to make that call to do that. I didn't decide I wanted to be a structural engineer until I was a junior in high school and that was only because that's all I -- my father was a structural engineer, and I was like, if it was good enough for him, it's good enough for me. And so I followed in that path, but I could very well -- if he had been a carpenter, I might have become a carpenter.

MR. REEVES: Yeah. I think this was set quite early but --

MR. MCKINLEY: Don't let these tests tell you what you're supposed to be good at.

MR. REEVES: Right, so you're talking about choice and flexibility rather than determination?

MR. MCKINLEY: Yes, yes.

MR. REEVES: I think the fear is that somehow the state or the school just labels people. Right? And it says, well, you're good with your hands, is just a polite way of saying you are not smart enough for college, that's the fear, right?

MR. MCKINLEY: Yes, that may be true I think. But, again, it's, I think, the biggest

pushback I'm hearing more is not the tracing, it's more who is going to pay for this? And, again, I come from the construction industry. The carpenters, the plumbers, the electricians, they pay for that themselves. There is a portion of their salary all goes towards the apprenticeship program. So the projects, the employers and the employee, they pay for it and then the employee pays for it. So it's not a government program. They get some federal money. Yes, of course, they do. I think in West Virginia it's something less than \$2 million a year. But we're running, what, 29, 30 different programs all over West Virginia. A couple of million dollars isn't what's running those programs. It's the people themselves realize they want to make sure they're trained for the job. So I'd want to make it you don't look at -- this is not a federal program. This is something that's going to be done with our employees.

MR. REEVES: Right. So there is a role for federal government, but it's a market and it's driven by demand and by the people who want it.

MR. MCKINLEY: Yes, that's fair.

MR. REEVES: And it works, good, all right. Senator Hickenlooper, any thoughts on kind of the general framing of vocational and also just your hopes for this going forward? I think, you know, Congressman seems pretty optimistic that the tide is turning a little bit and committed to his education program which is great. What about your thoughts in terms of what we should see over the next few years?

MR. HICKENLOOPER: Well, two things I want to just offer different perspectives. He was talking about the benefits to these workers that they can buy trucks, they can get a house, I mean, they can get a start on their life in a way sooner. But I think, more important, is to see that their waiting lists for businesses that want to hire these apprenticeships, these apprentices. And that's why in West Virginia, we, as the representative said, \$2 million for all of these programs, all across the state, it's a very low cost. I mean the government economy is really the convening. And, in essence, it's like these businesses are raising their hand saying, I want to pay more taxes. In other words, they realize the importance of getting a workforce with the skills and the preparation that they can really do what's needed and, you know, grow into the job successfully.

I think that's a big part of what's going to be so attractive that we don't need to have a \$50 billion, or even a \$10 billion program. We can facilitate the opportunity for kids to make this decision and

that's the second. That's why tracking and putting someone on the wrong track, and the right track, and which has the right brand. And I do agree with a lot of what David said that there has been, you know, a snudge, you know, it is somehow not as good to work with your hands as it is to go to college which is nonsense. I mean, again, my brother is an automobile mechanic, you know, has had a great, wonderful life. I think kids, and I would say, kids of all ages, but especially in, you know, 16, 17, and 18-year-olds, right in there, as they come into high school, they should have the choice. And I, you know, when I ran for mayor of Denver, I was struck by the school district being separate from city government.

The superintendent of schools, and the mayor, they didn't see each other too much. There is a whole long reason for that. But I made the promise if I got elected mayor in my first term I'd visit every school in Denver. And nobody told me until the election there were 161 schools in Denver. So I went and spent two hours in a public school every week for my first four years in office. And I can tell you in the high schools I saw a lot of kids in class just bored silly, twiddling their thumbs, they were looking at things they didn't care about. They were waiting to get their high school diploma. The great thing about the apprenticeship program is they can go out and be working two days a week when they start and three days a week the second year, four days a week the third year, something along those lines. But, in the other days, when they are not working, they go back to high school, or in their second and third years, they can go to community colleges. So, and in Colorado, they -- we have concurrent moments so they can accrue credits. If they want to switch and go on to college, they'll have credits towards that.

But they get to make the choice: they end up with a college degree; over three years they'll make almost \$30,000; they'll have, you know, some college credits if they want to. But, most importantly, they're going to have a sense of where they want to go in life. And I think that, allowing them the choice and making sure that there is equity, that we are providing this opportunity to every neighborhood, every community in the city so that every racial barrier is broken down, that everyone gets a fair shot at learning apprenticeships. That's going to do a lot to open up; that people are going to look at this, I think, and say, yay, this is a much -- you know, in many ways --

MR. REEVES: Yeah.

MR. HICKENLOOPER: -- this is a better path for me to take.

MR. REEVES: Well, having graduated two sons through U.S. high schools, I agree that the final year, it doesn't necessarily seem to be packed with productivity. (Laughter) And so, to some degree, what I hear you say, hear the Congressman saying that, you know, people are putting their hands up and saying, I want the skills. I want the skills to get a good job and I don't think I should need to go to college to do that.

And I hear you saying, Senator, that employers are putting their hands on this saying, I need the skilled workers to be able to make a profit and be successful in this market. And so it's -- we're up against time -- it's a cliché in policy circles to say, if not now, then when? But may be less of a cliché for this issue right now, as we come out of COVID. And so, we'll be watching this space very, very closely and to thank both of you for advocacy in this area and for your work on this legislation.

I also want to thank my colleague, Annelies Goger, who is absolutely the lead for Brookings on this and doing terrific work in this area, and to all of my colleagues who have helped put this together, and our previous panelists; and, of course, the AV tech, Harold and Trevor, who have been behind the scenes making all of this possible in this remote space.

And, with that, thank you to all of you, who are watching, for joining us and your questions, and be safe, be well. Thanks again.

MR. HICKENLOOPER: Thank you.

MR. NCKINLEY: Be safe, be safe, take care.

MR. REEVES: Thank you, thank you both.

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