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# PROVIDING MORE STUDENTS A PATHWAY TO SUCCESS BY STRENGTHENING CAREER AND TECHNICAL EDUCATION

## HEARING

BEFORE THE

SUBCOMMITTEE ON EARLY CHILDHOOD, ELEMENTARY, AND SECONDARY EDUCATION

COMMITTEE ON EDUCATION AND THE WORKFORCE

U.S. HOUSE OF REPRESENTATIVES

ONE HUNDRED FIFTEENTH CONGRESS

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# C O N T E N T S


| | Page |
|---|---|
| Hearing held on February 28, 2017 | 1 |
| Statement of Members: | |
| Polis, Hon. Jared, Ranking Member, Subcommittee on Early Childhood, Elementary, and Secondary Education | 4 |
| Prepared statement of | 6 |
| Rokita, Hon. Todd, Chairman, Subcommittee on Early Childhood, Elementary, and Secondary Education | 1 |
| Prepared statement of | 3 |
| Statement of Witnesses: | |
| Global, Ms. Janet, Director of Career and Technical Education, Canyons School District | 14 |
| Prepared statement of | 27 |
| Johnson, Mr. Glenn E., M.A., Manufacturing Workforce Development Leader, BASF Corporation | 8 |
| Prepared statement of | 16 |
| Lufkin, Ms. Mimi, Chief Executive Officer, National Alliance for Partnerships in Equity (NAPE) | 21 |
| Prepared statement of | 24 |
| Rowe, Mr. Mike, CEO, Mikeroweworks Foundation | 34 |
| Prepared statement of | 37 |
| Additional Submissions: | |
| Barletta, Hon. Lou, a Representative in Congress from the State of Pennsylvania: | |
| Letter dated March 21, 2017, from International Code Council | 60 |
| Mr. Johnson: | |
| Chart: Workforce Development Pipeline | 63 |
| Mr. Polis: | |
| The CTE Equation in Tennessee | 57 |
| Mr. Rowe: | |
| CompTIA: Change in TECH Act | 65 |
| Chairman Rokita: | |
| Prepared statement of | 69 |
| Article: How Congress can help millions of Americans achieve career success | 75 |
| Thompson, Hon. Glenn "GT", a Representative in Congress from the State of Tennessee: | |
| Letter dated February 24, 2017, from Data Quality Campaign (DQC) | 79 |

# PROVIDING MORE STUDENTS A PATHWAY TO SUCCESS BY STRENGTHENING CAREER AND TECHNICAL EDUCATION

**Tuesday, February 28, 2017**
**House of Representatives,**
**Subcommittee on Early Childhood,**
**Elementary, and Secondary Education,**
**Committee on Education and the Workforce,**
**Washington, D.C.**

The subcommittee met, pursuant to call, at 10:03 a.m., in Room 2175, Rayburn House Office Building, Hon. Todd Rokita [chairman of the subcommittee] presiding.

Present: Representatives Rokita, Roe, Thompson, Messer, Brat, Garrett, Polis, Bonamici, and Davis.

Also Present: Representatives Foxx, Scott of Virginia, and Krishnamoorthi.

Staff Present: Courtney Butcher, Director of Member Services and Coalitions; Amy Raaf Jones, Director of Education and Human Resources Policy; Nancy Locke, Chief Clerk; Dominique McKay, Deputy Press Secretary; James Mullen, Director of Information Technology; Krisann Pearce, General Counsel; James Redstone, Professional Staff Member; Alex Ricci, Legislative Assistant; Mandy Schaumburg, Education Deputy Director and Senior Counsel; Brad Thomas, Senior Education Policy Advisor; Tylease Alli, Minority Clerk/Intern and Fellow Coordinator; Jacque Chevalier, Minority Deputy Education Policy Director; Denise Forte, Minority Staff Director; Mishawn Freeman, Minority Staff Assistant; Eunice Ikene, Minority Labor Policy Associate; Alexander Payne, Minority Education Policy Advisor; and Elizabeth Watson, Minority Director of Labor Policy.

Chairman ROKITA. A quorum being present, the Subcommittee on Early Childhood, Elementary, and Secondary Education will come to order.

Good morning, everyone, and welcome to today's hearing. We're here to discuss strengthening career and technical education and the need to reform, improve, and modernize current law so that more students can experience the power of this important education.

For decades, career and technical education has helped individuals compete in the workforce and build fulfilling careers. Today, State and local programs across the country are working to prepare

students in high school and at community colleges for jobs in a variety of fields.

Now, these programs serve more than 11 million students, helping them receive knowledge, skills, and real world experience in fields ranging from health care and law enforcement to information technology and steel manufacturing.

Through the Carl D. Perkins Career and Technical Education Act, the Federal Government provides support to these State and local programs. It's a worthwhile investment in growing a skilled workforce, preparing students for postsecondary education or the workplace, and helping hardworking individuals, particularly younger individuals, achieve their goals in life.

CTE helped Paul Tse from Maryland, for example, go from a struggling high school student to the project manager for a mechanical contract company. Jasmine Morgan from Georgia realized her dream of becoming a sports marketing specialist through her experience with CTE. Alex Wolff embarked on a successful career in electrical engineering after participating in a CTE program in his home State of California.

Now, these are just a few examples of the power CTE has to help students achieve their dreams and reach their full potential. However, changes to Federal law need to be made, and that's what we're here to discuss today, updating career and technical education policies so that more students can enjoy the success that Paul, Jasmine, and Alex have seen.

The Perkins Act hasn't been updated in more than a decade. I don't have to tell you that much has changed in the workplace and our economy since then. Technology has advanced, consumer needs have shifted, and the country has struggled through a slow and tough economic recovery.

By strengthening CTE policies, we have an opportunity to ensure the law reflects the current realities facing students, workers, and employers today. It's an important opportunity, one that allows us not to only help more Americans seize opportunities in the workforce, but help them excel in the high-skilled jobs that exist today.

In recent years, we've heard more and more about the quote, unquote, "skills gap," the idea that there are more job opportunities in this country than there are workers with the knowledge and skills necessary to fill those jobs. You heard me correctly, even with too many Americans still unemployed, millions of job openings exist. The sad truth is that many students aren't prepared for these jobs.

This need for skilled labor exists in a number of critical industries. In manufacturing alone, 6 out of 10 positions go unfilled because of the skills gap and 84 percent of manufacturers agree there is a talent shortage. What's worse is that if current projections continue, more than 6 million jobs will remain unfilled by 2020.

Something needs to change, and improving career and technical education is a great way to help bring about that change. Unfortunately, we are starting from scratch. Last year, Congress came very close to passing a bipartisan bill that would deliver much-needed CTE reforms. Through a bipartisan effort led by Representatives Glenn Thompson and Katherine Clark, this committee unanimously approved legislation to strengthen CTE. So it's worth paus-

ing and repeating that: unanimously approved legislation, this committee.

The important reforms in that legislation would empower State and local leaders to respond to changing education and economic needs. They would support innovative learning opportunities for students and help build better community partnerships, including stronger engagement with local employers. They would also improve accountability to ensure CTE programs are delivering real results and hardworking taxpayers' money is being well spent.

That legislation went on to pass the House with overwhelming bipartisan support by a vote of 405 to 5. It also enjoyed broad support outside of Congress from groups representing students, schools, employers, and those in the civil rights community.

These commonsense bipartisan reforms provide us with a strong foundation to continue working to improve the law. Through hearings like this one and the legislative work ahead, we have an opportunity to help fill jobs, empower more individuals to achieve their goals, and provide more students a pathway to success.

I'd like to thank our witnesses for joining us here today and look forward to hearing their stories and their experiences about the power of CTE and what we can do to make it better. I know Mike Rowe has been working for years to elevate CTE, as well as the kinds of "dirty jobs" of the men and women that are employed in those fields. His efforts have helped shine a light on countless Americans whose hard work and quiet determination help move this country forward.

We appreciate all that you've done to support this country's students and workers. We look forward to your testimony.

So with that, I'll now recognize the ranking member, Congressman Polis, for his opening remarks.

[The statement of Chairman Rokita follows:]

**Prepared Statement of Hon. Todd Rokita, Chairman, Subcommittee on Early Childhood, Elementary, and Secondary Education**

For decades, career and technical education has helped individuals compete in the workforce and build fulfilling careers. Today, state and local programs across the country are working to prepare students in high school and at community colleges for jobs in a variety of fields. These programs serve more than 11 million students—helping them receive knowledge, skills, and real-world experience in fields ranging from health care and law enforcement to information technology and manufacturing.

Through the Carl D. Perkins Career and Technical Education Act, the federal government provides support to these state and local programs. It's a worthwhile investment in growing a skilled workforce, preparing students for postsecondary education or the workplace, and helping hardworking individuals—particularly younger individuals—achieve their goals in life.

CTE helped Paul Tse from Maryland go from a struggling high school student to the project manager for a mechanical contract company. Jasmine Morgan from Georgia realized her dream of becoming a sports marketing specialist through her experience with CTE. Alex Wolff embarked on a successful career in electrical engineering after participating in a CTE program in his home state of California.

These are just a few examples of the power CTE has to help students achieve their dreams and reach their full potential. However, changes to federal law need to be made, and that's what we are here to discuss today—updating career and technical education policies so more students can enjoy success like Paul, Jasmine, and Alex.

The Perkins Act hasn't been updated in more than a decade. I don't have to tell you that much has changed in the workplace and our economy since then. Technology has advanced, consumer needs have shifted, and the country has struggled through a slow, tough economic recovery.

By strengthening CTE policies, we have an opportunity to ensure the law reflects the current realities facing students, workers, and employers today. It's an important opportunity—one that allows us not only to help more Americans seize opportunities in the workforce but to help them excel in the high-skilled jobs that exist today.

In recent years, we've heard more and more about the "skills gap"—the idea that there are more job opportunities in this country than there are workers with the knowledge and skills necessary to fill them. You heard me correctly. Even with too many Americans still unemployed, millions of job openings exist. The sad truth is we simply haven't prepared students for them.

This need for skilled labor exists in a number of critical industries. In manufacturing alone, six out of 10 positions go unfilled because of the skills gap, and 84 percent of manufacturers agree there is a talent shortage. What's worse is that if current projections continue, more than 6 million jobs will remain unfilled by the year 2020.

Something needs to change, and improving career and technical education is a great way to help bring about that change. Fortunately, we aren't starting from scratch.

Last year, Congress came very close to passing a bipartisan bill that would deliver much-needed CTE reforms. Through a bipartisan effort led by Representatives Glenn Thompson and Katherine Clark, this committee unanimously approved legislation to strengthen CTE. Let me pause to repeat that: unanimously approved legislation.

The important reforms in that legislation would empower state and local leaders to respond to changing education and economic needs. They would support innovative learning opportunities for students and help build better community partnerships, including stronger engagement with local employers. They would also improve accountability to ensure CTE programs are delivering real results and hard-working taxpayer dollars are being well spent.

That legislation went on to pass the House with overwhelming bipartisan support by a vote of 405 to 5. It also enjoyed broad support outside of Congress from groups representing students, schools, employers, and those in the civil rights community.

These commonsense, bipartisan reforms provide us with a strong foundation to continue working to improve the law. Through hearings like this one and the legislative work ahead, we have an opportunity to help fill jobs, empower more individuals to achieve their goals, and provide more students a pathway to success.

I'd like to thank our witnesses for joining us today and look forward to hearing their stories and experiences about the power of CTE, and what we can do to make it better. I know Mike Rowe has been working for years to elevate CTE, as well as all kinds of "dirty jobs" and the men and women employed in these fields. His efforts have helped shine a light on countless Americans whose hard work and quiet determination help move this great country forward. We appreciate all that you've done to support this country's students and workers, and we look forward to your testimony.

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Mr. POLIS. Good morning, and thank you, Chairman Rokita.

Today's hearing is very important because we're going to be examining the very important role in an evolving 21st century economy of career and technical education programs. Career and technical education programs help prepare our country's students, including those who are coming from nontraditional pathways, for either success in college or career. And many of the programs across our school districts or in partnership with our school districts are funded under the Carl D. Perkins Career and Technical Education Improvement Act of 2006, which the committee is hoping to reauthorize this session.

According to Georgetown University's Center on Education and the Workforce, in the next 5 years 65 percent of jobs in our economy in our country will require training beyond high school. In my own State of Colorado, career and technical education is really receiving a new facelift to reinvent it for the 21st century. Last year, our State created a pilot program where school districts receive $1,000 for students who complete a credential in a high-demand in-

dustry or finished a workplace training program or complete an AP computer science course.

This past fall, I visited the new P-TECH high school in Longmont, Colorado, that serves many students in my district. P-TECH, which also is known as Pathways in Technology Early College, allows all students to earn their high school diploma and an associate's degrees in a STEM field. P-TECH is a partnership between the school district, Front Range Community College, and IBM. Other P-TECH partnerships include other private sector companies that are willing to provide educational internships for the students and educational support. And also the cooperation of a local community college is very important.

In addition to supporting P-TECH -- and there was language in last year's reauthorization that we hope to include in this year's as well, supportive of the P-TECH concept -- Perkins also provides an excellent opportunity to support dual and concurrent enrollment programs, which are growing across the country. Dual enrollment, frankly, is one of the most successful educational programs that I've seen, in my State and nationally. Every day, dual and concurrent enrollment are breaking down barriers to accessing college for many low-income and first-generation students.

Students that participate in dual and concurrent enrollment programs are less likely to need remediation in college. They are 23 percent more likely to continue into postsecondary education after high school.

It's also very cost effective for students and their families. Last year, I visited Colorado Early College High School in Fort Collins. For students at Colorado Early College High School, they graduate high school with an associate's degree, often in 4 years. It can take 5 or 6 years as well, but the vast majority of the students complete high school and an associate's degree in 4 years.

These graduates are not only able to receive college credit and reduce the cost of college and cut the cost of a 4-year degree in half, but also receive the ability to have a deployable talent in the marketplace.

Career and technical education is critical for fulfilling high-need jobs. This last fall, I met with representatives from the Northern Colorado Labor Council. They shared how there's openings for apprenticeships in northern Colorado which pay a good wage and lead to a good job, but they don't have enough qualified people to fill those openings. This really gets to the heart of why we need strong career-readiness programs.

In many places, there are good-paying jobs available for people who have the right skills. The Federal Government has an important role to play in partnering with school districts to ensure students have the skills to fill good-paying jobs.

Unfortunately, after the harmful sequestration cuts, public funding for career and technical education is at historic lows. It's clear that we should not continue to cut funding for critical programs like career and technical education, programs that actually can engage students with an integrated and practical and applied curriculum of core academic content and real world, work-based relevance.

We need to support high-quality career and technical education programs. And for many years, the Perkins Act has supported the development of career and technical education programs that cultivate in-demand skills among secondary and postsecondary students.

Reauthorization of the Carl D. Perkins Career and Technical Education Act gives this committee the opportunity to ensure that these programs are high quality, emphasize equity, align with academic and labor market demands to help grow our economy, and provide opportunities for all students, especially those who are historically underserved, to receive credentials, lead to high-skills, high-wage, in-demand career opportunities in the 21st century.

We also need to ensure that any reauthorization is bipartisan, comes with strong accountability, transparency, and quality indicators, to make sure that a diverse population of students is served, and that every student is served well. We can achieve these goals through increased collaboration and flexibility at the State and local level while maintaining the authority federally to make sure that the legislation meets its goals.

I look forward to hearing from our distinguished panel of witnesses today and discussing how we can best equip our Nation's students with the skills that they need to succeed in our rapidly evolving economy.

Thank you, and I yield back the balance of my time.

[The statement of Mr. Polis follows:]

**Prepared Statement of Hon. Jared Polis, Ranking Member, Subcommittee on Early Childhood, Elementary, and Secondary Education**

Good morning, and thank you, Chairman Rokita.

Today's hearing will examine the critical role of career and technical education (CTE) programs in preparing our nation's students, including those who are entering or coming from nontraditional pathways, for success in college and career. Many of these programs are funded under the Carl D. Perkins Career and Technical Education Improvement Act of 2006.

According to Georgetown University's Center on Education and the Workforce, in the next five years, 65 percent of all jobs in the United States' economy will require training beyond high school. In my home state of Colorado, career and technical education is receiving a renewed focus. Last year, Colorado created a pilot program where school districts receive $1,000 for each student who completes a credential in a high-demand industry, finishes a workplace training program, or completes an AP Computer Science course.

This past fall, I visited the new P–TECH school in Longmont, Colorado that serves many students in my district. P–TECH, also known as Pathways in Technology Early College allows students to earn their high school diploma and an associate's degree in a STEM field in six years. P–TECH is a partnership between the school district, Front Range Community College, and IBM, and gives students the opportunity to get on-the-job training while they're getting their degrees.

In addition to P–TECH, Perkins CTE provides an excellent opportunity to lift up and support dual and concurrent enrollment. Dual enrollment is one of the most successful education programs in Colorado, and it's breaking down barriers to accessing college for many low-income and first generation students. Students in Colorado that participate in dual and concurrent enrollment are less likely to need remedial courses in college, and they are 23 percent more likely to continue into postsecondary education after high school. It's also an effective cost-saving strategy for students. Last year, I visited Colorado Early College High School in Fort Collins, or CEC. For students at CEC, they graduate high school with an associate's degree, sometimes in four years, and sometimes in five or six. Those graduates are not only able to get college experience, but they've effectively cut their cost for a four-year degree in half.

CTE is also critical for filling high-needs jobs. Just last fall, I met with representatives from the Northern Colorado Labor Council. They shared how there are open-

ings for apprenticeships in Northern Colorado, which pay a fair wage and can lead to a job, but they don't have anyone to fill the openings. This gets to the heart of why we need strong career readiness programs. In many places there are good-paying jobs available. The federal government has a role to play in helping ensure students are trained to fill them.

Unfortunately, after harmful sequestration cuts, public funding for CTE is at historic lows. It is clear that we should not continue to cut funding for critical programs, like CTE, that engage students with an integrated curriculum of core academic content and real-world, work-based relevance.

Instead, we must support high-quality CTE programs. For many years, the Perkins Act has supported the development of CTE programs that cultivate in-demand skills among secondary and postsecondary students.

Reauthorization of the Carl D. Perkins Career and Technical Education Act presents this Committee with an opportunity to ensure that CTE programs are of high quality, emphasize equity, align with academic and labor market demands, and provide opportunities for all students – especially those historically underserved – to receive credentials that lead to high-skill, high-wage, in-demand career opportunities. We also need to ensure that any reauthorization is bipartisan, and comes with strong accountability and quality indicators that ensure not only that a diverse population of students are being served, but also that every student is being served well. We can achieve these goals through increased collaboration and flexibility at the state and local level, while maintaining secretarial authority to regulate and enforce the legislation at the federal level.

I look forward to hearing from our distinguished panel of witnesses and discussing how we can equip our nation's students with the skills they need to succeed in a rapidly evolving 21st century economy.

Thank you, and I yield back my time.

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Chairman ROKITA. I thank the gentleman.

Pursuant to committee rule 7(c), all members will be permitted to submit written statements, which will be included in the permanent hearing record. And without objection, the hearing record will remain open for 14 days to allow such statements and other extraneous material referenced during the hearing to be submitted for the official hearing record.

I will now turn to the introduction of our distinguished witnesses.

First, we have Mr. Glenn Johnson. He is a workforce development leader for BASF, where he works to develop partnerships with educational agencies and postsecondary partners.

Welcome.

Ms. Janet Goble is the director of career and technical education for Canyons School District in Sandy, Utah, where she oversees CTE course offerings, business partnerships, and work-based learning student experiences.

Welcome.

Ms. Mimi Lufkin is the executive director for the National Alliance for Partnerships in Equity, where she conducts professional development activities and provides technical assistance to State and local education agencies focused on best practices for serving special population students.

Ms. Lufkin, welcome.

And finally, Mr. Mike Rowe, best known for the Discovery Channel show "Dirty Jobs," now runs the mikeroweWORKS Foundation, which awards scholarships to students pursuing a career in the skilled trades.

Mr. Rowe, welcome. Thank you for being here.

I will now ask our witnesses to raise your right hand.

[Witnesses sworn.]

Chairman ROKITA. Let the record reflect that all witnesses answered in the affirmative.

Before I recognize you to provide your testimony, let me briefly explain our lighting system, which is reminder for us up here as much as it is for you. You each have 5 minutes, of course, to present your testimony. When you begin, the light will be green, and then when there is 1 minute left, it will be yellow, and when it's red, it's time to stop. So please do that so we can keep on time. I'd appreciate it.

Members then will each have 5 minutes to ask their questions, and the red light applies to them just as equally.

So with that, I'd like to recognize Mr. Johnson for 5 minutes for your testimony.

**TESTIMONY OF GLENN E. JOHNSON, M.A., MANUFACTURING WORKFORCE DEVELOPMENT LEADER, BASF CORPORATION**

Mr. JOHNSON. Thank you very much for this opportunity to talk about CTE and how BASF has become very involved and very engaged in this type of work and activity.

I'd like to also mention that I began my own career as very, very near the bottom, starting as a process operator and working my way through the technical operations of manufacturing and technical careers. So I've lived the life that I advocate for these young people -- and even retooling adults -- to get involved with and very passionate about it.

BASF has 154 locations in 29 States. Eighty-one of those are production facilities and 17 are research and development. We have 15,000 employees who work in operations, engineering, research and development, and sales and marketing. In 2016 alone we contributed more than $4.5 million to the communities that we live and worked with in those areas.

Wherever possible, BASF seeks out to promote collaborations with K through 12 through graduate school. Perkins grants are an important tool that enhances the collaborative process and adds to student success.

Important to talent acquisition is to seek the best candidates. But in addition to that, it starts much earlier. We want to entice the best candidates to seek us. And this gets back to some of the things I've already heard through what we've talked about today. It's talking to students and letting them know the true realities of these technical jobs and the misconceptions of the past, getting those things cleared away.

We have a problem, which has already also been mentioned: 11,000 baby boomers are turning 70 every single day as of 2016. That's one every 7.5 seconds. So it is happening, there's a delayed effect, but it is happening, and this will result in what we project in a 2 million job shortage in the manufacturing sector.

Jobs in technology are among the most at risk, and that is why BASF has taken such an engaged approach that we call pipeline relationship management, where we are driving relationships, not just participation with our different education and industry partners and the workforce potentials that are out there. So this involves direct involvement in all stages of workforce development.

The three basic pieces that we go after, our pillars, I guess you could call, is to, one, drive career and technical education awareness. This is our approach to increase the size of the pipeline. So the illustration that you see on the monitors now is basically what -- it's a graphic that displays the complexity of the workforce pipeline whenever we talk about it.

I speak to so many people, and I get the vision from listening to what they say that they really see the pipeline as the singular pipe, that people go in one side, they come out with skills and hired at the end. Where in reality, these three pieces of career and technical education awareness, where we are increasing the size or the quantity of workforce potentials coming through the pipeline, working with our nested educational partners to increase the quality of those workforce potentials in that pipeline, and then working with our government and industrial partners to increase the productivity of that pipeline so that we can supply that projected 2 million job shortage.

One of the problems is that 52 percent of students today when surveyed say they have no interest in manufacturing jobs. But that same data also tells us that the thing that makes them change their mind the most, the one that makes them decide what careers to pursue, is what they're most familiar with. And this drives our need to do more to familiarize students and workforce potentials, as well as retooling adults, with the true realities of technology and manufacturing today.

Since 2010, more than 380,000 schoolchildren in grades K through 12 have participated in science education programs that BASF has put together. Through programs like BASF's Kids' Lab, we are helping grade school students build on their natural curiosity for how things work and to develop an interest in science. In programs like BASF's Science Academy and BASF's Tech Academy we seek to attract high school students to skilled career paths in science, technology, engineering, and mathematics.

Retooling adults. We focus what we talk to them about to make sure that they understand the misconceptions of pay, that the average pay in manufacturing is actually $10,000 on average more per year than all other sectors combined. This lifestyle, the job availability projections, we hear all the time in the news and other places the endless counts of where people with 4-year degrees can't find jobs. And at the same time, we have a skills gap. We have a projected absence in manufacturing. And these jobs actually pay more.

In one school in the Houston area, of the multiple, many technical colleges in the areas, in one school alone there are currently 600 students that have a 4-year degree, can't find work, are going back to get an associate's degree or a certificate to become more employable, and it is just an example of the type of ideas that it takes to fix this problem.

[The testimony of Mr. Johnson follows:]

# Testimony

**of**

**Glenn E. Johnson, M.A.**
Manufacturing Workforce Development Leader
BASF Corporation

before the

Subcommiittee on Early Childhood, Elementary and Secondary Education
of the House Committee on Education and the Workforce

Hearing on "Providing More Students a Pathway to Success by Strengthening Career and Technical Education"

2175 Rayburn House Office Building
February 28,2017
10:00 a.m.

BASF

BASF has operations at 154 locations in 29 states in the U.S. of which, 81 are production sites and 17 are research and development facilities. The company has more than 15,000 employees in the U.S. and is dedicated to hiring and developing people in a wide range of roles, including operations, engineering, research and development, sales and marketing. We support a variety of education initiatives to help fill the workforce pipeline. In 2016, BASF contributed more than $4.5 million to non-profit organizations supporting communities where we work and live throughout the U.S.

Manufacturing Workforce Development

The purpose of the U.S. education system is to provide the knowledge and skills necessary for individuals to be successful in life, whatever their pursuits may be. Making a good living is the foundation of a successful life. Alignment between the education system and the business community is critical if we are going to deliver the knowledge and skills necessary for an individual's success. Collaboration between business and education makes sense. Wherever possible, BASF seeks out and promotes these collaborations, from K-12 through graduate school. Perkins grants are an important tool that enhances the collaborative process and adds to student success.

Important to Talent Acquisition is our pursuit to seek the best candidates. But Talent Acquisition begins with a strategy of enticing the best candidates to seek us. Beginning in 2016, 11,000 baby boomers are turning 70 every day. Projected record investments in the U.S., will result in a shortage of 2 million manufacturing workers. As this inevitability comes to fruition, the most profound effect will be within job sectors that require education beyond high school. Jobs in technology are among those most at risk. To mitigate the impact of this skills gap, BASF is taking a more engaged approach to workforce development and is focusing on "Pipeline Relationship Management."

This includes direct involvement in all stages of workforce preparation; building continuous and meaningful relationships with workforce potentials and organizations, and providing continuous opportunities to deliver the BASF Value Proposition to potential job candidates. Three directives drive our Manufacturing Workforce Development program:

- Drive Career & Technical Education Awareness (To grow the pipeline)
- Cultivate "Nested Educational Partnerships" (To increase the quality of the pipeline)
- Leverage Government and Industrial Partnerships (To accelerate pipeline productivity)

Career & Technical Education (CTE) Awareness

Within CTE we endeavor to grow the pipeline of workforce potentials. Surveys report that 52% of all teenagers say they have no interest in a manufacturing career. However, the data also reports that the most influential factor for students deciding what career to pursue is "personal experience" (to what they have been exposed). This drives our need to do more to familiarize these workforce potentials with jobs in manufacturing technology. Since 2010, more than 380,000 schoolchildren in grades K-12 have participated in science education programs offered by BASF.

- Through programs like BASF's Kids' Lab, we are helping grade school students build on their natural curiosity for how things work and to develop an interest in science.
- Through National sponsorship of the Chemical Educational Foundation's You Be the Chemist Challenge program, we are helping students in grades 5 through 8 to build on their love for science and prepare for challenging high-school curricula.
- In programs like BASF's Science Academy and Tech Academy, we seek to attract high school students to skilled career paths in Science Technology Engineering and Mathematics (STEM).
- For retooling adults, our recruitment message goes beyond standard career discussions and shines a light on misconceptions of pay, lifestyle, and future job availability projections.

- We are positioning our Employee Resource Groups (ERGs) to lead the way as Ambassadors within CTE activities. These groups focus on specific diversity segments and are uniquely qualified for outreach in these areas. Part of BASF's workforce development vision is that people of diverse backgrounds see us as a company that doesn't just seek to be, but **is**, diverse and sees value in being so.

We strive to equip students and other workforce potentials with the right information to make STEM, Manufacturing, and BASF career decisions. **CTE is an area where BASF collaborates with our industry partners to increase the size of the workforce pipeline so that we can all have a "Tap off of the Main."**

Nested Educational Partnerships

Through a steadfast commitment to our Nested Educational Partnerships we seek to increase the workforce pipeline quality. Within degree programs that align with our hiring projections, we:

- Join/create industry led educational advisory committees
- Align education program learning with workplace knowledge and skill needs
- Provide BASF site tours, student internships, and faculty externships

Examples of these efforts include:

- We are developing a "Nested Educational Partnership Playbook" that will define the roles and responsibilities of education and industry within this cooperation.
- The BASF site in Beaumont, Texas is in process of strengthening relationships with Lamar Institute of Technology and Lamar State College. The site is also hosting tours and site visits for students and faculty. Students who have participated in the BASF Science Academy program have gone on to earn scholarships to Lamar.
- Along with River Parishes Community College (RPCC) in Geismar, Louisiana, BASF is a Signature Partner for a state-of-the-art Advanced Technology Center and is piloting one of the state's first Accelerated Process Technology degree programs. Our investments here include:
    - $500,000 Cash and Equipment donations
    - Providing dedicated Engineer support to the school for plant design and build
    - Establishment of a BASF Tech Academy (a week long STEM program for Jr. and Sr. high school students) – with $10k per year donation to fund the program
    - Up to $5k scholarships to the Jr. and Sr. high school students attending the Tech Academy who enroll in STEM programs at RPCC
    - BASF provides paid internships for Process Technology students at the Geismar site…and many of these students transition to full-time BASF employees
    - Targeting retooling adults, BASF helped found a "PTech Express" program at RPCC (am 18-week – fast track Process Technology degree) – for students already holding a Bachelor's level degree.
    - $25k annual donation to their general fund
    - Representation on RPCC Advisory Committees to provide feedback to workforce readiness of graduates and influence curriculum improvements
- In Pasadena, Texas, BASF recently donated ~$750,000 and is planning to surpass $1 million in equipment donations before end of this summer to Texas A&M, Lee College, San Jacinto College, Lone Star College, and the University of Houston. The donations will foster more hands on and applied learning, and increase the quality of equipment lab environments at these colleges. BASF also provides site tours, externships, internships and co-op opportunities to students. In addition, BASF employees teach education modules for students, such as *Environmental Health and Safety Life Saving Rules*.

- The BASF site in Freeport, Texas is working with Brazosport College to provide externships and internships, and is piloting co-op opportunities in Process Technology and Maintenance crafts. The site also has executive representation on the College Foundation Board and has donated:
  - $1,000,000 in 2008 to establish the BASF Center for process technology
  - $250,000 in technical scholarship support from 2011 – 2015
  - $125,000 in technical scholarship support pledged from 2016 – 2020
  - $125,000 to support the founding of the Crafts Academy (which includes the welding facility)
  - $10,000 annually to the Spirit of Music endowment fund for more than 10 years
  - $5,000 in 2017 to support the College's student incentive program

This is only a short list of examples representing our programs that support education in a meaningful and impactful way throughout the United States.

Jobs in technology are of special consideration when discussing job preparation. **BASF is committed to assuring these programs are not just books and lecture but that they encompass applied performance criteria in equipment lab environments that mimic job performance. These programs must go beyond teaching theory and information. They must teach skills that can be directly applied on the job immediately.**

## Government & Industrial Partnerships

Leveraging government and industrial partnerships includes advocacy within public policy at the federal, state and local levels, and establishing partnerships with industry groups where we:

- Established a corporate consortium with our industry partners to explore workforce development strategic alignments around metrics and key performance indicators.
- Worked with the National Association of Manufacturers to found the *Southeast Texas Education Foundation*, and are working to breaking ground for a similar program in Louisiana. We are using this as a framework to establish a model of CTE outreach that can be scaled across North America.
- Are positioned on the Education and Workforce Committee for the National Association of Manufactures to advocate for policy that supports industry such as reauthorization of the Perkins Act.
- Deliver testimony to the Texas State House Committee on benefits of collaborative efforts between education and industry to advocate for government support of these activities.

## Future Execution

Moving forward, BASF will advance these activities across North America. We have developed a site specific execution plan that has already been initiated in multiple sites and will continue to be rolled out to more sites each quarter. The stage is being set for a comprehensive apprenticeship program that begins with relationships created during CTE awareness, nurtured through educational skill development and matured as workforce potentials become BASF hires.

BASF supports good education policy that allows for collaboration and makes good use of funding mechanisms, like Perkins grants, that better prepare individuals to be more competitive and successful in the world.

Chairman ROKITA. Thank you, Mr. Johnson.

Ms. Goble, you are recognized for 5 minutes.

**TESTIMONY OF JANET GOBLE, DIRECTOR OF CAREER AND TECHNICAL EDUCATION, CANYONS SCHOOL DISTRICT**

Ms. GOBLE. Good morning, Chairman Rokita, Ranking Member Polis, and distinguished members of the subcommittee. My name is Janet Goble, and I'm the director for career and technical education for Canyons School District in Sandy, Utah, which is a comprehensive school district serving approximately 35,000 students. Additionally, I serve as the administration division vice president for the National Association for Career and Technical Education. I'm honored to be here today, and thank you for the invitation to share some of the wonderful opportunities students have in CTE.

This morning I would like to highlight programs of study, business partnerships, and work-based learning opportunities, all of which are extremely beneficial for our students and are key tenets of the Carl B. Perkins Act.

In Canyons School District students have the opportunity to participate in 35 different programs of study. These pathways start in 9th or 10th grade, and are followed by a succession of related courses that lead students into postsecondary education or careers. Students are able to earn industry credentials as juniors or seniors, and some leave high school with Utah licenses in areas like health care.

With these credentials, students are prepared to be successful in their chosen pathway and are ready to hit the ground running in the workplace. Last year, our students earned an impressive 1,739 industry credentials.

Many of our CTE students also plan to pursue higher education. This year, we are offering 44 CTE dual-enrollment courses with our higher education partners. Students in these courses have the opportunity to experience the rigor of college-level course work while saving time and money toward earning a college degree.

Business partnerships are a key component of our program of study effort. For example, we have worked with major diesel companies across the State and other partners to develop the Utah Diesel Technician Pathway. In direct response to providing the workforce for the diesel industry, the pathway starts with dual-enrollment courses in high school, transform to college courses, and then allow students into enter the workforce with industry-grade skills.

Along with donating many hours of job-shadow experiences and giving presentations about this viable career pathway, industry partners donated 12 diesel engines and stands to our district, valued at approximately $180,000, so students can learn on up-to-date equipment.

We are also launching a new Medical Innovations Pathway driven by industry partners in the medical device manufacturing area. Students will take high school courses whose standards and objectives have been developed by industry to gain necessary skills for this career area. In addition, we are poised to participate in a new statewide building construction initiative and look forward to a similar partnership in the information technology area.

Last October, in an effort to connect more students with industry, we were an integral part of our region's Pathways to Professions expo event where students and teachers were able to directly interface with businesses. In its maiden year, over 8,500 students attended. There were even a few students who were hired on the spot.

Opportunities like the expo that connect students with industry are critical. In our district, career exploration activities start with elementary school career days. College and Career Awareness, a required middle school course, exposes students to occupations across all the career clusters. Then in high school, examples of work-based learning activities cover a continuum from field trips, guest speakers, and lunch-and-learns, to internships.

All high school students participate in career fairs. Work-based learning facilitators recruit professionals in their own community to represent dozens of possible careers. Having the support of 70-plus businesses is overwhelming and helps students learn about careers they might not even know exist.

We also host an annual job-shadow event giving students a first-hand look at the workplace. A wide range of careers are represented, from engineers to graphic designers. This year, 89 students and 41 businesses took part in the event. Some students realize that the career they shadow is not a good fit, which is a valuable experience and allows them time to reevaluate their career aspirations. And as for those students who have found their passion, this experience serves to cement their career decision and also gives them the opportunity to network with industry professionals.

Another activity, our annual You Go Girls conference, with 300 girls attending, aims to introduce middle school-aged girls to traditional occupations. It is very empowering for these young girls to hear from female role models and realize that they too can succeed in these careers. Since initiating this event, the percentage of students enrolled in high school non-trad programs has risen from 26 percent to 53 percent.

With our Perkins allocation, we fund work-based learning personnel and activities like these. Without this flexible funding, we would be unable to offer many of these valuable opportunities for our students.

When students are engaged in more learning -- and certainly work-based learning and programs of study elevate that engagement -- they are more likely to stay in school. In Canyons district, 94 percent of CTE concentrators graduated from high school, while the overall district graduation rate is 85 percent.

With the reauthorization of the Carl D. Perkins Career and Technical Education Act, Congress has the opportunity to ensure that high-quality CTE programs, including work-based learning experiences, are available to all students.

Again, thank you for the opportunity to provide testimony, and I look forward to your questions.

[The testimony of Ms. Goble follows:]

**Testimony of Janet Goble**

**Director of Career and Technical Education**

**Canyons School District**

**House Education and the Workforce Subcommittee on Early Childhood, Elementary and Secondary Education**

**Providing More Students a Pathway to Success by Strengthening Career and Technical Education**

**February 28, 2017**

Good morning, Chairman Rokita, Ranking Member Polis, and distinguished members of the Subcommittee. My name is Janet Goble and I am the Director of Career and Technical Education (CTE) for Canyons School District in Sandy, Utah, a comprehensive school district serving approximately 35,000 students. Additionally, I currently serve as the Administration Division Vice President of the Association for Career and Technical Education (ACTE), a national organization committed to the advancement of education that prepares youth and adults for successful careers.

I am humbled and honored to be here with you today and want to thank you for your invitation to talk about some of the wonderful opportunities available to students through CTE.

I am deeply passionate about my profession. My mother taught business education and instilled in me the importance of gaining marketable skills. As the product of CTE, the skills I gained through my education allowed me to realize my career goals, and have helped me to have a positive impact on the lives of my students.

While there are many facets to successful CTE programs, this morning I would like to highlight programs of study, business partnerships and work-based learning opportunities – all of which are extremely beneficial for students and are key tenets of the Carl D. Perkins Career and Technical Education Act.

**Programs of Study for Students**

In Canyons School District, students have the opportunity to participate in 35 different programs of study—some of which require attendance at our technical center. These pathways start in either 9th or 10th grade and are followed by a succession of related courses that lead into postsecondary education and careers. As a culminating activity, students in comprehensive high schools are able to earn industry certifications as juniors or seniors, including IC3 Internet and Computer Core Certification, ASE Auto Electrical/Electronics and ASE

Engine Performance. With these credentials, students are prepared to be successful in their chosen field.

For students who choose more concentrated pathways, Canyons Technical Education Center (CTEC) offers capstone programs. Not only are students engaging in rigorous coursework, they are also earning industry certifications, including MTA Security Fundamentals or Adobe (Illustrator, Photoshop, Flash and Premiere) or ASE Diesel Engines. Additionally, many students leave high school with Utah licenses in Cosmetology, Certified Nursing Assistant, Medical Assistant and Emergency Medical Technician. These students are already pursuing their chosen career pathway and are ready to hit the ground running in the workplace.

Last year, students in Canyons School District earned an impressive 1,739 industry credentials. I believe these credentials provide proof to potential employers that students have the skills necessary to be sought after in their field and ready to perform on day one. Additionally, students are able to be gainfully employed in high-paying jobs while pursuing postsecondary education.

Indeed, many of our CTE students also plan to pursue higher education. This year, we are offering 44 CTE dual enrollment courses with our postsecondary partners at Salt Lake Community College, Utah State University-Eastern and Utah Valley University. There are an additional 18 general education concurrent courses as well. These classes give students an advantage because they are earning college credit while enrolled in high school. Students in these courses have the opportunity to experience the rigor of college-level coursework while saving time and money toward earning a college degree.

Through the reauthorization of the Perkins Act, Congress should focus federal resources on building seamless pathways for students—beginning with career awareness and exploration activities early on, and connecting secondary and postsecondary education through CTE programs of study.

**Business Partnerships for Seamless School to Work Transitions**

Business partnerships are a key component of our program of study efforts and support real-world learning experiences for our students. Through their interactions with industry professionals, students realize their coursework is relevant and, in fact, does translate into meaningful career skills and job opportunities.

As one notable example of a successful partnership, we have worked with the Utah Governor's Office of Economic Development (GOED), industry partners and Salt Lake Community College to develop the Utah Diesel Technician Pathway. In direct response to providing a workforce for the diesel industry, we now have a partnership with major diesel companies: Cummins International, Komatsu Equipment Company, Kenworth Sales, Kilgore Contracting, Utah Transit Authority and C.R. England. This pathway starts with dual enrollment courses in high school, transitions to college courses, and then allows students to enter the workforce with industry-

grade skills. The industry partners have donated many hours of their time to job shadow experiences for our students, participating in numerous career fairs and enlightening counselors about this viable career pathway. Additionally, they donated 12 diesel engines and stands valued at approximately $180,000 to our district so students can be trained on the same equipment used in industry.

In Utah, medical device manufacturing is another a large industry sector in need of a skilled workforce. In partnership with GOED and Salt Lake Community College, as well as industry partners like Edwards Lifesciences, BD Medical, Merit Medical, Nelson Laboratories and Sorenson Genomics among others, we will begin offering the new Medical Innovations Pathway (MIP) to students starting this fall. Students will take high school courses—whose standards and objectives have been developed in consultation with industry—to gain necessary skills for entry-level employment upon high school graduation. Our district will offer pathways in medical devise manufacturing, while others will focus on biotechnology. For students unable to participate at the secondary level, Salt Lake Community College also provides a MIP pathway for adult learners.

As a result of these successful partnerships, Governor Gary Herbert recently announced in his State of the State address the new "Talent Ready Utah" initiative. By continuing to have industry working directly with education to offer work-based learning opportunities for students, his goal is to fill 40,000 high-skill, high-wage jobs over the next four years. We are poised to participate in a new statewide building construction initiative and look forward to a similar partnership in the information technology area.

Last October, in an effort to connect more students with industry, we were an integral part of our region's "Pathways to Professions" expo event. Students and teachers were able to interface directly with businesses from the career cluster pathways. In its maiden year, over 8,500 students attended. There were even a few students who were hired on the spot! We are excited to be involved again this fall and look forward to an even bigger event.

A reauthorized Perkins Act should provide for substantive and ongoing consultation with employers and other local stakeholders, and offer the business community an important role in the development and implementation of CTE programs, including identifying relevant standards, valued credentials and industry-standard equipment.

**Connecting students to industry through Work-Based Learning experiences**

The opportunity for career exploration is important for students. In our district, career exploration activities start with elementary school career days. Additional experiences occur in our College and Career Awareness course in middle school. This required core class exposes students to occupations within the career clusters. Then in high school, examples of work-based learning activities include field trips, guest speakers, lunch-and-learn activities and internships.

High school students also participate in schoolwide career fairs. For this huge undertaking, work-based learning facilitators recruit professionals in their community to represent dozens of possible career fields. Having the support of over 70 business partners is overwhelming and speaks to the support of industry wanting students to learn about opportunities they may not even know exist.

We also host an annual job shadow event wherein work-based learning facilitators match student interests with local businesses. A wide range of careers are represented, including engineers, physicians, diesel technicians, pilots, legislators and graphic designers among others. The sky is the limit! This year, 89 students and 41 companies took part in the event. Spending the morning at the business gives students a first-hand look at possible future careers. Some students realize the career they shadow is not a good fit—which is a valuable experience and allows time to re-evaluate their career aspiration. And for those students who have found their passion, this experience serves to cement their career decision and also gives them an opportunity to network with industry professionals. Our business partners make a point of talking with the students about how to enter the profession and its educational requirements. The capstone of the experience is a networking lunch and motivational speaker sponsored by the business partners.

Other annual work-based learning events specifically target Perkins indicators. One good example is our annual "You Go Girls" conference aimed at introducing middle-school-aged girls to non-traditional occupations. It's very empowering for these young girls to hear from female engineers, computer scientists and business owners (to name a few) and realize that they, too, can be successful at these non-traditional occupations. Available to all of our eight middle schools, an average of 300 girls participate in the experience. Since initiating this event, the percentage of students enrolled in high school non-traditional programs has risen from 26% to 53%.

In our district, work-based learning personnel and activities are funded with our Perkins allocation. Without this flexible funding, we would be unable to offer many of these valuable learning experiences for students.

**Conclusion**

When students are more engaged in their learning—and certainly work-based learning and career pathways elevate that engagement—they are more likely to stay in school. Perkins data on high school graduation rates show that CTE concentrators, those who earn at least 1.5 credits in the same pathway, have higher high school graduation rates. In our district, 94% of CTE concentrators graduated from high school; while the overall district graduation rate is 85%.

In my capacity as the ACTE Administration Vice President, I have the opportunity to interact with administrators from across the nation. The work-based learning and pathways programs I've described are not unique to Utah. Excellent CTE programs—programs that engage students—can be found in every state and congressional district across the country.

With the reauthorization of the Carl D. Perkins Career and Technical Education Act, Congress has the opportunity to ensure that high-quality CTE programs, including work-based learning experiences, are available to all students.

Again, thank you for this opportunity to provide testimony today. I look forward to answering your questions.

Chairman ROKITA. Thank you, Ms. Goble.

Ms. Lufkin, you're recognized for 5 minutes.

**TESTIMONY OF MIMI LUFKIN, CHIEF EXECUTIVE OFFICER, NATIONAL ALLIANCE FOR PARTNERSHIPS IN EQUITY (NAPE)**

Ms. LUFKIN. Good morning, and thank you, Chairman Rokita, Ranking Member Polis, and members of the subcommittee, as well as Chairwoman Foxx and Ranking Member Scott, for the opportunity to testify before you today.

My name is Mimi Lufkin. I am the chief executive officer of the National Alliance for Partnerships in Equity. NAPE is a consortium of State and local education agencies supporting educators and carrying out the equity and special population provisions in the Perkins Act, as well as other education and workforce development legislation.

Nationwide, some 13 million students are enrolled in CTE programs in secondary and postsecondary institutions. These programs are developing America's most valuable resource -- its people -- helping them gain the skills, technical knowledge, academic foundation, and real world experience they need to prepare for high-skill, high-demand, high-wage careers and keep America working in every sense of the word.

CTE provides a positive return on investment for both students and the economy. Students who earn a CTE-related associate's degree or certificate can make an average of $9,000 more per year, $20,000 more per year in health career fields. Students who engage in high-quality CTE have higher academic achievement and are more likely to graduate from high school. Attendance in a CTE program more than doubles the rate of college entrance for minority students.

In Florida, CTE students taking dual-enrollment courses are 22 percent more likely to enroll in postsecondary institutions as compared to their peers; and in Indiana, the community college system estimated savings of $14.1 million in tuition costs for students in dual-credit courses.

CTE plays a critical role in creating a skilled workforce and a more diverse workforce. Since its reauthorization in 1972, the Perkins Act, then the Vocational Education Act, has contained provisions supporting disadvantaged students and special populations, such as low-income students, students with disabilities, English-language learners, single parents, displaced homemakers, and students pursuing nontraditional careers, with access and success in CTE programs.

Increasing access to high-quality CTE programs for every student, especially for unrepresented students, must be a priority in Federal policy. By 2024, employers need to fill more than 2 million middle-skilled jobs, those that require less than a baccalaureate degree, in information technology, manufacturing, transportation, distribution, and logistics -- all fields that are critical to the health of our Nation's economy and security.

Only 11 percent of the workers in these fields are women. In the 2014-15 school year, women represented only 23 percent of IT concentrators, 12 percent of manufacturing concentrators, and 9 percent of transportation, distribution, and logistics concentrators in

postsecondary CTE programs. In addition, men represented only 19 percent of concentrators in health career programs. These high-demand fields cannot afford to have half the population unavailable as potential members of their workforce pool.

Under the provisions in the Perkins Act, NAPE has been working with educators at the State and local level across the country to move the needle on equity in CTE. For example, in Oregon, Douglas Education Service District increased the enrollment of girls in their welding program from 4 in the fall of 2015 to 38 in the spring of 2016.

In California, Cordova High School increased female participation in their Project Lead the Way, Introduction to Engineering Design course from 4 to 14 girls in one semester. And in Ohio, Morgan Local Schools increased the enrollment of boys in health sciences to 50 percent of enrollment.

States play a critical role in leading the implementation of innovative and high-quality CTE programs. The sharing of these best practices, providing technical assistance, collecting and sharing disaggregated accountability and participation data, ensuring civil rights enforcement, and holding States accountable are all critical roles the Federal Government plays.

The CTE community has benefited from the initiatives that the U.S. Department of Education's Office of Career, Technical and Adult Education has lead, such as the Data Quality Institutes, the Peer Collaborative Resource Network, and the Advancing Equity in CTE project, to name a few.

Our State members have also found the U.S. Department of Education's monitoring visits to be valuable in highlighting successes and uncovering opportunities for improvement, particularly in regards to ensuring the needs of special populations are being met.

NAPE has benefitted from access to national data on accountability measure performance and CTE concentrator data disaggregated by gender, race, ethnicity, and special population status as we work with States and local education agencies to close participation and achievement gaps.

It's critical that the Federal role be maintained in the Perkins Act to ensure that CTE continues to transform itself to meet the needs of the military, business, and a workforce competing in a global economy.

Most importantly, for any of this to be possible requires that Perkins be fully funded. Since 1991, the Perkins basic State grant program has been reduced by 45 percent when adjusting for inflation. Now is the time to invest in America's educational system that creates its most valuable technical workforce.

I want to congratulate the House Education and the Workforce Committee for its bipartisan passage of H.R. 5587, Strengthening Career and Technical Education for the 21st Century Act, in the 114th Congress, and look forward to working with you to ensure that the reauthorization of the Perkins Act in the 115th Congress builds on that good work.

Our Nation needs every individual to be able to access high-quality CTE programs that lead to occupations with a family-sustaining wage, and our Nation's economy needs a diverse workforce to en-

sure we continue to be globally competitive and the world's leader in innovation. CTE can help make that a reality.

Thank you for allowing me to testify. And I welcome any questions you may have.

[The testimony of Ms. Lufkin follows:]

Written Testimony of Mimi Lufkin
Chief Executive Officer
National Alliance for Partnerships in Equity (NAPE)

Before the Subcommittee on Early Childhood, Elementary and Secondary Education
House Committee on Education and the Workforce
United States House of Representatives
Hearing: ***Providing More Students a Pathway to Success by Strengthening Career and Technical Education***

February 28, 2017
2175 Rayburn House Office Building

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Good morning and thank you Chairman Rokita, Ranking Member Polis and members of the Subcommittee [as well as Chairwoman Foxx and Ranking member Scott] for the opportunity to testify before you today to discuss the important issue of ***Providing More Students a Pathway to Success by Strengthening Career and Technical Education.***

My name is Mimi Lufkin, Chief Executive Officer for the National Alliance for Partnerships in Equity (NAPE).

**The National Alliance for Partnerships in Equity** is a 501c3 consortium of state educational and affiliate agencies providing national leadership for equity in education and workforce development. NAPE supports the work of state and local educators throughout the nation in carrying out the equity and special population provisions in the Carl D. Perkins Career and Technical Education Act as well as other education and workforce development legislation.

As a former agriculture educator and teacher educator, I know firsthand the value and difference that career and technical education (CTE) opportunities makes in the lives of young people. I wholeheartedly believe that CTE has been and will continue to be a game changer for education in America.

Nationwide, some 13 million students are enrolled in CTE programs. It is no secret that CTE is helping our nation meet the very real and immediate challenges of a rapidly changing, global economy. CTE programs in secondary and postsecondary institutions are developing America's most valuable resource—its people; helping them gain the skills, technical knowledge, academic foundation and real-world experience they need to prepare for high-skill, high-demand, high-wage careers—and keep America working—in every sense of the word.

CTE is generating higher personal income through lifelong education and preparation for high-skill, high-demand and high-paying positions. CTE provides a positive return on investment for both students and the economy. Students who earn a CTE-related associate's degree or certificate can make an average of $9,000 more per year that their peers who graduate with a humanities or social science focus. For high-demand fields such as healthcare, students can make $20,000 more per year.[1] Students in postsecondary CTE programs are more likely to be employed within five years than those in an academic field of study. Armed with technical knowledge, employability skills and an industry-recognized credential in their field of study, CTE students are finding success in the workplace and employers are recognizing the value being added to their companies.[2] It all adds up to a better education, better prepared workforce—and that means a more robust economy across the entire nation.

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[1] http://files.eric.ed.gov/fulltext/ED504078.pdf

[2] https://nces.ed.gov/surveys/ctes/tables/B03.asp

Early evidence shows that students engaged in high-quality CTE, like programs of study, do have higher achievement in academic subjects, such as English.[3] In Indiana, CTE concentrators scored 10 percentage points higher on state Algebra exams when compared to all students.[4] Between 1990 and 2009, the percent of CTE students completing a "college-prep" curriculum increased significantly. In fact, graduates who took between two and four CTE courses were the most likely to complete a college-prep course load. Sixty percent of those CTE students completed a college-prep curriculum compared to 56 percent of all high school graduates.[5]

Students who participate in CTE are also more likely to graduate from high school.[6] The high school graduation rate for CTE concentrators is about 93 percent, approximately 10 percentage points higher than the national average.[7] A 2013 study from Mississippi State University found that students taking any CTE course graduated at a rate of 77.5 percent. CTE students in Career Pathways graduated at a rate of 81.1 percent. Both graduation rates were "considerably higher than the state-reported graduation rate of 73.7 percent for all high school students."[8]

A 2016 study of Arkansas students by the **Thomas B. Fordham Institute** found that *"the more CTE courses students take, the better their education and labor outcomes,"* and that, "[CTE] concentrators are 21 percentage points more likely to graduate from high school than otherwise identical students." The study also found that after high school, CTE concentrators are "more likely to be employed... have higher average quarterly wages… [and are] more likely to be enrolled in a two-year college than similar, non-concentrators.[9]

Too often, there is a false choice between being "college" ready and being "career" ready. With more than two thirds of jobs requiring education and training beyond high school, the reality is that post-secondary education is now a part of any student's career pathway.[10] Many CTE programs across the country are utilizing dual enrollment options for students to boost student engagement, performance and post-secondary transition. Dual enrollment is when a high school student takes a credit-bearing postsecondary course, be it on a college campus, within a high school taught by college faculty or a high school teacher who qualifies as a college adjunct, or online through distance education. One study of CTE students in **Florida** taking dual enrollment

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[3] http://www.nrccte.org/sites/default/files/publication-files/nrccte_mature_pos_final.pdf
[4] http://www.doe.in.gov/sites/default/files/cte/2015-cte-data-analysis-report-final-6.23.2015.pdf
[5] http://s3.amazonaws.com/PCRN/docs/NACTE_FinalReport2014.pdf
[6] http://s3.amazonaws.com/PCRN/docs/NACTE_FinalReport2014.pdf
[7] https://s3.amazonaws.com/PCRN/uploads/Perkins_RTC_2013-14.pdf
[8] https://www.rcu.msstate.edu/Portals/0/Reports/Graduation%20Rates%20and%20Contributing%20Factors%20in%20CTE%20Students%20versus%20Traditional%20Academic%20Students_rev%2011-19-13.pdf
[9] https://edexcellence.net/publications/career-and-technical-education-in-high-school-does-it-improve-student-outcomes
[10] https://georgetown.app.box.com/s/dq4fqvuid4oui7rp8u8k

courses found that they were more likely to attend postsecondary institutions (72 percent of dual enrollment students compared to 50 percent for non-dual enrollment CTE students) and persist to their second term.[11] Many states, districts and/or institutions cover most or all of the cost of dual enrollment participation. In **Indiana,** the **Ivy Tech Community College** (the statewide community college system) estimated savings of $14.1 million in tuition costs based on the 2011-12 enrollment of over 29,000 high school students in dual credit courses.[12]

Numerous studies have shown that workforce diversity increases business financial performance and innovation. In a recent study by MIT, economists found that gender balance in a company's workforce leads to roughly 41% higher returns.[13] [14] Workforce diversity has proven to increase the capacity of groups of individuals to solve problems, be more diligent, work harder and be more innovative.[15] CTE plays a critical role in creating a skilled workforce and therefore a more diverse workforce. Since its reauthorization in 1972, The Perkins Act ( then the Vocational Education Act) has contained provisions supporting disadvantaged students and special populations access and success in CTE programs. As a result, CTE programs of study have provided successful college and career readiness avenues for special population students (low income students, students with disabilities, English language learners, single parents, displaced homemakers and students pursuing nontraditional careers).

The National Dropout Prevention Center/Network has identified CTE as one of 15 strategies with the most positive impact on the dropout rate.[16] Attendance in a CTE program more than doubles the rate of college entrance for minority students.[17] Minority students in CTE also report higher academic engagement than their White counterparts.[18] In the graduating class of 2014, Oregon CTE concentrators were 15.5 percentage points more likely to graduate high school in four years than were students statewide. The graph below shows that Oregon CTE concentrators across every racial/ethnic student population graduated at levels higher than the statewide average of 72.0 percent and the increase in graduation rates for CTE concentrators is greatest for historically underserved students.[19]

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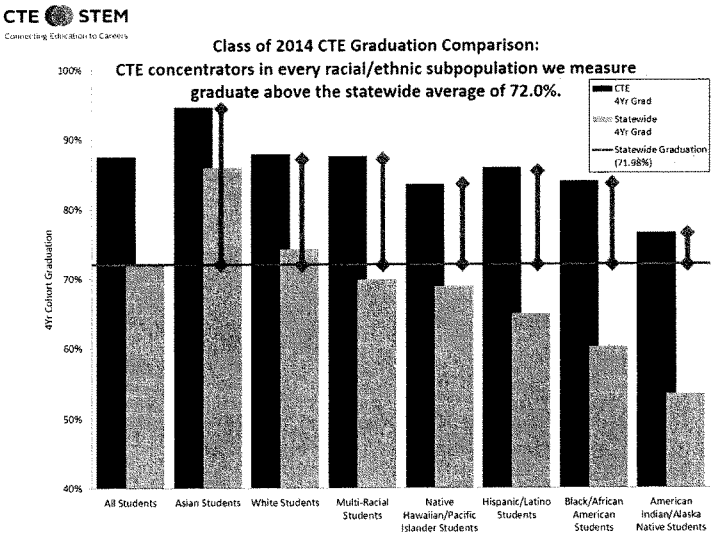
[11] http://ccrc.tc.columbia.edu/media/k2/attachments/dual-enrollment-research-overview.pdf
[12] http://www.in.gov/icc/files/Career_Council_CC_Best_Practices_Recommendations-Final.pdf
[13] http://news.mit.edu/2014/workplace-diversity-can-help-bottom-line-1007
[14] http://economics.mit.edu/files/8851
[15] https://www.scientificamerican.com/article/how-diversity-makes-us-smarter/
[16] http://dropoutprevention.org/effective-strategies/#CTE
[17] *A Model for Success: CART's Linked Learning Program Increases College Enrollment, Irvine Foundation 2011*
[18] http://www.nrccte.org/sites/default/files/external-reports-files/fulltext.pdf
[19] https://www.oregonlegislature.gov/dembrow/WGitemsyouthEmployment/5-26%20CTE%20Achievement%20Gap%20in%20Oregon.pdf




Increasing access to high quality CTE programs for every student, especially for underrepresented students, must be a priority in federal policy. Increasing the diversity of students who experience the positive outcomes of CTE will provide businesses with the diverse workforce they are desperate for.

There is however much work that still needs to be done in CTE to meet businesses demand for a diverse workforce so they can see the benefits that a diverse workforce brings. By 2024 employers need to fill more than 2 million middle-skill jobs, those that require less than a baccalaureate degree. These jobs are in information technology, manufacturing, and transportation, distribution and logistics - all fields that are critical to the health of our nation's economy and security. Only 11 percent of the workers in these fields are women.[20] In the 2014-15 school year women represented only 23 percent of IT concentrators, 12 percent of manufacturing concentrators, and 9 percent of transportation, distribution and logistics concentrators in postsecondary CTE programs. In addition, men represent only 19% of concentrators in health careers programs.[21] These high demand fields experiencing worker shortages, especially in middle skill jobs, cannot afford to not have half the population as potential members of their workforce pool.

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[20] http://womenandgoodjobs.org/app/uploads/2016/03/Middle-skills_layout-FINAL.pdf

[21] https://perkins.ed.gov/pims/DataExplorer/

The outcomes of CTE students are exceptional and continue to be on of the best kept secrets in education today. CTE is no longer the "shop" programs of your grandparents time, but are highly technical programs that promote college AND career readiness for students. The transformation of vocational education to career and technical education and the outcomes I just described have been driven by the provisions in the Carl D. Perkins Career and Technical Education Act (Perkins Act) and the visionary work being done by states in implementing those provisions and supporting innovative programs at the state and local level. Provisions that encourage dual enrollment, development of programs of study, providing supportive services for special population students and focusing on high skill, high wage and nontraditional career fields have all been part of the changes that are making CTE students so successful. This national "vision" for the transformation of CTE is a critical part of what the Perkins Act provides.

**CTE is for Every Student**

Through federal guidance around Special Populations within the current Perkins Act, states are required to monitor the recruitment, retention, and program completion through disaggregated data of identified student groups. Largely, these student groups are traditionally underserved and underrepresented in various industries and career occupations. This equity assurance speaks to the vitality of diversity in the American workplace.

I would like to highlight some exceptional work being done in a few states to increase student access and success in CTE and meet the needs of a diverse workforce.

**Oregon** Program Improvement Process for Equity (PIPE) is a collaborative project of the National Alliance for Partnerships in Equity funded by the Oregon Department of Education and the Higher Education Coordinating Commission - Office of Community Colleges and Workforce Development. PIPE is based on practical yet rigorous methods and tools that are used to guide state and local efforts to improve access, equity, and diversity in nontraditional occupations and CTE and STEM fields. Through a five-step process PIPE engages teams of administrators, teachers, and counselors in conducting a student data-based performance gap analysis, identifying root causes for the gaps, and then moving on to developing an action plan based on research-based strategies proven to close the identified gaps.

Douglas Education Service District in Roseburg, OR participated in PIPE training resulting in an increase in enrollment of girls in their welding program from four in Fall 2015 to 38 in Spring 2016. They were able to sustain this growth with 36 girls enrolling in welding in Fall 2016. In addition to the impact on students, the PIPE process really changes educators knowledge and skills to implement effective policies and practices that change the culture of schools to be more inclusive. Dr. Analicia Nicholson, leader of the PIPE team says "I just wanted to say "thanks". I've participated in two meetings this week that the conversation would have been different if NAPE wasn't a part of my mindset/thinking/knowledge base. Both meetings were attempting to develop strategies for MORE students to graduate. Both meetings were focused on solutions for

career training and exploration. Because of NAPE's research and your impact on my thinking, I was able to redirect the conversation from "guesses" or "I think" to here's what the research says about "why" this solution may work for young men and not young women. The research's accessibility paired with strategies that work, moves conversations along quicker and helps groups make better decisions for kids. A favorite quote of mine by Dr. Rick Rigbys is, 'make an impact, not an impression'. You and NAPE have done so."

**Colorado** has also been working with NAPE to implement professional development for CTE educators focused on increasing the participation and completion of students in nontraditional CTE programs. The state participated in NAPE's National Science Foundation funded STEM Equity Pipeline projected where teams of educators from secondary and community colleges implemented the Program Improvement Process for Equity in STEM. These teams identified the root causes and implemented research-based strategies the were specific to the participation and performance gaps found in STEM-related CTE programs through a thorough performance gap analysis. Teams looked at gaps based on gender, race/ethnicity, socioeconomic status, disability, English language proficiency and other demographic characteristics. For example, Otero Junior College (OJC - La Junta, Colorado) PIPE team has been successful in increasing their performance on the Perkins nontraditional measure above the state average and over the state's negotiated performance measure.

OJCs commitment to equity in CTE started nineteen years ago with a one day hands-on conference, called Girls in the Middle, for 6th, 7th and 8th grade girls to learn more about STEM careers. This program, in partnerships with the Air Force Academy, Colorado School of Mines, US Dept. of Interior, Office of Surface Mining, Reclamation and Enforcement, Colorado Workforce Center, and local sponsors has changed girls lives. For example, 19 years ago a student attended as a 6th grader - registered late and was put into the physical therapy pathway for the day even though at the time she said she wasn't interested in the field. She found out she loved it and is now a physical therapist. Another girl learned about dual enrollment while at the program, graduated from high school with 36 college credits and graduated from college in three years. She is now employed in the information technology sector.

Staff from the Colorado Department of Education and the Colorado Community College system have noticed, since their involvement in NAPE's programs, a significant increase in the number of requests for professional development and technical assistance focused on closing equity gaps in CTE. This work has impacted educators beyond CTE with initiatives being implemented with adult education providers, and educators working with out-of-school youth and opportunity youth. The staff have seen noticeable improvement in the policies and practices of community colleges that have participated in training. These changes have included more inclusive outreach practices, the hiring of equity staff, and improvement in the engagement of a more diverse student population.

In **Pennsylvania**, NAPE has been working with the Chester County Intermediate Unit (CCIU) implementing PIPE with teams at the three Technical College High Schools. For the first time last year CCIU has met its negotiated performance measure for nontraditional completion. The teams at each site implemented a variety of activities including: providing students with the opportunity to explore nontraditional programs; having a panel of nontraditional students talk with the counselors from the sending schools about their success; conducting professional development with teachers and implementing a targeted recruitment program. Hear from the CCIU students in this video at the CCIU Careers Have No Gender website - http://www.cciu.org/Page/1590

The **California** Joint Special Populations Advisory Committee is part of a joint effort between the California Department of Education and the California Community Colleges Chancellor's Office to promote equity and develop the academic, career and technical skills of secondary and postsecondary students from special populations who elect to enroll in career and technical education programs. The JSPAC 's mission is to promote equity and success in CTE for students from special populations by providing educators research based professional development, instructional strategies and resources. The JSPAC was instrumental in partnering with NAPE to implement PIPE with teams across the state.

A California participating teacher was looking to fill an instructional aide position in his auto technology program. After completing the training he chose to hire a highly qualified female applicant for the position. Over two years, the number of females in the program increased from 4 to 15. The teacher attributed the change to the hiring of the female aide, a decision he made because of what he had learned from participating in the PIPE professional development. (Anonymous response to evaluation interview). A team of teachers from Cordova High School, Cordova, CA participated in PIPE training in 2012-13 and focused their efforts on increasing female participation in their Project Lead the Way program. The Introduction to Engineering Design course in 2012-13 had four girls. After implementing their identified strategy fourteen girls enrolled in the course in 2013-14.

In **Ohio**, fourteen Career Technical Planning Districts (CTPD) teams were trained in PIPE with positive results. Some examples include: Whitmer Career and Technology Center in Toledo increase their Project Lead the Way (PLTW) (pre-engineering program) enrollment from 0 females to 9 in one year; Mansfield Senior High School started a PLTW program using equity outreach strategies and enrolled 40% females and 35% African Americans (boys and girls) in the first 9th grade class and the following years the 10th grade class had 43% females.; Morgan Local Schools increased the enrollment of boys in health sciences to 50%; and Cuyahoga Valley Career Center increased its female enrollment in drafting/architecture from 4% to 26% and its male enrollment in dental assisting from 4% to 21% .

These examples in Oregon, Colorado, Pennsylvania, California and Ohio are representative of

innovative CTE programs across the country that have been incentivized by the equity provision in the Perkins Act. I want to congratulate the House Education and Workforce Committee for its bipartisan commitment to equity in CTE by passing HR 5587, Strengthening Career and Technical Education for the 21st Century Act, in the 115th Congress. HR 5587 built on and strengthened many of the provisions in current law that support equity in CTE, including: the state leadership funds to assist eligible recipients in providing services supporting students pursuing nontraditional careers; accountability measures to increase student access and success in nontraditional careers; the disaggregation of data; the conduct of a comprehensive needs assessment at the state and local level to remove barriers for special population success in CTE; required uses of funds at the state and local level to ensure success of special populations in CTE; and the inclusion of a GAO study to evaluate the strategies being used to successfully assist underrepresented students in pursuing and completing programs aligned to high-skill, high-wage occupations; to name a few.

States play a critical role in leading the implementation of innovative and high quality CTE programs. The sharing of these best practices, providing technical assistance on the implementation of the Perkins Act, collecting and sharing disaggregated accountability and participation data, ensuring civil rights enforcement and conducting research are all critical roles that the federal government plays. In the past, the CTE community has benefited from the initiatives that the US Department of Education's Office of Career, Technical and Adult Education has led such as: the Data Quality Institutes; the Peer Collaborative Resource Network; and the Advancing Equity in CTE project to name a few. Our state members have also found the US Department of Education's monitoring visits to be valuable in highlighting successes and uncovering opportunities for improvement, particularly in regards to ensuring that the needs of special populations are being met. NAPE has benefited from access to national data on accountability measure performance and CTE concentrator and enrollment data disaggregated by gender, race/ethnicity and special population status as we work with states and local education agencies to close participation and achievement gaps. It is critical that the federal role be maintained in the Perkins Act to ensure that CTE continues to transform itself to meet the needs of business and a workforce competing in a global economy.

I encourage the committee to look carefully at the recommendations made by NAPE for the reauthorization of the Perkins Act and want you to know that we stand ready to provide you any assistance you need in understanding more about how these provisions in Perkins have been critical in continuing to provide the incentives and direction necessary to close equity gaps in CTE. Our nation needs every individual to be able to access high quality CTE programs that lead to occupations with a family sustaining wage and our nation's economy needs a diverse workforce to ensure we continue to be globally competitive and be the world leader in innovation.

**Conclusion**

Thank you to the members of this Committee for allowing me to testify before the subcommittee.

Please allow me to leave you with these final thoughts. The legacy of former House Education Committee Chairman, Carl D, Perkins of the great state of Kentucky is ever apparent today. Federal supports for education makes all of us stronger-- especially those in CTE.

CTE improves the return on our investment in education at the local, state and federal levels by developing a more highly-educated diverse workforce with better work-ready skills, technical expertise and problem solving skills.

I appreciate the opportunity to provide the Committee with an overview of the importance of strengthening and expanding high quality CTE and I welcome any questions you may have.

Chairman ROKITA. Thank you, Ms. Lufkin.

Mr. Rowe, you're recognized for 5 minutes.

**TESTIMONY OF MIKE ROWE, CEO, MIKEROWEWORKS FOUNDATION**

Mr. ROWE. Thanks. Pleasure to be here. Appreciate the invitation.

I'm not sure who the ladies are to my left, but I'd wish to acknowledge them.

I don't know what you're doing, but it is fascinating to watch you do it. Honestly.

Back in 2011, the Transportation and Commerce Committee invited me to share my thoughts on how to close America's widening skills gap. So I came to this building to talk about a critical part of the solution most often overlooked by politicians and educators. That would be the pressing need for better PR. I talked specifically about the stigmas and stereotypes that dissuade millions of people from exploring thousands of genuine opportunities in the skilled trades and the urgent need to challenge those myths and misconceptions.

I pointed out that President Obama's promise of 3 million shovel-ready jobs sounded great, but I worried that filling those jobs would be challenging, especially in a country where fewer and fewer people aspired to pick up a shovel. I concluded by telling the committee that millions of open positions will remain unfilled until society changes its opinion on the definition of a good job. And then I invited those present to join me in a larger effort to that very thing.

Shortly after my testimony to the committee, the skills gap closed, unemployment plummeted, and America got back to work.

I'm kidding. Shortly after my testimony, the skills got widened, unemployment grew, and society continued to ignore thousands of opportunities that comprise a critical part of our workforce.

So a few years later, I was invited back to the Hill to address the Natural Resources Committee and talk more about the causes of our widening skills gap. This time I focused on the unintended consequences of promoting a 4-year degree as the best path for the most people. There was a time when higher education needed a PR campaign and it got one. Unfortunately, the push for 4-year institutions came at the expense of community colleges, trade schools, and apprenticeship programs. Thus, every other educational opportunity began to feel subordinate.

Also, the overall push for college coincided with an overall removal of vocational arts from high schools across the country, and the effects of that one-two punch laid the foundation not just for a widening skills gap, but for a level of student debt that's massive, premature, and completely unnecessary.

I testified that tuition had soared in part because thousands of well-intended parents and guidance counselors were telling millions of kids, irrespective of their individual skills, that their best hope of success was the most expensive path available. The pressure on kids to borrow money was enormous, and so they did. Consequently, college tuition rose faster than the cost of food, energy, real estate, and health care.

I also shared some personal stories with the committee that day, including a run-in with my own guidance counselor 35 years earlier. In 1980, Mr. Dunbar did everything in his power to dissuade me from attending a local community college. I was told outright that a 2-year school was beneath my potential.

But a 4-year school would have been a huge mistake at that point in my life. I was 17 years old, I had no money, and I had no idea of what I wanted to do. The local community college offered hundreds of courses in my price range, so that's where I went, and that experience opened doors that I didn't even know existed. But that same experience is precisely what thousands of kids are discouraged from pursuing every single year.

I told the committee then that this cookie-cutter approach to promoting higher education has led to thousands of graduates with expensive degrees from excellent schools, but with no prospects in their chosen field and no way to pay off their student loans.

With the universal push for a 4-year degree more intense than ever, I argued then that our skills gap is the direct result of a mistaken belief that the best path for the most people is a 4-year degree, and I concluded with another appeal to aggressively confront the stigmas and stereotypes that discourage people from entering the trades, along with a challenge to guidance counselors to present a more balanced presentation of educational alternatives beyond high school.

After my testimony in 2013, the skills gap closed, public education re-embraced the vocational arts, college tuition returned to affordable levels, and America finally got back to work.

I'm kidding. Shortly after my testimony, the skills gap got even wider, tuition got even more expensive, and guidance counselors continued to use a career in the trades as a cautionary tale for those who resisted a 4-year degree. Now the situation has devolved even further, and my own mother has concluded that I am part of the problem. "The more you testify," she said to me last night, "the worse things get."

She may be right. Today, the skills gap is wider than it's ever been, 5.6 million jobs, according to the BLS. Vocational education is still missing from an overwhelming majority of high schools. Bills like the one before this committee still meet resistance in part because millions of Americans still view a career in the trades as some kind of vocational consolation prize.

It's a bias as misguided as any other prejudice with us today and it poses a clear and present danger to our country's overall economic security. The student loan bubble is going to burst, as bubbles always do. Currently, the outstanding debt is $1.3 trillion. And yet we continue to lend money we don't have, to kids who can't pay it back, to teach them jobs that no longer exist, while ignoring all kinds of careers that actually do.

In Springfield, Massachusetts, right now there are tens of thousands of manufacturing jobs available, yet the unemployment rate in Springfield is just as high as it is in the rest of the State. The mismatch between available skilled jobs and the unemployed local population is enormous. And it's happening everywhere. And so at the risk of making things worse, I have come here today to address

the House Committee on Education and the Workforce. Alas, I have nothing new to tell you.

[The testimony of Mr. Rowe follows:]

**Testimony of Mike Rowe**
**House Committee on Education and the Workforce**
**Subcommittee on Early Childhood, Elementary, and Secondary Education**
**February 28, 2017**
**"Providing More Students a Pathway to Success by Strengthening Career and Technical Education"**

Back in 2011, The Transportation and Commerce Committee invited me to share my thoughts on how to close America's widening skills gap. So I came to this building to talk about a critical part of the solution most often overlooked by politicians and educators – the pressing need for better PR.

I talked specifically about the stigmas and stereotypes that dissuade millions of people from exploring thousands of genuine opportunities in the skilled trades, and the urgent need to challenge those misconceptions. I pointed out that President Obama's promise of 3 million shovel ready jobs sounded great, but I worried that filling those jobs would be challenging - especially in a country where fewer and fewer people aspired to pick up a shovel. I concluded by telling The Committee that millions of open positions will remain unfilled, until society changes its opinion on the definition of a "good job," and then I invited those present to join me in a larger effort to do that very thing.

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A few years later, I was invited back to The Hill to address the Natural Resources Committee, and talk more about the causes of our widening skills gap. This time, I focused on the unintended consequences of promoting a four-year degree as the best path for the most people. There was a time when higher education needed a PR Campaign, and it got one. Unfortunately, the push for four-year institutions came at the expense of community colleges, trades schools, and apprenticeship programs. Thus, every other educational opportunity began to feel subordinate. Also - the overall push for college coincided with an overall removal of vocational arts from high schools across the country, and the effects of this one two punch laid the foundation not just for a widening skills gap, but for a level of student debt that's massive, premature, and completely unnecessary. I testified that tuition had soared, in part, because thousands of well-intended parents and guidance counselors were telling millions of kids - irrespective of their individual skills - that their best hope of success was the most expensive path available. The pressure on kids to borrow money was enormous. And so they did. Consequently, college tuition rose faster than the cost of food, energy, real estate, and healthcare.

I also shared some personal stories with the Committee, including a run-in with my own guidance counselor 35 years earlier. In 1980, Mr. Dunbar did everything in his power to dissuade me from attending a local community college. I was told outright that a two-year school was "beneath my potential." But a four-year school would have been a huge mistake at that point in my life. I was seventeen years old. I had no money, and no idea what I wanted to do. The local community college offered hundreds of courses in my price range, so that's where I

went, and that experience opened doors I didn't even know existed. But that same experience is precisely what thousands of kids are discouraged from pursuing every year.

I told the Committee that this "cookie-cutter" approach to promoting higher education has led to thousands of graduates with expensive degrees from excellent schools, but no prospects in their chosen field, and no way to pay off their student loans. With the universal push for a four-year degree more intense than ever, I argued that our skills gap is the direct result of a mistaken belief that the best path for the most people is a four-year degree. I concluded with another appeal to aggressively confront the stigmas and stereotypes that discourage people from entering the trades, along with a challenge to guidance counsellors to present a more balanced presentation of educational alternatives beyond high school.

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Shortly after my testimony, the skills gap got even wider, tuition got even more expensive, and guidance counselors continued to use a career in the trades as a "cautionary tale" for those who resisted a four-year degree. Now, the situation has devolved even further, and my own mother concluded that I'm part of the problem. "The more you testify," she said, "the worse things get." She may be right.

Today, the skills gap is wider than it's ever been – 5.6 million jobs, according to The BLS. Vocational education is still missing from an overwhelming majority of high schools. Bills like the one before this committee still meet resistance, in part, because millions of Americans still view a career in the trades as some kind of "vocational consolation prize." It's a bias as misguided as any other prejudice with us today, and it poses a clear and present danger to our country's overall economic security. The student-loan bubble is going to burst, as bubbles always do. Currently, the outstanding debt is 1.3 trillion dollars. And yet, we continue to lend money we don't have to kids who can't pay it back, educating them for jobs that no longer exist - while ignoring careers that do. In Springfield, Massachusetts, there are tens of thousands of manufacturing jobs available, yet the unemployment rate in Springfield is just as high as it is in the rest of the state. The mismatch between available skilled jobs and the unemployed local population is enormous. And it's happening everywhere.

And so, at the risk of making things worse, I've come here to address The House Committee on Education and the Workforce. Alas, I have nothing new to tell you. But I do think a few points bear repeating – especially if our new President is serious about spending a trillion dollars on infrastructure. As I told his predecessor shortly after his first inauguration, we simply do not have a trained workforce standing by to fill the positions that currently exist. And we certainly aren't prepared to fill the new positions a trillion dollars of infrastructure spending will surely create.

Last week, President Trump met with a number of manufacturing CEO's, and talked about his commitment to "bring jobs back to America." I was relieved to hear several of the CEO's tell the President that their most immediate concern was not a lack of jobs, but a lack of skilled workers. The President seemed surprised to hear this. Many people are. There's a powerful and logical assumption that unemployment can be remedied with more opportunity. But the skills gap proves that opportunity is not enough to get people working. And while more and better training is certainly part of the solution, that's not enough either. Because underneath the lack of skill, is an undeniable lack of will. A lack of enthusiasm. When we took shop class out of high school,

we sent an unmistakable message to an entire generation of students. We told them – no, we showed them - that a whole category of jobs was simply not desirable. Is it any wonder, those are the very jobs that go begging today?

The skills gap will never close until that perception is corrected, and the cost of college will never come down, if we keep telling people a four-year degree is their only hope of being successful. We need an educational system that reembraces and reaffirms the importance of the vocational arts. It's not simple, just basic. If we want to make America great again, we have to make work cool again. We have to support bills like this one, as well as organizations and programs that try to close the skills gap in their own way.

A few nights ago in Baltimore, my foundation, with the help of Koch Industries, Stanley Black and Decker, and several other like-minded companies, sponsored a fundraiser for Project Jumpstart - a pre-apprenticeship program that trains inner city residents for a career in the construction trades. Please ask me about this program. It's success rate is unprecedented, and it could very easily serve as model for workforce development around the country. I also work extensively with Skills USA – an incredible organization of 300,000 kids. Imagine if the Boy Scouts and Girl Scouts got together with laser focus on training the next generation of skilled tradesmen. Please ask me about them as well. Their work is both instructive and invaluable. Skills USA and Project Jumpstart are unknown to most people, and that's a shame, because they're filling in some of the blanks created by the vanishing of vocational education. But they can't do it all.

As long as I'm here, I'm going to challenge more individuals and companies to help me call attention to opportunities that already exist, and challenge the prevailing definition of a "good job" in whatever way we can. Because ultimately, our crumbling infrastructure, our widening skills gap, the disappearance of vocational education, and the stratospheric rise in college tuition – these issues are not problems – these are the symptoms of what we value. And right now, we have to reconnect the average American with the value of a skilled workforce. Only then, will the next generation aspire to do the work at hand.

If I can be of use in that effort, my foundation and I are at your disposal.

Chairman ROKITA. Thank you, Mr. Rowe. I can't let your celebrity bend the laws of the clock.

Mr. ROWE. I appreciate that. Very well. The only thing in television that takes 5 minutes is 20.

Chairman ROKITA. And please let the record reflect that the ladies that the witness was referring to were our court reporters, who I think used to work at the NSA and have friends at the IRS.

Mr. ROWE. I believe it.

Chairman ROKITA. You're going to be fine, Mr. Rowe. I think you'll be fine.

I'm going to pass temporarily on my questioning and recognize the chairman of the full committee, Dr. Foxx, for 5 minutes.

Ms. FOXX. Thank you very much, Chairman Rokita. And I will add to what the chairman said about those wonderful ladies on your left. My understanding is that there are lots of job openings in that field and it pays very well.

Mr. Johnson, BASF has a clearly demonstrated commitment to collaborating with educational institutions to address its workforce needs. I'm very familiar with what you do. Many smaller companies, however, lack the resources and expertise that someone like BASF has and makes it difficult for them to dedicate time and energy to maintain the partnerships with educational institutions. How do your educational partnerships help local small and medium-size employers address their own workplace needs?

Mr. JOHNSON. Thank you very much for the question.

For what we do with BASF, we look for our corporate partners, our industry partners to come along with us for the ride, because we cannot do it alone. The last thing I would ever want whenever I go to an advisory committee for a technical school to talk to them about the alignment between their learning outcomes and our KSAs, knowledge, skills and abilities that we need to hire, is for us to be the only ones at the table.

We want our other industry partners there so that we come together with what we think the foundation should be so that there is a true handshake between our individual training programs inside industry where we can all take over. So we want them there with us, and not only do we want, but we actually seek them out to be sure that they are part of everything that we do when it comes to career and technical education awareness.

Ms. FOXX. Thank you.

And I want to say to all our witnesses and to Ranking Member Polis, I'm so grateful that you presented so many facts today on the positive impact of career and technical education, because I think it's so important that we get that information out there in the public to offset what Mr. Rowe talks about, and that is helping to change the image of career and technical education.

And I can't let this hearing go by without reminding people that Harvard College began as a vocational school. And if you don't believe me, look it up.

Ms. Goble, in your testimony you described how work-based learning elevates the student experience and leads to more engaged students. I agree that work-based learning is critical for exposing students to the skills they need to succeed in the workplace. But,

unfortunately, too few students have the opportunity to participate in such programs.

Tell me the challenges you've faced in expanding the number of work-based learning opportunities for students and how you've overcome these challenges.

Ms. GOBLE. Thank you.

Yes, it is a challenge to have every student participate in work-based learning activities, and part of that is driven by how many industry partnerships you have. In our district, we are continuing to get more and more industry partners, which helps facilitate that.

Additionally, we've tried to overcome that challenge by having all school career fairs where every student in the high school participates and they have a chance to interface with industry. As I mentioned with our region Pathways to Professions expo event, that was a great opportunity for work-based learning where students could actually talk with businesses, they were exchanging business cards, making arrangements for job shadows, and all sorts of other activities.

But it is a challenge. In a perfect world, we would have every one of our students do a half-day job shadow in their high school experience. It's just not practical, we don't have that many business people.

Ms. FOXX. Thank you very much. I know this is a challenge. I used to have interns in my office when I worked at Appalachian State University from the local high school who were in the business programs. So I know it's been going it on for a long time. We just need to broaden it.

Mr. Rowe, I want to thank you for being the incredible advocate that you have been for hard work in the skilled trades. And I agree with you completely, we need to change the way people think about career and technical education. And I do think that we all have a responsibility to do that. All of us here, all of us in any part of education in particular.

And I want to say that folks who have been around me for very long know that I really get on to people for their language as it relates to what we're talking about. And I do think getting rid of the word vocational education would help us a great deal, because I ask people when they are going to college: What do you want when you get out of college, 4-year college? Or now 6-year college. It takes 6 years to get a degree. They all say: A job. So all of education is vocational education, in my opinion. So we can work on changing our language.

Thank you, Mr. Chairman. I apologize for going over.

Chairman ROKITA. I thank the chairwoman.

Mr. Scott, you're recognized for 5 minutes.

Mr. SCOTT. Thank you, Mr. Chairman.

Ms. Lufkin, in the old days, vocational education was an alternative to an academic career. You'd learn a little trade, shop or something, get a job and keep it for 40 years. Now people are changing jobs frequently during their career and they need the education. So career and technical education should not be an alternative to academics, but an alternative setting where you can learn the same thing and not get off track.

Does the present CTE legislation require the basic education to be achieved instead of an alternative to learning what you need to know?

Ms. LUFKIN. Thank you for the question, Chairman Scott.

The current Perkins legislation has extremely strong provisions in it for the integration of academic and career and technical preparation. There includes an academic performance measure for secondary students. Technical skill attainment are also included in the performance accountability system.

So the connection between academic preparation and technical skill preparation is really a critical component of current the Perkins legislation.

Mr. SCOTT. Does that need to be improved to make sure that they get the academics or is that sufficient?

Ms. LUFKIN. Well, certainly I think any improvement in that area would help continue to make those connections. The legislation that was passed by this body last fall also continued that and strengthened that, I think, to some degree.

I think that the issue here also which I think is critically important to look at is to ensure that States and local educational agencies are collecting disaggregated data by special population, status, race, ethnicity, and gender, to ensure that any academic achievement gaps are addressed in order to identify those equity gaps and close them. And the legislation that you passed last fall included a needs assessment language in it that was, I think, a really good provision that moves towards that.

But certainly strengthening the connection between technical skill attainment and academic preparation. To eliminate those lines, as Congresswoman Foxx mentioned, there really should be no difference between academic preparation and technical skill attainment. Education is education, and the outcome we hope for that is for every student to come out of their experience with a career. Hopefully, not be in school for the rest of their life.

Mr. SCOTT. Thank you. And how do you focus on those most likely to unemployed, to make sure money is targeted to where it most needs to go?

Ms. LUFKIN. So the way the funds are distributed now through an allocation process includes student population, as well as income levels as part of the formula, and that's an important component of this. The schools that have the highest need in terms of low-income students also potentially have the highest need for career and technical education to ensure students obtain the benefits of higher wage potential in their future and to become economically self-sufficient.

Provisions in the legislation, I think, that are also critical include in addition to accountability measures that look at the performance of those students through disaggregated data, but also the kinds of incentives that exist through the required uses of funds section of the legislation that actually puts a priority on ensuring that low-income students and students who are likely to be unemployed also receive benefits.

I think one of the biggest challenges in the current technical education system or in the education system more broadly is that students who are at risk of dropping out are often sent to alternative

schools, and alternative schools don't always have the best access to career and technical education. And that is a real problem.

When I was working as a teacher in California, we frequently saw students who were pregnant and parenting students, students who had behavioral issues in the regular high school, sent to an alternative school, and then were removed from having access to career and technical education.

Actually, CTE is a dropout prevention. It is 1 of the 15 strategies of the National Dropout Prevention Center has identified as a best practice, and it needs to be available to every student regardless of the systems that they are in.

Mr. SCOTT. So when Ms. Goble suggested that high school students could get credit, save money, and save time to get credentials and reduce the dropout rate, was she right?

Ms. LUFKIN. Yes, absolutely.

Mr. SCOTT. Thank you.

Chairman ROKITA. I thank the gentleman.

Dr. Roe, you're recognized for 5 minutes.

Mr. ROE. Thank you, Mr. Chairman. And it's good to have a relative on the panel today, a fellow Roe.

Mr. ROWE. You're missing a W.

Mr. ROE. Thank you.

In the State of Tennessee we recognized this problem a few years ago, and hats off to our State legislature and the Governor who provides -- ours is the only State in the union, I think, that provides free community college and technical college for anyone.

We also have a program -- Mr. Johnson brought up 11,000 people, seniors, turning 70, each and every day. And we have also a program in the State called Tennessee Reconnect where you can bring people, let's say their job has gone to Mexico, China, wherever, and they need to retrain, they can be brought into our technical schools, 27 of them in the State. And we have one within 1 hour of every person in our State that can come back. I told the Governor: I don't know whether it will help you or me, but I think certainly in the future, in the next 20, 30 years, it will be tremendously beneficial to our State.

Just to give you a couple of statistics, even during the height of the Great Recession, between 80 and 90 percent of the people who trained in the technical schools were able to be employed in the skill that they had learned.

Mr. Rowe pointed out that his guidance counselor gave him some advice. My guidance counselor in high school advised me to not go to college, to take up a trade. I did take up a trade, it was called doctoring, but I did go on to medical school. So I had a trade, it was operating on people.

Other people had a different trade, and one of the things I found out in my practice was that we needed those skills to operate the practice. So we trained people in our office, nursing assistants, LPNs, on and on. I'm not talking about the degree people. But you can't operate in the healthcare sector without these folks or many sectors.

The average beginning wage of a welder that leaves one of our technical schools from my local community is $35,000. And I talked to a young man not long ago and his guidance counselor. This

young man just a couple or 3 years out of technical school was making a six-figured income in welding.

Eighty to 90 percent of our students get job placement in their field immediately, as opposed to what Mr. Johnson and others of you all have said about you graduate from college and you can't find a job.

So I've become a huge career leader for CTE. I think it is a road. And the question I have for any of you on the panel, and maybe I'll start with Mr. Rowe, is how do we convince young people it's a great thing do? I mean, I have a lot of status with what I did. But there is status in making a good living for your family also.

So how do we get this drilled down -- I think you guys are right -- down into the fifth, sixth, seventh, eighth grade level to tell kids, "Hey, there are a lot of things you can do"?

So I'll start with you, Mr. Rowe.

Mr. ROWE. Well, if you want to make America great again, you've got to make work cool again. You've got to make it aspirational. It can't be this thing that's sitting there for a whole bunch of people who failed on the aspirational road. It can't be that vocational consolation prize. You just have to change the image of the opportunity.

And, you know, there are so many ways you can look at the language and see how we got to where we are. But, you know, the word vocational is an interesting thing to kind of riff on, because it didn't used to be vocational education or even shop, it used to be the vocational arts. So what we did was we took the art out of the vocation and all we left was some version of drudgery.

And you could do that to your career or mine or really anybody's. If you take the artistry out of it, you're just not left with much that's visually appealing from the outsiders.

So we just have to be aware of how we present these opportunities to kids. And, obviously, on the front line of that are the parents of the kids and the guidance counselors.

So the language matters, the opportunity matters, and the challenge matters, too, you know. My foundation focuses on these jobs, but we do it through the lens of work ethic. You know, we challenge people: You've got to make a case for yourself if you're going to get access to our little pile of money, and then you need to enthusiastically advance. So it is a slightly different way of coming at it and a long way of saying you've just got to make it cool somehow.

Mr. ROE. Well, one of things I hear, and maybe -- we don't have a lot of time left -- but I go to a lot of manufacturers in my district, and I hear over and over again: We can teach you how to do these things. If you can present with the soft skills, will you show up at 8 o'clock, will you be there at 5 o'clock, and you pass a drug test? I hear it all the time. And I think those are the things we have got to teach young people, that work is important, you also have to have these other skills to be able to be successful at work.

Mr. Chairman, I yield back. Thank you.

Chairman ROKITA. Thank, Doctor.

Mr. Garrett, you're recognized for 5 minutes.

Mr. GARRETT. Thank you, Mr. Chairman and members of the panel. It's a real -- speaking with the chair of the full committee --

Chairman ROKITA. Would the gentleman turn his mike on?

Mr. GARRETT. Sometimes you've got to find your passion and sometimes you walk headlong into it. But this CTE topic today is so important. And I'm really heartened to hear someone far smarter than myself, Mike Rowe, sort of articulate some of the things that I have been saying for years. And I want to pound on these because I think they bear repeating.

I've referred to an educational-industrial complex to get to the heart of it and to bring home to people just how bad the problem I think has become. We've created a paradigm wherein we define success for young people as a 4-year degree from a liberal arts school and a lot on the corner in a subdivision, and that's wonderful for everybody for whom it's wonderful. But, you know, I think 9 percent of my high school went on to 4-year colleges, and the guy who I graduated with who fixes my car can do things that I could never begin to do. And he, by the way, has a son who's on a full ride to a graduate degree in molecular biology at the University of Notre Dame. There's no dishonor in an honorable career. I would contend that every American is entitled to two things: number one, an opportunity, and number two, the right to define success for themselves so long as long as it doesn't impact the liberty of others. And we have painted into a corner the skilled laborer that built this Nation, and it's tragic. So we have to break that paradigm. And you've done more to do that in the last 6 or 7 years than I may ever do, and I thank you.

Mr. ROWE. You're welcome.

Mr. GARRETT. As it relates to CTE, I know we can do it because I've seen it done here in this country. I recently was in Germany and visited the Bayer Corporation and watched where they had some 200-plus young people straight out of high school who were learning to do things like be lab chemists, like care for animals, physical security, data analysts who came straight out into these fields because the private sector decided that they were going to create the employees that they needed to be successful. BASF, I think, deserves some credit for doing that same sort of thing. But we can do more of that.

Having said that, as we look to what the paradigm moving forward should be, I would argue that the best arbiter of the needs of the working world are the local communities. In my former job in the Virginia Senate we saw the community colleges, PVCC, CVCC, Southside Virginia Community College, partner with entities like BWX and Areva, with UVA Health System, and say, "Where are the needs?" and then start creating a workforce for those needs.

So we can do this. But sometimes, I think, when we try to dictate it from on high at a Federal level, we just miss the target because we don't know exactly what we ought to be aiming at as well as the State and local folks do.

Having said that, I will turn right back around and commend the Old Dominion Job Corps, with whom I work directly. And it was an eye-opening experience when I walked in there a couple years

ago and I said, "Where are you having your best luck placing young people?" And these are young people from challenging backgrounds, socioeconomic distress, tough scenarios, single-parent households. And they said, "Well, we have 16 kids in the machining program, 15 of them are placed. The 16th has a mother who's sick with cancer. He's going to go home and spend some time with her and then pick from a series of job options."

I said, "What's the average starting hourly?" They were in the mid-20s, and the master machinist may very well at one point, hopefully, live across the street from the doctor and the lawyer and the college professor. But nobody is telling our young people this.

So to the extent that we can make an impact by continuing to do what a lot of you -- and particularly you, Mr. Rowe -- have done and saying, "Hey, guys, this is an option, there is no shame in it, in fact there's honor in it," we have a duty to do that.

So I apologize for having more a soliloquy than a question-and-answer session, but to the extent that I could lend my voice to the small but hopefully growing chorus, this is a no-brainer. The question then becomes how we best do it.

And I would argue we need to listen to the localities and the States about what their needs are in their specific geographical area, and then let employers like BASF and BWX drive the need train. Because what I don't want to do is watch the money be sent from the locality to the Federal level and then have the administrative cost of handling money take 40 cents out of every dollar and then plow it back down to only create more young people who have skills but not in the area where the demand exists in their communities.

So having said that, I'd yield back the balance of my time, but thank you immensely, and say that I really look forward to hopefully continuing to work in this area. There is a message that's more important really than anything else, and that, I think, Mr. Rowe hit on, and that is there is no shame in any of this. An honest career in a skilled field is as honorable as anything anybody on this dais will do.

Thank you.

Chairman ROKITA. The gentleman yields.

I recognize myself for 5 minutes.

I want to thank the witnesses again for your testimony. I continue to learn a lot.

Mr. Rowe, I'd like to start with you, picking up on Mr. Garrett's theme. I mean, we're all in this room together. We all want the same thing. We've heard from your testimony specifically that the skills gap continues to widen, because of you mostly but maybe some other things.

So what advice do you have for us? I mean, if I understand your background correctly, it's in theater, it's in some other things, and it's in experience in this very part of our economy. What do you have for us in terms of efforts to change the public's perception specifically? Any to-do list or anything like that?

Mr. ROWE. Yeah. I mean, it's that thousand-points-of-light thing, on the one hand.

I was at a gala two nights ago my foundation sponsored called Project JumpStart up in Baltimore. Basically, to your point, you

know, this is a foundation that evolved because the local builders simply couldn't find people who were enthused about learning a trade. So they went into the inner city, and they also focused on nonviolent offenders. They set up a pre-apprenticeship program 10 years ago. Eight-hundred people have matriculated. The stick rate is 75 percent. No other similar effort in workforce development has yielded that kind of result.

So we have to find those opportunities where they exist, and then we have to shine a really bright light on them, and we have to tell stories of the guy I met two nights ago. Toemore Knight was his name. He was making $10 a day 8 years ago. Now he's a master electrician, 52 bucks an hour. He should be on a poster, you know?

In the 1950s, our country had this terrible, dysfunctional relationship with litter. You know, way before the green thing, there was "Keep America Beautiful." That was a campaign that actually started with some government help, some NGOs, some concerned citizens, and some big businesses. And they got together -- you'll remember the weeping Indian on the side of the highway. That was an iconic image. And it took about a generation and a half for the needle to move, but it did. And a lot of money went into a media campaign. And in a lot of different ways, that consortium challenged our relationship with litter.

We can do the same thing with work, but it will take time. That's what I meant when I said we've got to make it cool again. We need images, we need portrayals, and we need to challenge the stigmas and stereotypes where we find them. Right? Not every plumber in the world is 300 pounds with his pants halfway down. Even though that's what it looks like on TV, that's not the way it is.

So we need to have fun with it, call it out when we see a misrepresentation, and provide better optics. There are a thousand ways to do it.

Chairman ROKITA. Thank you, Mr. Rowe. I appreciate your leadership again.

And I guess for the rest of you three, let me set this up, taking Mr. Rowe's comments and saying, you know, if we're going to have a free republic, if we're going to continue to have one, we need engaged citizens. I need critical thinkers. We need all these things.

And one of my fears -- and maybe some others share it, and it's apparently unfounded, but I want you to address it -- is that we can't have automatons. And I remember back when I was in high school -- I'm a bit of a gearhead. I still restore cars. I break as much as I fix, and that kind of thing, but it's something I'm very interested in. It's good therapy, Mr. Rowe, for being in Congress. I can actually try to fix things.

And what I was pleased about was my mother insisted that I go on to college, where I learned more critical thinking skills, where I learned about Locke and Hobbes and all these other people who had big ideas. And I use that today still.

For the one that goes to career and technical education as a 17-, 15-, 18-year-old but that might be the entrepreneur that hasn't been exposed to that yet, that might be the next President or the leader, how do we ensure that those skills are preserved while we're teaching them such a technical education?

Ms. Goble?

Ms. GOBLE. One valuable way that we do in our district -- and this is prevalent across the Nation as well -- is through our career and technical student organizations. When you talk about those foundational skills, critical thinking, presentations, soft skills, those types of things that are so critical in the workplace, having students participate in those organizations such as FBLA, FFA, and other things really helps those students gain those leadership skills. And those are the types of things that last throughout their entire life.

It also addresses what Mr. Rowe was bringing up about it being fun and cool to be participating in CTE. When students are engaged in those CTSOs, those student organizations, they're having a good time, and they're learning some valuable skills they will keep a lifetime.

Chairman ROKITA. Thank you.

Mr. Johnson, can I give you the last 10 seconds on my question? Thank you.

I'm sorry, Ms. Lufkin. I'm not going to get to you.

Mr. JOHNSON. Sure. No problem.

One of the best ways that we've seen to do it is to be sure that the different courses, the certificate programs versus the associate degrees, are stackable skills so that we can focus on the technical education part of it, what they need to know to perform on the job, but then, as they complete that first portion of that training or that technical education, they're able to move on to the critical-skills types of learning as well.

And whether they do all together, if they go ahead and get their first job through that certificate, then they can continue on with those critical thinking skills.

Chairman ROKITA. Do you feel you have engaged citizens at BASF working as your employees?

Mr. JOHNSON. Absolutely.

Chairman ROKITA. Thank you.

Ms. Bonamici, you're recognized for 5 minutes.

Ms. BONAMICI. Thank you very much, Mr. Chairman.

When I'm home in Oregon, I spend as much time as I can visiting schools and meeting with students and educators and parents. And every community I visit, there's universal support for Perkins CTE and the high-quality CTE programs.

I visit programs that are serving diverse students, challenging them academically, preparing them for high-skilled, in-demand jobs. One of my favorite visits, although there have been many, was the girls-only welding class at Sherwood High School. I also visited a great auto tech program recently at Beaverton High School.

And I know that it takes strong partnerships to develop successful CTE programs that serve all students, especially those in underrepresented communities that are aligned with local labor markets.

In Oregon, the Portland Area Career Technical Education Consortium, PACTEC, is an example. In my district, Portland Community College manages partnerships with school districts and industry groups and develops those strong articulation agreements. And

this means that high school students pursuing programs of study can earn college credit and transition to the community college and gain skills that are used by industry partners.

A number of the school districts in PACTEC are relatively small and are situated in rural areas, so forming that consortium and partnering with community colleges help these districts. But, still, delivering the high-quality CTE programs in rural areas often requires overcoming financial and geographic obstacles.

I do want to mention, too, that Yamhill Carlton High School in my district has a viticulture program that teaches students how to work in the wine industry, which is a big part of the economy in that rural community. I think it's the only high school with a vineyard.

So, Ms. Lufkin, can you discuss what more the Federal Government can do to help rural schools in particular develop high-quality CTE programs and advance equity in CTE?

Ms. LUFKIN. Thank you.

So I'm a former ag teacher -- I should admit that openly here -- and taught in a very small rural high school actually in northern California. That experience has taught me quite a bit about how to access resources in a community that's disengaged from an urban center. And I, of course, was doing that at a time when we didn't have the technology that we have available today.

So in the work that we're doing -- and in your State, actually, we have a significant initiative going on with the Oregon Department of Education through the Perkins Act that is supporting increasing access and success of underrepresented students in nontraditional career and technical education programs across your State. And that has been incentivized basically by the accountability provisions in the Perkins Act and also by the other provisions around the State leadership funds that encourage support for nontraditional students.

We've been working with a significant number of rural schools. You mentioned Roseburg -- there's a school in Roseburg that has a very large class of young women who are in their welding program. And that happened as a result of this initiative.

And it's really the Federal policy that's in the Perkins Act that has driven this. It creates an incentive. It creates a sense of need. Whether it's the carrot or a stick approach in this case, what I love is when I hear principals say, I had no idea this was an issue for us, and when they discover it, that they actually can effect it.

Ms. BONAMICI. I want to follow up. You mentioned accountability, and I really agree with the need for accountability in any CTE reauthorization to make sure we're really increasing participation in CTE, especially with groups historically underrepresented.

So can you talk about what this committee can do to give States and districts the tools they need to use data? Oftentimes, school districts don't have the capacity to make use of disaggregated data. So what can we do to help to make sure that they're continually improving their programs and that they adopt research-backed strategies for advancing equity in CTE?

Ms. LUFKIN. Well, actually, there are a few provisions that you included in the bill that you passed last fall that do that.

So one is the requirement for disaggregated data to begin with. Actually, you might be surprised, but when we go and work with schools, they have really the capacity to deal with that data in a much better way than I think we assume they do.

Ms. BONAMICI. That's reassuring.

Ms. LUFKIN. Yes. Yeah. Database analysis of performance gaps has become common-day practice, at least in career and technical education for sure.

Ms. BONAMICI. In my few remaining seconds, last Congress I worked with Representative Stefanik to include language in the CTE bill that would authorize Federal funds for integrating arts and design skills into CTE programs. We're an innovation economy.

Can you discuss the benefits for students and local economies of teaching arts and design skills in CTE programs of study?

Ms. LUFKIN. Absolutely. Those skills are critical for innovation. And what we know is that students who have the ability to think creatively can be more innovative. There has been, actually, research studies that show that kind of practice in technical settings, the combination of design and critical thinking skills, creates more innovative solutions.

Ms. BONAMICI. Thank you.

And as I yield back, I invite all my colleagues to join the bipartisan STEAM Caucus.

Thank you, Mr. Chairman.

Chairman ROKITA. We love bipartisanship.

The gentlewoman's time has expired.

Mr. Thompson, you're recognized for 5 minutes.

Mr. THOMPSON. Mr. Chairman, thank you. Thank you so much for having this hearing.

I want to thank all the witnesses, your organizations, your companies, your personal work, everything you've done in terms of being champions for career and technical education training. As co-chair of the Career and Technical Education Caucus, I mean, I share your passion. I know how important that is.

Mr. Rowe, good to see you, as a brother Eagle Scout. The last time we met -- the first time we met, actually, and the last time we met was at the National Jamboree in West Virginia. Hopefully I'll see you there later this year. Hopefully you'll be coming back, and I'm looking forward to visiting.

My first question is for you, Mike. In your testimony, you mentioned Project JumpStart, a very successful job-training program which really does sound like music to my ears and those of my colleagues, I'm sure.

Now, you mentioned its success in urban areas. Do you or have you seen this model work in rural areas?

Mr. ROWE. No, I haven't. In fact, I haven't seen it firsthand work anywhere but Baltimore, which is why I'm behind it. I grew up there, but I also think that, as a format or a template, it's low-hanging fruit. It's something that could easily be identified. It's not really on point to the bill I know we're contemplating, but it does check a few of the boxes, you know.

I would suggest an even better organization to make people more aware of is SkillsUSA. You mentioned the Boy Scouts; you mentioned Future Farmers of America. You know, I've worked pretty

closely with both of those groups. But nobody hits it as squarely on the head as SkillsUSA -- 300,000 kids basically competing every year in national competitions within the CTE world. And it's phenomenal to watch their passion, and it's amazing to watch them grow. And it's criminal that more people don't know about them. I mean, literally, you fill a room with 1,000 people and 950 have never, ever heard of them.

But they're the best example I have of a private organization that really stepped up to kind of fill in that smoldering crater we created when we took the vocational arts out of high school. There are many, many others, but, in terms of PR, we've got to hear more about JumpStart and we've got to hear more about SkillsUSA.

Mr. THOMPSON. I mean, you raised a very important issue I think we're all aware of, is a lack of -- well, we're aware of, but it's the lack of awareness of the incredible opportunities. And some of that can be achieved through raising awareness of SkillsUSA and other great programs that we have in place. Because I think today we still deal with a stigma, you know, among students and, more specifically, among parents. And I know that with the legislation last year that we'll be reintroducing here hopefully next month, part of that was pushing down an awareness to the middle school, earlier, for kids to be able to have that information.

Ms. Lufkin, first of all, thank you for your service as a former agriculture educator. Agriculture certainly is one of the -- well, it is the largest industry in Pennsylvania. One out of seven jobs come from agriculture. And the connection between strengthening career and technical education and improving the agriculture industry is undeniable. I love the STEAM Caucus, but I have a double A; it's arts and agriculture.

Your testimony made it clear that students who engage in CTE during their time in school tend to have access to a higher quality of life. How can a reauthorization of the Perkins Act help give more students from all backgrounds this promising opportunity to succeed?

Ms. LUFKIN. That's a big question.

So I think access to high-quality career and technical education is sort of the key component of this. And that is ensuring that every career and technical education program that's funded with Federal funds is of that nature.

So I know that the Association for Career and Technical Education -- we have been involved in this -- are in the process of creating criteria around what that particularly means. And so certainly the Federal legislation could support the inclusion of what "high quality" stands for. So articulated credits, integrated curriculum; equity is a component of that; access to work-based learning; dual enrollments -- all of those and more could certainly be incentivized in the legislation.

I think also ensuring that special populations have access, more than just nondiscriminatory language, but actually proactive strategies for engaging special population students in career and technical education, are also other ways that the legislation could be supportive of the question of access to CTE.

Mr. THOMPSON. Thank you.

Thank you, Chairman.

Chairman ROKITA. I thank the gentleman.

I now recognize Mr. Polis for 5 minutes.

Mr. POLIS. Thank you.

Ms. Lufkin, I want to thank you for being here again today.

You know, in Denver, the Career Education Center Early College Magnet School helps prepare students for the workforce by providing career and technical education through dual and concurrent enrollment. I am very proud to say that about 10,000 students in Colorado participated in career and technical education concurrent enrollment courses, which is about 40 percent of all concurrent enrollment students. So it's become a very prevalent part of our concurrent enrollment system.

As you indicated in your testimony, concurrent enrollment is a proven method for helping students have access to career and technical education. I wanted you to talk about the role of concurrent enrollment and particularly how it can support first-generation students, nontraditional college-goers, and other disadvantaged youth and the role that plays in career and technical education?

Ms. LUFKIN. Thank you for the question. And I think that there are lots of ways that dual enrollment actually does that.

First of all, access to college for a first-generation student may contain within it a variety of barriers, whether they're financial, whether it's parental support. It could even be an issue of transportation, location, especially when we're talking about rural schools. And the availability of postsecondary credit while obtaining a high school diploma is a significant incentive for particularly low-income students to access college in a way that doesn't do what Mr. Rowe was talking about, creating this huge college debt.

First-generation students also may not have the same support systems in place for students to be able to access college. So for students to have success in a dual enrollment system, for example, can provide them with their own internal incentives to continue. And the research shows that actually is the case.

Mr. POLIS. Mrs. Goble, do you have experience with dual concurrent enrollment programs in Utah? And do you want to speak to their relevance to career and technical education?

Ms. GOBLE. Absolutely. You know, we offer a lot of dual enrollment, partnering with Salt Lake Community College. As Ms. Lufkin mentioned, it is a great opportunity for particularly underrepresented students to be able to do that. In Utah, it's only $5 a credit, which is a huge bonus for them. To be able to do college courses --

Mr. POLIS. By the way, what is the normal cost for a credit outside of that?

Ms. GOBLE. It's about $150.

Mr. POLIS. It's a big difference.

Ms. GOBLE. Yeah, a huge difference. And to be able to have students participate in college-level coursework within the safe confines of a regular classroom that they're familiar with bridges that gap, and they feel like they have the internal "I can do it," and they do.

Mr. POLIS. The other topic I wanted to touch on is the value of apprenticeship programs in career and technical education. Colorado recently launched CareerWise, a public-private partnership

that has a goal of training 20,000 students for need-based, high-paying jobs through apprenticeships. Colorado's program is an example, but it's something we need to do more of. Many unions have been leading the way on apprenticeship programs for decades.

I wanted to go to Mr. Rowe and Mr. Johnson -- we'll go to Mr. Rowe first -- to briefly talk about the role of apprenticeships, how they support and prepare students and how they can be an effective model for career and technical education.

Mr. ROWE. I just can't imagine a more important paradigm or model, you know, in any trade, in any vocation, the business of showing up and putting your hands on the thing, whether you're a doctor or a mechanic.

Mr. POLIS. And do you think it makes a difference that many of the apprentices are actually getting paid? And they probably need to get paid during that period. Does that make a difference in participation as well?

Mr. ROWE. Sure, it does. You know, I mean, and you can see it right now in so many private companies too. Caterpillar has a program called Think Big, I believe. And a lot of companies have a different version of it, but it's a transitional way to get a kid right from high school right into the work and reward them along the way.

With the Project JumpStart thing we were mentioning, you know, they use stipends, you know, instead of a paycheck. But the interesting thing is with JumpStart is there's a consequence. Somebody was talking about soft skills. You show up late, they take the stipend. Shirt's not tucked in, cell phone goes off -- so it's a great way, the apprenticeship model, to, again, reward the kind behavior you want to encourage.

Mr. POLIS. And, Mr. Johnson, can you address why it's important to include apprenticeships in Perkins CTE reauthorization?

Mr. JOHNSON. Apprenticeships provide such a connection with the job before they finish their actual education that they get a realistic job preview the entire time that they're getting the education. It not only increases their direct applied skill because it's the actual work that they'll be doing, but it conveys even more knowledge to them that they can talk to their friends about. And it becomes really an awareness that pushes career and technical education awareness in the forefront in that way.

Mr. POLIS. Thank you.

And I yield back.

Chairman ROKITA. I thank the gentleman.

The gentleman from Indiana is recognized for 5 minutes.

Mr. MESSER. Thank you, Mr. Chairman. I appreciate this important hearing.

You know, we've talked about it before in this committee, but it is important we start to rethink many of these programs. You know, some of our higher education programs are some of the most successful Federal programs ever invented, but many of them are structured on a what I called four-homecomings-and-a-backpack kind of approach, where we think of an 18-year-old kid grabbing her backpack, running off to school. Some kids do that, but, of course, in today's world where careers can change many times throughout your lifetime, that doesn't fit everybody's needs. And, as

others have discussed, we need to get folks prepared for a job in the economy. That's where we really give them value. And 6 in 10, as many as 6 in 10, manufacturing jobs go unfulfilled because we don't have folks that are trained and prepared for that job.

I wanted to direct my first question to Mr. Johnson.

And we've heard and I've heard in my district from many employers that discuss the challenges they face in finding skilled employees. How do these workforce shortages affect companies?

Mr. JOHNSON. Well, I've attended a number of conferences recently where we talk about that very thing. We talk about this projected skills gap, this projected gap of employees that are going to be available for even in the manufacturing sector.

And, sadly, some of the organizations are now beginning to plan on the possibility that that's actually going to happen. It's almost -- they're not trying to -- they're still trying to fix the problem, but they're so convinced that it's an inevitability that they're planning on that not happening.

So we basically must continue to push that idea that this is a job that is worth people having.

Mr. MESSER. And I guess what you're saying there, Mr. Johnson, is that they may have to decide to mechanize or make other decisions as a company because they're worried that they don't have the workforce to meet their needs, or move somewhere else, or --

Mr. JOHNSON. Absolutely. I mean, we have to remember that part of the biggest problem I think that we have is that -- and we've touched on it a number of times -- is the message that we're delivering.

Organizations all around have what they call a value proposition. They talk about, this is why it's a great place to come and work for our organization. Technical sectors, manufacturing sectors have to have what I refer to as a manufacturing value proposition: This is why this sector of employment is a great place to be. This is the type of messaging that, whenever I go and talk to students or retooling adults, that any of us on the panel or any of you go, we should be saying the same things, they should be hearing the same things, so that we have a branded message.

We talk about we don't say the things all the time, but we don't talk about what specifically are the things that we need to say. An example of that is, when I see students' eyes open the most is whenever we show them a chart that we created that shows the people that are graduating high school at the same time, and they choose four or five different careers. The careers we have are welder, process operator, lawyer, teacher. And we show where they go in debt to begin with, basically spending money on school one way or another, and then they begin making money, which is their average income.

When we show the chart and we can actually show the students and retooling adults that it actually takes a lawyer in the Houston area 20 years to catch up with a welder or a process operator because of the length of time they're still in school while these welders and process operators are making money --

Mr. MESSER. Bottom line is --

Mr. JOHNSON. That's an example of the type of information that we have to have a branded way of talking.

Mr. MESSER. Bottom line, many of these jobs are good-paying jobs. We also in our district are working on getting kids to come in high school into manufacturing facilities so they can see what they look like, right, and that they can see that these can be very pleasant places to work.

Ms. Goble, in my limited time, I wanted to follow up on some of Mr. Polis' comments and ask, are these dual enrollment opportunities accessible to students from low-income backgrounds? And are there programs to help students afford these programs if they're unable to cover the costs?

Ms. GOBLE. Absolutely. Students who are unable to pay for the cost -- the college still does require the $5 per credit hour. However, the principals of our high schools have the available funds to cover that for any student, because we're dedicated to make sure that they have those same opportunities.

Mr. MESSER. Yeah.

I think, with my limited time, I'll just yield back the rest after just thanking you all for all your work that you do every day to make sure that people in America have an opportunity and, again, thank the chairman for this important hearing.

Chairman ROKITA. I thank the gentleman.

The gentleman yields.

I would now recognize for 5 minutes Mr. Krishnamoorthi, a member of the full committee, a guest of the subcommittee today.

Welcome, sir.

Mr. KRISHNAMOORTHI. Thank you so much. I'm honored to be part of your subcommittee for today. And I think this is such a great topic. It's one that people on both sides of the aisle can really get together on and make some progress on.

It's my humble belief that, at some point in the history of the United States, we're going to go from a compulsory education system of K through 12 to K through 12-plus. And that "plus" is yet to be defined, but I think it's going to have a heavy career and technical education component.

And here is my, kind of, comment and question, which is that I believe that the ultimate indicator of success of these career and technical educations is not, kind of, coming out with a piece of paper that's a certificate but, rather, an offer letter. Are they going to have a job? That's what my constituents keep asking me, you know. How do we get jobs for our young people?

And so I believe very much in pushing decision making in the CTE program down to local levels as much as possible, because people at the local levels know what the local demands are in terms of skills and they know what the skill shortages are.

However -- this is my question -- with regard to the accountability measures, there's been some questioning of is there enough accountability for whether the programs that are funded through the, you know, Perkins CTE are strong enough. And one of the accountability measures I'd like to ask about is, you know, what do you folks think about, you know, requiring that the students who graduate from these CTE programs have a job, or that it's a significant measure of the success of those programs?

Mr. Rowe, would you like to comment on that?

Mr. ROWE. Well, I can't speak probably as eloquently to the measures in the bill as the other folks, but I can tell you, in my foundation, it's critical.

You know, there's this notion, I think, that the existence of opportunity is the balm for unemployment, for instance. And, of course, the skills gap tells us that that's not the case at all. There are 5.6 million opportunities, right?

So back to the enthusiasm. We can't just assume, in my view -- I can't just say, "Hey, look at what's here," and then get out of the way and watch the people stampede toward it, right? So the way we approach it is we challenge them, you know. We say, look, in our little world, you need to comply with some things that might not be in this bill. You need to write an essay. You need to submit a video. You need to make a persuasive case for yourself. You need to submit references. You need to demonstrate work ethic in some way that we can demonstrably reward.

And when we find those kids -- well, we've got about 600 who have gone through so far. And they work. And they're using the opportunity for what it is, which is a tool to get to the next level.

I would also say very, very briefly that it's so tempting to talk about these jobs as destinations, but what we've seen through our foundation and certainly in my show, so many small businesses wind up forming around people who begin their careers by mastering a trade. That has to be a part of the proposition as well, in my view.

Mr. KRISHNAMOORTHI. I'm a former small-businessman. I totally agree that I think that the folks coming out of these CTE programs could be our future entrepreneurs. And I hope that they are. But I kind of go back to this issue of, I'm all for CTE, I'm passionate about it, but I just want to make sure that the dollars that go to these postsecondary institutions, especially, that are going to be doing the CTE are ending up putting our children and students into jobs. Job placement is so critical, I think, right now.

Mrs. Goble?

Ms. GOBLE. Yeah. With our business partnerships that I referenced earlier, one of the main tenets of that is the students who go through those partnerships that are driven by industry actually have preferential treatment in the hiring and interview process. So that is one thing that we're really striving for in every one of those partnerships.

Mr. KRISHNAMOORTHI. Okay. Thank you very much.

I think Mr. Johnson wanted to say something.

Mr. JOHNSON. So I think there is a way to put real metrics behind it and assure this accountability is there.

An example is, within BASF, for us to determine which ones that we will work on the most, we do hiring projections. You know, what are the jobs that are going to be needed the most in the next 1, 5, and 10 years? The ones that have the highest need for that community is where we spend our time and effort.

That very same thing can be done with your funding allocations by basically looking at what are the jobs that really have projected openings and that we don't know how we're going to fill -- should probably have some level of funding that's increased versus jobs

that we know there's unemployed people all over because there's no jobs for it.

So some way to balance that funding toward jobs we know that America needs and are short on is the best way to do that metric system.

Chairman ROKITA. I thank the gentleman.

Mr. KRISHNAMOORTHI. Thank you.

Chairman ROKITA. The gentleman's time has expired.

I would tell the gentleman that I think you're right on track, and the work that we've done last year and that should be in the bill this year is a publishing of some sort of job tracker, both at the State level and at the Department of Education.

So I'm glad to know that we're going to agree on everything in this committee. That's a great start.

The ranking member is recognized for a closing.

Mr. POLIS. Thank you, Mr. Chairman.

There's a report that studied various data sets to identify high-growth and high-wage occupations in Tennessee. And the information and message that they used can be replicated in other States to help States determine if their CTE programs are aligned with the local labor market needs. And I ask for unanimous consent that this research report be entered in the record.

Chairman ROKITA. Without objection.

[The information follows:]

[Extensive material was submitted by Mr. Polis. The submission for the record is in the committee archive https://www.cna.org/cna—files/pdf/CIM-2015-U-011930.pdf for this hearing.]

Mr. POLIS. I want to thank our witnesses.

I think a couple takeaways from today's hearing or running theme is that career and technical education programs need to be relevant and reflective of the actual needs of the labor market. We all know the economy today is not what it was 10 years ago, is not what it was 50 years ago. And sometimes, frankly, our school districts and other stakeholders are slow to adapt. Federal investments should ensure that we have that flexibility at the local level and encourage that flexibility to meet real workforce needs.

Career and technical education programs should also invest in all students and diverse students and students from underserved communities and have gender parity in the quality of the jobs that students are being prepared for.

As Ms. Lufkin shared, CTE can be a ladder that lifts students into the middle class. CTE is an opportunity to reengage disconnected youth, like the work that I cited at the Colorado Early College School in Denver, where all students graduate with an associate's degree from high school.

In order for career and technical education to be effective, it has to be adequately funded. We've suffered under sequestration and budget cuts to Perkins, and, frankly, that's hurt the ability of CTE programs to serve students. Career and technical education is one of the best ways to ensure we have a qualified, relevant workforce and our country stays competitive. And, frankly, at the end of the day, we need to invest in that.

I want to refer back to Chairman Rokita's opening remarks. Chairman Rokita spoke about our effort to reauthorize CTE last

Congress. As he said, this committee produced a bipartisan bill. It passed on the House floor. I'm optimistic that any reauthorization will also be bipartisan, pass overwhelmingly.

If we have good ideas both sides of the aisle that improve and build upon our mark from last session, I think Members should be encouraged to bring those forward and create a work product that we as legislators can be proud of and fundamentally will help meet the needs of students across the country in preparing them for jobs to support their families or for college.

Thank you again for holding today's hearing, and I yield back.

Chairman ROKITA. I thank the gentleman.

And I thank the members who joined us here today.

I thank the witnesses. Again, I continue to learn a lot on this subject and look forward to working with you as leaders in this community to get this job done, the job being the mountain we are going to climb again this Congress, in terms of getting this bill passed and signed into law. And we're very optimistic up here about those probabilities, but we're also very sober in terms of the hard work that's ahead of us. So I hope you can join us -- I'm motioning to the witnesses -- I hope you can join us in that effort, and I know you will.

Career and technical education provides increased opportunity for all students so that, as Mr. Garrett said in his remarks, Americans can define their own success. And I think that's the key to it.

Congress and this committee especially will work to change the policies and the perceptions of CTE. And, Mr. Rowe, I look forward to -- we look forward to working with you in that regard. And, again, thank you for your leadership.

It seems to me that the actual partnerships with employers are the ones that seem to provide the most fruit, not putting any others aside. But I'm going to take that as one of my to-dos, to make sure that concept is promulgated as much as possible from a leadership perspective but also in the language of the bill.

With regard to the money, of course that's always the issue around here. And we are $20 trillion in debt. I completely agree with Ranking Member Polis that this is a priority and this is one of the things that could lead to not only individual success but our success as Americans going forward. So I see this as a high priority.

But what Mr. Polis didn't mention, and I'll simply mention it for him and I and everyone else up here: If that is the priority, if that is one of the higher priorities, there has to be a lesser priority, or else we're trading problems. We're giving your future workers, the beneficiaries of your foundation and everyone that you work for, a different problem -- that is, a higher debt. So budgets are about priorities, appropriations are about priorities. If this is a high priority, like I just agreed to, we also have a duty to decide what isn't working, what's less of a priority, if we're going to put more money to this. So I simply say that as a reminder not only to me but to the whole committee as we work forward on this issue.

And, with that, again, I want to thank the witnesses. I want to thank everyone for their leadership going forward as we climb this mountain, as I said.

And seeing no further business before the committee, I put the committee in adjournment.

[Additional submission by Mr. Barletta follow:]

**International Code Council**
500 New Jersey Avenue, NW
Sixth Floor
Washington, DC 20001
t: 888.ICC.SAFE (422.7233)
t: 202.370.1800
f: 202.783.2348
www.iccsafe.org

March 21, 2017

The Honorable Todd Rokita
Chair, Subcommittee on Early Childhood, Elementary and Secondary Education
2439 Rayburn HOB
Washington, D.C. 20515

**RE: Career and Technical Education (CTE)**

Dear Chairman Rokita

The International Code Council (ICC) is the world's largest developer of model building codes. With offices in Washington, D.C., southern California, Chicago and Birmingham, the ICC is an American non-profit corporation with over 63,000 members nationwide. The International Codes are adopted in all 50 states and its members include homebuilders, firefighters, architects, structural engineers, building officials and more. The ICC strongly supports the advancement of career and technical training, and was pleased that your sub-committee hosted a hearing on career and technical training this past month.

Several years ago, in hope of boosting the future workforce of the building trades, codes and standards world, ICC developed the High School Technical Training Program (HTTP). ICC is proud to say that there are more than 40 technical schools now participating in our High School Technical Training Program. ICC members actively promote the program around the country, and last year 336 certificates were awarded to deserving students. The HTTP has become so popular that the state of Rhode Island has adopted the program for all of its technical high schools.

The HTTP is a flexible program intended to prepare high school students for a career in code enforcement and the construction trades. The program offers schools a framework to help students understand how codes and regulations are used in the design and construction of residential, commercial, federal and military facilities. The HTTP curriculum covers four main construction fields contained in the International residential Code – building, plumbing, HVAC (mechanical) and electrical. Students completing all elements of a field, including passing a final exam, receive a nationally recognized certificate of achievement demonstrating proficiency and knowledge, giving them an edge when competing for code enforcement and other construction industry jobs.

I would love an opportunity to discuss the ICC and its HTTP program more in your Washington, D.C. office at your earliest convenience. The ICC would also be pleased to participate in any future hearings

regarding career and technical training, and offers itself as a resource if ever needed. I have included a short brochure describing the HTTP in more detail. Please don't hesitate to contact me or ICC's Vice President of Federal Activities, Chris Ochoa if you have any questions, or are available for a meeting in the near future. I look forward to hearing from you soon.

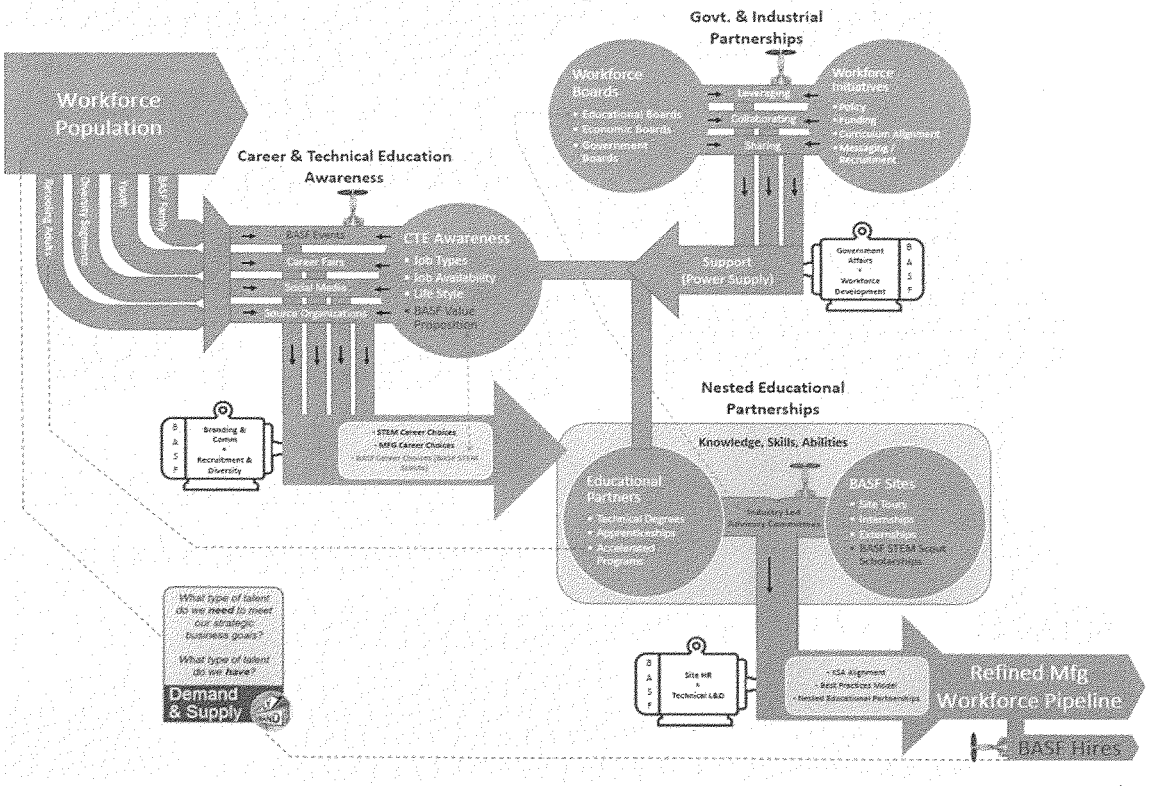
Sincerely,

Sara C. Yerkes

Sara Yerkes
Senior Vice President
ICC Government Relations

[Additional submission by Mr. Johnson follow:]

# Workforce Development Pipeline

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[Additional submission by Mr. Roe follow:]

CompTIA.

**CHANCE in TECH Act**

*Championing Apprenticeships for New Careers and Employees in Technology Act*

The information technology industry relies on an innovative and evolving workforce with specific skills, education and training requirements. In many cases, these skills aren't acquired through a traditional four-year college track, but rather can start in K-12 education, continue into higher education, and include industry recognized certifications. Increasingly, work-based learning activities like internships, mentorships and apprenticeships are being included in education and training programs of study for IT. Incentivizing educators, students, workforces with outmoded skills, and employers to adopt alternative education models that include industry-led work-based learning will help fill job openings and spur economic growth, ensuring the IT industry and the United States remain the hub for innovation.

Experiential youth apprenticeships (more intensive than standard internships) and registered apprenticeships are avenues that offer a unique depth of understanding and prepare a ready and able workforce in the technology industry. Many IT employers find the U.S. Department of Labor Registered Apprenticeship program too cumbersome, too prescriptive, and too process-oriented. There have also been challenges around cultivating a pipeline of eligible candidates that could take advantage of internships and apprenticeships, as well as difficulties recruiting employers for this pipeline.

Recently, new model programs have evolved that mitigate some of these challenges. While still a part of the family of Department of Labor registered apprenticeship programs, this new model creates intermediary organizations (herein referred to as "Work Based Learning Accelerators") that facilitate a meaningful public-private partnership, ensure that quality candidates are recruited, and provide compressed and targeted training (such as IT industry driven certifications and boot camps, some of which include internships, & long-term work & learn internship programs) that meet specific employer need.

The Championing Apprenticeships for New Careers and Employees in Technology (CHANCE in TECH) Act would codify this approach so that work-based learning can be scaled up in a timely fashion. CHANCE in TECH has two components that are focused on increasing the opportunities to educate the technology workers of tomorrow.

***Key pieces of the CHANCE in TECH Act include:***

- CHANCE in TECH Work Based Learning Accelerator (WBLA) -- Expand funding to increase the number of intermediary organizations in the tech sector that are growing long-term internships and apprenticeships and other avenues to industry-led work-based learning
- CHANCE in TECH Learning – Provide students in grades 9-12 with hands-on "experiential youth apprenticeship" training, making it easier to transition into apprenticeships and the workplace. Exemplary high schools would be nationally recognized for their tech career pathway education programs

***What the CHANCE in TECH Act will do:***

- Ensure an annual funding stream for competitively awarded contracts that will lead to additional Work Based Learning Accelerators to scale up registered apprenticeships through proven methods.
- A WBLA is defined as an entity which serves as an intermediary between employers, as well as other industry partners, training providers and government to advance work-based learning and

registered apprenticeship program development and help broker new tech sector-based partnerships at the state, regional and national level.

- In support of expanding and diversifying Registered Apprenticeships and work-based learning initiatives, contracts shall be made with industry intermediaries (e.g., industry associations, joint labor management organizations, workforce intermediaries, educational institutions, and consortia of organizations) for tech sector-based outreach and technical assistance to support and to scale

- The WBLA would:
  - Spearhead public/private partners to develop and articulate a comprehensive work-based learning program
  - Lead business outreach and recruitment to ensure internships and registered apprenticeships in high-demand technology arenas are available
  - Marshal appropriate sub-contractors and advisors, and identify, assess and train applicants (with a focus on diversity of the applicant pool)
    - Eligible applicants include:
      - Early College Stem School students in grades 9-12
      - Individuals 18 and older that meet initial competency standards for entry
  - Manage oversight requirements and tracking of success indicators as required by relevant state and federal agencies, relieving employers of bureaucratic responsibilities and thus enabling them to help develop experiential youth apprenticeships and registered apprentices

- Create a Blue Ribbon award for schools that provide students with the tools they need to compete in a 21st century workforce. Indicators of success can include:
  - Significant STEM and IT Career Tech course offerings at the 9-12 level
  - Academic excellence in STEM and IT Career Tech Education (as monitored through test scores and achievement tests)
  - Availability of early college school programming with a continuum of work-based learning activities that link high school, college and the world of work to prepare students for technology jobs of the future
  - Delivery of comprehensive career counseling that aligns with or maps to recognized career cluster pathways

***What the CHANCE in TECH Act does not do:***

- Create a government-led program that neither meets employer needs nor prepares candidates for success
- Burdens employers with unnecessary paperwork or other administrative tasks
- Limits in any way schools' ability to tailor their curriculum for their student bodies

***Why we need the CHANCE in TECH Act:***

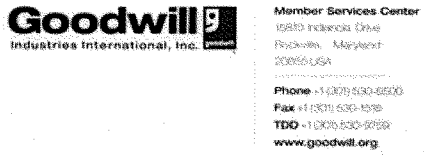
- The average cost of a four-year college education is $37,640, and too many of our young people are entering the workforce with an average of $37,172 in debt.
- The gross output of the technology sector exceeds that of the legal services industry, the automotive industry, the airline industry, the motion picture industry, the hospitality industry,

the agriculture industry and the restaurant industry, just to name of a few examples (source: U.S. Bureau of Economic Analysis).[1]

- Many of tomorrow's jobs will be a part of a growing knowledge economy that demands employees be problem solvers and critical thinkers.
- Nationally, at any given 90-day period, there can more than half a million open IT job postings for IT occupations such as: software developers for apps, web developers, computer user support specialists, computer systems analysts, systems software developers, and network and computer systems administrators. And there are many more knowledge worker occupations that require IT literacy – such as medical record technicians, statisticians, and business operations specialists.
- Tech skills are transferable across industries as 80% of most tech jobs are standard to related jobs in Healthcare, Manufacturing, Financial Services and more.
- Many of these professions do not require a four-year college degree and can be filled with a skilled workforce that has sought varied forms of training and education.
- Great educational and on-the-job training exists today that should be scaled to meet the demand of our modern technology workforce.
- Career pathway education should start in high schools with pathways and programs of study that align with their local higher education institutions' curricula, as well as employer needs, and offer robust options for all students.
- Job creators should be provided with support to help educate our technology workers and create new workforce pipelines that cater to proficient, non-degree holding employees.
- While this proposal is open to all eligible applicants, the fact remains that the IT industry needs to address critical diversity and equity issues in its workforce population. Today >75% of the IT employee population is white and male. Providing under-represented youth, under-employed and transitional workforce populations access to tech jobs through CTE & training models that lead to full employment will help address these issues.

[1] CompTIA 2016 Outlook

[Additional submissions by Chairman Rokita follow:]




**Statement for the Record**

**for the**

**Early Childhood, Elementary and Secondary Education Subcommittee**

**hearing on**

**Providing More Students a Pathway to Success by Strengthening Career and Technical Education**

**by**

**Goodwill Industries International**

**February 28, 2017**

Goodwill Industries International, representing the 157 local autonomous Goodwill® organizations, appreciates the opportunity to submit this statement and the Committee's recognition of the importance of career and technical education.

Economic mobility, the ability to climb the economic ladder of success, is the foundation of the American dream. However, in recent years economic mobility has stagnated. According to a 2014 study by the Pew Charitable Trusts, seventy percent of children raised in the bottom fifth of income distribution will remain below the middle of the income ladder as adults. [1]

The consequences of economic mobility stagnation cannot be ignored. In a 2014 survey, only sixty-four percent of Americans believe opportunities for economic mobility are widely available, the lowest percentage in the three decades since the question has been tracked.[2] Stagnant economic mobility hinders economic growth, weakens our economy, and threatens to undermine confidence in the American dream.

At the core of economic mobility stagnation is the fact that ***thirty million Americans lack a high school diploma*: twenty percent of America's working age adults lack this foundational credential to enter the mainstream workforce.** According to the US Census Bureau, those without a high school diploma earn $10,386 less per year than someone with high school diploma and $36,424 per year less than someone with a bachelor's degree. These Americans:

- experience higher rates of unemployment,

[1] Spotlight on Poverty: Making Economic Mobility a Priority, January 28, 2014, The Pew Charitable Trusts, Economic Mobility Project. http://www.pewtrusts.org/en/about/news-room/opinion/2014/01/28/spotlight-on-poverty-making-economic-mobility-a-priority

[2] Economic Mobility in the United States, A report from The Pew Charitable Trusts and the Russell Sage Foundation, July 2015 http://www.pewtrusts.org/~/media/assets/2015/07/fsm-irs-report_artfinal.pdf

- tend to be out of the workforce longer (U.S. Bureau of Labor Statistics),
- are twice as likely to live in poverty,
- are sixty-three percent more likely to be incarcerated at least once,
- cost taxpayers an average of $292,000 over their lifetime, and
- their children are twice as likely to drop out of high school.

Our economy is weakened by the diminished capability of any member of our workforce. It hampers the individual's and their family's earning potential while impeding our country's competitiveness at a time when the pressures of globalization and advancing technology necessitate skill sets equated with postsecondary credentialing well beyond high school competencies.

**Restoring individual economic mobility and accompanying community economic viability should be top priorities for the 115th Congress and the Administration.** Among the policy options Congress should consider is reauthorization of the Carl D. Perkins Career and Technical Education Act. As part of reauthorization, Congress should expand innovative community-based initiatives that are proven to boost basic educational achievement and credentialing for those needing a high school diploma.

**The Excel Center® Model**

By 2010, there was widespread agreement in Indiana that the state must raise basic education attainment levels. Goodwill of Central Indiana (now Goodwill of Central and Southern Indiana) founded Goodwill Education Initiatives, Inc,. and established the first Excel Center. A competency-based diploma-granting public charter high school designed to fit the life circumstances of adults, the Excel Center, is open extended hours year-round to give students the

chance to build academic skills leading to post-secondary credentials while providing support to address out-of-school barriers many adults face like childcare, transportation, and access to other support services.

There are now eleven Excel Centers operating in Indiana with total enrollment over 5,200. The Goodwill based in Indianapolis has made a commitment to continue an active relationship with every graduate until he or she earns a postsecondary credential, becomes employed and remains in the workforce for at least a year. The Excel Center model has expanded to Austin, Texas; Memphis, Tennessee; and Washington, DC; with scheduled openings in Clarksville, Gary and East Chicago, Indiana; and Little Rock, Arkansas.

**Perkins Career and Technical Education Act Recommendations**

Goodwill Industries International urges policymakers to include community-based organizations (CBOs) as key partners with career and technical education (CTE) programs and community colleges to leverage overall funding and services for individuals who may need support to earn community college credentials. Recognizing the value in partnering with community colleges, Goodwill launched the Community College/Career Collaboration (C4) initiative in 2009 to enhance local Goodwill organizations' collaboration with community colleges. Goodwill organizaitons are now a part Goodwill's GoodProspects for Credentials to Careers and Stairways to Success initiatives where partner organizations combine their resources to provide easy access to education, job training and other supportive services for individuals who lack the college or career credentials that employers seek in potential employees. Such partnerships help leverage federal investments and increase the likelihood of more students' earning credentials and

launching careers. The House passed H.R. 5587 in the 114th Congress, and, while community college/CBO partnerships have been and are being forged at the local level, more must be done.

Goodwill supports the language in the State Plan that was a part of H.R. 5587 and strongly urges the addition of language to subsection (vi) under Plan Development that would include adults who have not met the requirements established by the state for attaining a secondary degree. Regarding Innovation Grants, Goodwill is a leader in innovating pathways to success for individuals seeking job training and better employment opportunities and suggests following Innovation Grant Recommendations:

- Include community based organizations among the list of eligible entities that can comprise the consortium. CBOs often bring unique and innovative solutions to difficult issues facing individuals and communities here in our nation, including in the area of education.

Goodwill strongly supports inclusion of language in the Use of Funds section that addresses those who have not attained a high school degree. We also urge the inclusion of the following language:

- "Support innovative approaches to career and technical education by redesigning the high school experience for students, ***including those developed by CBOs, which may include public non-profit charter high schools operated by CBOs,*** evidence-based transitional support strategies like competency-based progression and simultaneous enrollment in post-secondary credentials for students who have not met postsecondary education eligibility requirements…"

**Goodwill Plays an Important Role**

In 2015, the network of local autonomous Goodwill organizations provided 37 million people with career navigation, financial wellness and education services; helped connect 312,000 people with jobs; and employed another 128,000 in its social enterprises. Collectively, Goodwill organizations are the leading nonprofit provider of employment training, job placement services and other community programs for people who have a disability, need education or job experience, or are facing economic challenges.

In 2015, more than 42,000 people engaged with local Goodwill organizations to earn a credential and, as a result, these individuals increased their collective lifetime earnings by more than $14.2 billion.

**Conclusion**

Goodwill Industries International is committed to working with Congress and the Administration to enact and implement legislation that creates a seamless career pipeline that includes supports for people of all ages who face significant employment challenges.

For more information, please contact Paul Seifert, Senior Government Affairs and Public Policy Specialist at **paul.seifert@goodwill.org** or (240) 333-5478.

# How Congress can help millions of Americans achieve career success

BY CHAUNCY LENNON AND KIMBERLY GREEN, OPINION CONTRIBUTOR - 02/21/17 09:00 AM EST 27

44

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One hundred years ago, in February 1917, Congress passed the Smith-Hughes National Vocational Act, the first federal law to recognize the importance of education in helping our nation's economy grow and innovate. Today, we urge Congress to help usher in the next 100 years of American innovation and economic opportunity for young people by reauthorizing the Carl D. Perkins Career and Technical Education Act.

While the Smith-Hughes Act initially focused on agriculture, America's most important industry at the time, it was also an essential investment in the skills the country needed as it transformed into an industrial economy. Today we see the continued importance of federal investments in technical skill

training, as career technical education (CTE) plays an essential role as we shift to a knowledge economy.

Over the course of the century, the focus and scope of education changed to include the importance of junior and community colleges in the 1930s, supporting the war efforts and our nation's production in the 1940s. It then evolved in the 1950s to address new and emerging sectors and set the foundational infrastructure for regional technical schools in the 1960s.

The Perkins legislation, first enacted in 1984, brought about a focus on students with special needs, gender equity, accountability, career guidance, and the integration of academics with CTE coursework.

But times have changed. Forty years ago, nearly 75 percent of jobs were for people with a high school degree or less. Today, it's below 40 percent while wages for these jobs have declined by 15 percent. This is why, in today's advanced economy, our nation must adapt again so that young people have the education and skills they need to compete for good-paying jobs.

Since Perkins was last reauthorized in 2006, there have been significant changes to our economy and the types of good jobs that are in-demand and need to be filled. Just consider the advancements in technology like the smartphone or changes in manufacturing and healthcare.

Job seekers need a new and dynamic set of skills to prepare them for the 16 million middle-skills jobs — positions that require more than a high school diploma but less than 4 year college degree — that will be available between today and 2024.

Serving more than 11 million students each year, CTE supports all sectors of the economy, represented by 16 broad career clusters. Visionary leadership and collaboration between industry and CTE leaders have resulted in new programs of study in emerging sectors like cybersecurity, mechatronics, health informatics and biotechnology, while also updating programs that are foundational to our economy, like agriculture and manufacturing.

Although it has historically been the government's job to strengthen career education, it should be a priority for business too. States are now creating CTE systems that are both progressive and aggressive by developing programs driven by labor market information and developed jointly with

business leaders, expanding work-based learning experiences to give more students exposure to a variety of career areas that are growing, and ensuring equal access for all students who want to pursue this pathway.

In fact, between 2013 and 2016, all 50 states passed well over 500 policies in support of CTE. Notably, they did this with the input of local employers who have deep understanding of the skill sets needed over the next decade.

This progress has been greatly accelerated by national efforts, including JPMorgan Chase's $75 million New Skills for Youth (NSFY) initiative. NSFY has two clear and ambitious goals: to dramatically increase the number of students in the U.S. who successfully complete career pathways and to catalyze transformational approaches across the country that increase students' career readiness.

A public-private partnership of education leaders, business partners, and community partners, along with JPMorgan Chase, Advance CTE, and the Council of Chief State School Officers, NSFY places states at the center of its strategy to ensuring students have the skills they need to be successful.

Business and government have a responsibility to work together to create economic opportunity for more young people. Reauthorizing the Perkins Act will help us look towards and better prepare for the future of our workforce.

States, districts, schools, institutions, and, most importantly students, need newly reauthorized Perkins legislation that drives quality education programs, incentivizes industry engagement, improves access for all, and empowers learners to prepare for a lifetime of career success.

*Chauncy Lennon is head of workforce initiatives at JPMorgan Chase & Co. Kimberly Green is executive director of Advance CTE, the longest-standing national nonprofit that represents state directors and state leaders responsible for secondary, postsecondary, and adult career technical education across all 50 states and U.S. territories.*

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*The views expressed by contributors are their own and are not the views of The Hill.*

[Additional submission by Mr. Thompson follow:]

February 24, 2017

The Honorable Virginia Foxx
United States House
2262 Rayburn House Office Building
Washington, D.C. 20515

The Honorable Robert Scott
United States House
1201 Longworth House Office Building
Washington, D.C. 20515

Dear Chairwoman Foxx and Ranking Member Scott:

The Data Quality Campaign (DQC) welcomes this opportunity to help inform the Education and the Workforce Committee's efforts to update the Carl D. Perkins Career and Technical Education Act (Perkins Act). DQC strives to ensure that everyone with a stake in education—especially families and educators—can access and use quality student data to raise achievement for all students. Perkins Act reauthorization provides Congress an important opportunity to support this goal by encouraging improved state and district data planning and use (including ensuring appropriate data access for education and workforce research), while also continuing the law's permitted investments in well-designed data systems and related preparation and professional development.

With these closely connected goals in mind, and guided by DQC's federal policy priorities, we respectfully urge the committee to consider the following recommendations for strengthening the Perkins Act to improve student outcomes through more effective and efficient data use:

- **The new Perkins Act should call on states and local grantees to develop data use plans, which focus on measuring what matters for CTE student progress and success and eliminating unnecessary or redundant data collection.** Transforming education to focus on creating personalized student experience depends heavily on better data use, which in turn requires careful and coordinated planning across education, workforce and other related systems. This planning must be grounded in a careful understanding of the data needs of a diverse array of stakeholders, including educators, school and district leaders, families, and policymakers, and include the following elements:

    - State and local performance measures (Sec. 113) should use common data elements and definitions and align with indicators gathered for other State and Federal programs. These indicators should be used to support ongoing research partnerships designed to equip researchers with the data they need to help educators better understand CTE program performance and identify strategies for improving student outcomes.

    - Required state leadership activities (Sec. 124) and local use of funds (Sec. 135) should include coordinated strategies for using administrative data, including

data in state longitudinal data systems, to measure participant progress and outcomes. Grantees should also be required to link elementary, secondary, postsecondary, and workforce data systems and ensure that outcome data is shared with CTE program leaders, so that CTE programs can be continually improved to better serve students and meet the needs of business and industry.

- **The new Perkins Act should encourage investments designed to make improved data use possible.** Effective data use requires appropriate supports including professional development and training for educators as well as flexibility for states to use resources to ensure their systems are aligned, incorporate CTE programs, and reflect educator and family needs. The committee should consider the following:

    - State and local CTE plans (Sec. 122 and Sec. 134 respectively) should include a comprehensive data use plan that spans elementary, secondary, postsecondary, and workforce data systems. Among other elements, CTE plans should continue to emphasize professional development focused on effectively accessing, using, and protecting data; describe state achievement expectations for CTE students and include steps for ensuring that families understands how schools and students are doing, why data is valuable, and how it is protected and used. State and local leaders tasked with developing the plans, should be required to consult with the state education data coordinator, workforce data leaders, and other data experts.

    - State (Sec.124) and local funding uses (Sec. 135) should continue to include a required focused on equipping teachers and leaders with the training required to effectively use data to support instruction and decision-making, including effectively engaging families and communities to help them understand data uses. This work span state and local preparation, induction, and professional development programs.

    - The law (Sec. 112) should continue to permit states to use Perkins Act administrative funding to support and develop state data systems relevant to the provisions of the law, but also these investments to be made outside the law's current administrative spending cap.

    - Current law's optional pooling of local resources (Sec. 135) for establishing, enhancing, or support systems for accountability data collection and reporting should continue. In addition, local grantees should be required to conduct a needs assessment to determine if their data systems are sufficient to meet the data needs of teachers, leaders, families and other stakeholders.

Thank you for carefully considering our recommendations for strengthen the Perkins Act's data provisions. We look forward to working with you to support the reauthorization process and would be pleased to serve as a data systems resource to you or your respective staff.

Sincerely,

Paige Kowalski

Paige Kowalski

Executive Vice President, Policy and Advocacy

Data Quality Campaign

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[Whereupon, at 11:37 a.m., the subcommittee was adjourned.]

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