

**MAKING THE CONNECTION: CREATING PATHWAYS  
TO CAREER SUCCESS FOR THE NEXT GENERATION  
OF WORKERS**

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**FIELD HEARING**  
BEFORE THE  
SUBCOMMITTEE ON EMPLOYMENT AND WORKPLACE  
SAFETY  
OF THE  
COMMITTEE ON HEALTH, EDUCATION,  
LABOR, AND PENSIONS  
UNITED STATES SENATE  
ONE HUNDRED TENTH CONGRESS  
FIRST SESSION  
ON  
EXAMINING WAYS TO BETTER EDUCATE AND TRAIN THE NEXT GEN-  
ERATION OF WORKERS TO CREATE PATHWAYS TO CAREER SUCCESS

NOVEMBER 28, 2007

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**MAKING THE CONNECTION: CREATING  
PATHWAYS TO CAREER FOR THE NEXT  
GENERATION OF WORKERS**

WEDNESDAY, NOVEMBER 28, 2007

U.S. SENATE,  
SUBCOMMITTEE ON EMPLOYMENT AND WORKPLACE SAFETY,  
COMMITTEE ON HEALTH, EDUCATION, LABOR, AND PENSIONS,  
*Seattle, WA.*

The subcommittee met, pursuant to notice, at 9:28 a.m. in South Seattle Community College, Olympic Hall, Room 120, Seattle, Washington, Hon. Patty Murray, chairman of the subcommittee, presiding.

Present: Senator Murray.

**STATEMENT OF JILL WAKEFIELD, PRESIDENT, SOUTH  
SEATTLE COMMUNITY COLLEGE, SEATTLE, WA**

Ms. WAKEFIELD. I'll stand close to my microphone. Good morning. My name is Jill Wakefield, and I serve as president at South Seattle Community College. As I have reminded myself, I did a quick check—about five times, I've done a quick check to make sure that my cell phone is off, so some of you might want to do the same thing, just to double check.

On behalf of our faculty, our staff and students, I'm pleased to welcome U.S. Senator Patty Murray to this field hearing of the Senate Subcommittee on Employment and Workforce Safety, which Senator Murray chairs.

As we try to tackle the needs in our global economy, Senator Murray has been a leader on education and workforce issues for Washington State and for the Nation. She's been a champion for our students and for preparing them for the jobs for the future. She works tirelessly to ensure that the needs of our employers are met so that our local economy can continue to grow and thrive. I believe that some of this commitment may have come from her experience and leadership at Shoreline Community College, providing her with great preparation as a Washington State Senator and now in the U.S. Senate, where she is our senior Senator, serving her third term.

We're especially honored to host this hearing at South Seattle, because we are very active in today's topic of creating pathways to career success. In September, 2 months ago, we began our first RN program, one that started several years ago as a CNA program that led to an LPN program, and now we have the third piece, the component of that, the RN program. Almost 90 percent of those

students are English-language learners. This fall, we also started our bachelor of applied science degree program in hospitality management, making it possible to start in the laundry room and work up to the boardroom, building on high school and community college culinary, hospitality, and business programs, providing pathways to higher-level employment.

Senator Murray also is a strong supporter of our apprenticeship program, where South provides one-third of the State's apprenticeship training down at our campus at Georgetown. Most recently, we're taking leadership in providing green technology for building trades.

We're so honored that you're here to lead this discussion of solutions as we move together to create a bright future for our community and our residents. Welcome, Senator Murray.

#### OPENING STATEMENT OF SENATOR MURRAY

Senator MURRAY. Thank you very much.

Well, with that, this official hearing will be called to order. First, Jill, let me thank you very much, for you and your tremendous team here at South Seattle Community College, for being very gracious hosts for our very first field hearing of the Senate Employment and Workplace Safety Subcommittee.

Let me also thank all of our witnesses who are taking time out of busy schedules to be here today to join us in this very important discussion on how we can better educate and train a new generation of workers.

Before I begin, I want to give a brief explanation of the procedure that we're following here today. This is an official U.S. Senate hearing, and, because of that, we have to follow the same procedures that we would be using at a hearing that would be held in Washington, DC. That means that our testimony this morning is limited to the invited witnesses, and that we have a court reporter here, who is creating a formal record of our proceedings. Unfortunately, what that also means is that we are not allowed to take questions or comments from the audience during the hearing, but I do want to make sure that everyone here has an opportunity to share their view, if they so desire.

We do have comment forms that are available for all of you, if you would like to fill them out. I have a number of staff members who are here with me, as well. If you have an additional comment or question or some issue that you would like to add, please feel free to find one of our staff members—there is a desk outside, where you can locate them and give them your additional comments. We are interested in all of your questions and comments, so please make sure to take the time to do that, if you are in the audience today.

I also want to encourage all of you, if you are interested, to visit my official Web site. You can use that to sign up for updates on education and other critical issues that we're working on in the U.S. Senate. There's a lot of information there, and we invite you to look at that Web site and use that as an access point, as well.

Again, I have a number of staff members here, and encourage you to contact them afterwards if you would like to provide additional information.

Let me begin this hearing by saying that I have traveled intensively around the State, and I've had the opportunity to talk to workers, employers, teachers, students and families about Washington State's education and workforce needs. I was up in Bellingham recently, and I heard from our shipbuilders that they are desperate for workers in the shipbuilding industry. There are a lot of contracts out there they'd like to bid on, the work is there, but they are limited by the fact that they don't have enough workers to be able to build those ships here in the Puget Sound region.

I was talking to some leaders in Spokane recently who are trying to develop some of their infrastructure, highways and bridges, critical to the economic development there. They were limited by the fact that they couldn't get enough construction workers to actually do those jobs. I'm also hearing a lot about an emerging need for skilled workers here for the green jobs that are going to be available in the near future. There are a wide range of other highly skilled jobs that are in demand all across our region. It's become very clear to me from all of these experiences that, in order for our State, our economy and our communities to remain strong, we have to focus on the connections between secondary education, higher education, and workforce development. I believe it's time to create a seamless system to help all of our students go on to successful careers while also meeting the needs for skilled workers here in our region. I know this work can't be done individually, but, rather, all of us have to come together to help our students navigate their way from high school to postsecondary education and on to careers. That will help us ensure that our State's workforce needs are met, and it will make sure that our students are prepared to get the jobs that will be out there in the future.

Today, we are taking the first step by coming together. The partnerships I hope we develop here will be the engine that drives that effort. In fact, to reinforce the importance of building these partnerships, I decided to break away from the traditional format for a congressional hearing that would have panels in front of us with individual witness statements and formalities. Instead, what I decided to do was have this more informal roundtable format that I think will provide us all with an opportunity to listen, learn and to share the tremendous wealth of experience that we have here today.

Right now, the United States is struggling to address the gap that exists between the need for a highly skilled workforce and the shortage of highly skilled workers. Our Nation is also struggling to make sure that students stay in school and graduate prepared to enter college and the workforce. Today here in Washington State, there are about 87,000 job vacancies—87,000 job vacancies—but we have over 145,000 people who are unemployed and looking for work. We also know that in past generations workers often only needed a high school education to secure a good-paying job. Today, we know that 70 percent of the new jobs being created require a college education, and that percentage is likely to increase and rise in the future as the United States continues to transition from a manufacturing- to an information-based economy. Each of us recognizes that in the global economy, the path to economic success depends on education. Currently, though, many of our students are

struggling. For every 100 ninth-grade students in the State of Washington, only 70 of them will graduate from high school in 4 years. About half of all African-American and Hispanic ninth-graders leave school without a diploma. Half. Almost 10 percent of Washington State teens between 16 and 19 are not enrolled in school and are not working. Most new jobs and almost all family-wage jobs require at least some education and training beyond high school, even at the entry level. Students need both academic learning and career skills in order to succeed in our global economy.

Thomas Friedman has described this new global economic connectedness as a flattened world. This new, flat, competitive landscape requires that our students here in Washington State and our youth across the country are more highly educated than our youth from the past, and not only must our young people be more knowledgeable when they start their work lives, they must have the capability to continue learning throughout their life. Undoubtedly workforce and education issues are interconnected. I believe, as I said earlier, it will take partnerships, like those we're going to hear about today, involving all of our major stakeholders to find solutions to Washington's education and workforce development needs.

As chairman of the Senate Subcommittee on Employment and Workplace Safety, and as a former teacher, parent, and now a grandparent, I continue to be concerned about how we best address this critical issue. I know we have to provide options to students, options that raise the expectations for their learning and support them in achieving progress. That's why we're here today: to learn about the options that are serving our students here in Washington State, to hear from those involved in providing academic and occupational learning to our students, to highlight the economic demands in our State, to explore the needs in our workforce, and to further the effort to provide our young people with multiple pathways to success.

We have an exceptional group of experts here today, and I know each one of them brings a very unique perspective to the table, and I look forward to hearing the contributions of each and every one of you. Thank you, again, for participating in this morning's hearing.

At this time, I'm going to turn to our distinguished panelists and ask each one of them to introduce themselves and to provide some introductory remarks.

We're going to start on my far right. Kris, if you want to introduce yourself, make your remarks, then we will continue around the table. I'll have some additional questions, and I hope our discussion will follow.

So, Kris, why don't you introduce yourself and begin.

**STATEMENT OF KRIS STADELMAN, CEO, WORKFORCE DEVELOPMENT COUNCIL OF SEATTLE-KING COUNTY, SEATTLE, WA**

Ms. STADELMAN. Good morning. I'm Kris Stadelman, and I'm the CEO of the Workforce Development Council for Seattle and King County.

The first thing I want to do is thank the Senator. I appreciate the invitation today. I'm greatly honored to be here. I so appreciate you having a hearing on this key topic right now. I know that, as

Jill Wakefield said earlier, that our Senator, Senator Murray, is a leader in this field, but I just want to reiterate that, among my peers, the Workforce Investment Board of Directors from around the country, I'm envied because we have Senator Murray here in our State, and I want to personally thank her for the millions of dollars in Department of Labor grant funding that she has assisted us in receiving; most recently, a \$3-million wire grant for the State of Washington, and, just a couple of weeks ago, \$2 million for King County to serve youth offenders. I greatly appreciate that. Thank you.

[Applause.]

Ms. STADELMAN. The Workforce Development Council is a private, nonprofit, mostly federally funded. What we do, we have a Board of Directors that scans the environment and looks at the gap between labor supply and demand, and tries to work with education, organized labor, and employers to fill that gap. One of our main functions is to prepare Washington State's youth for careers. We need to do that in two ways. We need to ensure we have a skilled workforce to meet the needs of employers, and we need to find ways of ensuring that youth have access to a path for economic security and family self-sufficiency.

At the Board, we address these goals by partnering with the private sector to bring youth into contact with the world of work and to promising careers. I want to say that I think, along the path, somehow, of looking at the new world and how we need a skilled workforce to be globally competitive, we focused on those high-end jobs, those B.A. degrees and master's degrees and Ph.D.s at the high end for research and development, and maybe we've lost sight of the fact that career and technical education is also key to economic success, also key to having a strong middle class. I think in many of our high schools, we have seen the path diverge to an either/or—either career and technical skills or academic skills and a path to college—and that the investment and the intention has been focused on the path to academic skills and college, really, to the detriment of career and technical education.

At the WDC, we think that everyone needs “both/and,” not “either/or”—everyone needs “both/and” academic skills and career and technical education. We think that what is most important for those of us in this field—and I want to compliment my community college partners, who have been a great asset in helping us with the needs of both low-income adults and youth in finding careers. We care about family economic self-sufficiency, and we believe that all of us at this table, all of us working on preparation for our workforce, need to keep our eye on that prize. For youth, the path to family economic self-sufficiency and economic security starts early, it starts with career and technical education, and it starts with summer jobs.

Thank you, Senator.

Senator MURRAY. Thank you.

[The prepared statement of Ms. Stadelman follows:]

PREPARED STATEMENT OF KRIS STADELMAN

Chairman Murray and Honorable members of the subcommittee: Thank you for inviting me to participate in today's hearing. My name is Kris Stadelman and I am CEO of the Workforce Development Council of Seattle-King County. I am honored

and grateful for this opportunity to talk with you about one of our time's most vital issues: the preparation of Washington State's youth for careers.

This preparation has two goals: to ensure a skilled workforce to meet the needs of employers, and to ensure that today's young people can become happy, self-sufficient adults. The first goal is all the more urgent because of the demographic tidal wave of Baby Boomers who are set to retire in the next decade. The second goal—self-sufficiency for today's young people—is also subject to a shifting economy. More specialized work requires more training, often including college, to put good-paying jobs within reach.

As the local Workforce Investment Board, the WDC of Seattle-King County addresses both goals by partnering with the private sector to bring youth into contact with the world of work and promising careers.

In 2005, the WDC published a report called *Youth@Work* that called attention to the serious decline in employment for teens and young adults. The previous summer, the national teen employment rate was the lowest in 57 years. African-American and other youth of color are far less likely to have work opportunities.

Why, when we need to focus on the problem of high-school dropouts, does this matter? Shouldn't youth be focusing on education and college instead of work?

The answer is no—not *instead of* work. Youth should be focusing on education *because of* work, and *in addition to* work. When we show them the connection and allow them to learn in the context of the real world, they are less likely to drop out of high school. They are more likely to pursue further education and training. They learn social and work skills that cannot be taught in school. And they are given both the tools and the inspiration to forge their own futures.

But if, in the name of academic rigor, we cut young people off from work experience and career education, we are failing them—especially at-risk youth who do not have role models or connections to help them chart a path.

In Seattle-King County, we at the WDC have seen the results of work-based learning opportunities, career exploration, internships, work experience and other employment services. We have linked these important services to high-demand occupations and industries that offer career paths ending in high wages. We have linked them to academic support for staying in school and credit retrieval for returning to school, as well as GED preparation for dropouts. And we have linked them to case management and other services to address the barriers of at-risk youth—mental health, chemical dependency, homelessness, basic-skills deficiencies, disabilities including learning disabilities, and criminal activity/court involvement.

#### SECTOR-FOCUSED EFFORTS

In Seattle-King County, according to the State's 2007 job vacancy survey of employers, 73 percent of vacancies paid a median wage of \$10 an hour or less—dismal in the face of our area's high cost of living. The top seven occupations (including laborers, cashiers and security guards) had an average median wage of \$8.81.

But right behind them came Registered Nurses, with an average wage of \$32 an hour, and Carpenters, at an average of \$16 an hour. This dichotomy illustrates the challenge of workforce development in an area where both our economy and our individual prosperity depends on the ability of our education and training systems to meet the needs of industry for high skills.

As a result of intensive research into the sectors in our region, the WDC of Seattle-King County selected five that provide living-wage jobs, opportunities for advancement and partnerships with employers. These five are health care, life sciences/biotechnology, construction, manufacturing, and information technology. We brought together industry, higher education, labor, K-12 and community leaders in each one to discuss the most critical workforce issues.

This work has allowed us to address both supply and demand in each industry: we understand better how to connect employers to the skills and workers they need, and we understand better how to open pathways for workers—and youth—to higher-skilled, higher-paying jobs.

The following provides a few examples of our work to connect low-income and at-risk youth to high-demand sectors in our region, using Workforce Investment Act youth dollars and leveraged funding from our partners.

#### HEALTH CARE

This vital industry, with multiple well-paying jobs for nurses and technicians, is experiencing critical staff shortages which will be exacerbated as more of the health-care workforce retires. Since 2003, the WDC has led a series of partnerships with hospitals, colleges, and public schools that start students on career paths in health care.

These programs, with the full commitment of the private sector, linked young people in and out of our Workforce Investment Act youth programs directly to health-care certificate programs at local community/technical colleges and to work-based learning opportunities in hospitals. Youth could take prerequisite and training courses while still in high school and be assured of earning an LPN or even higher certificate within a year of graduation.

One young person, Shenise Gordon, took advantage of several WDC programs. When she was just 14, she began exploring careers and getting real-life work experience at the Veterans Affairs Medical Center. As a sophomore in high school, she began taking courses at Renton Technical College through another WDC partnership, and passed the State-certified nursing assistant exam in her junior year. Shenise graduated last June with 4 years of nursing experience under her belt—and her RN degree less than a year away.

The newest WDC program to address health careers for youth is a public-private partnership that includes the Washington State Hospital Association, the city of Seattle, several local community colleges, and faculty/staff of Seattle public high schools. The 19 students earned high-school credits for courses such as Fundamentals of Health Care, CPR, Orientation to College and CNA coursework and are taking the CNA exam as a gateway to a wide range of nursing and other health care professions. Most are enrolled in both high-school and college courses, earning credits for both.

#### LIFE SCIENCES/BIOTECHNOLOGY

In 2005, the WDC partnered with the Puget Sound Regional Council, Prosperity Partnership, and the Washington Biotechnology and Biomedical Association to bring together a panel of 30 leaders in the life sciences industry, the education system, employers, local government and economic and workforce development.

Recognizing the importance of drawing young people into the field to ensure a pipeline of trained workers for these highly technical jobs, the WDC worked with the panel partners to offer a 6-day workshop to local science teachers to help them understand the latest research and technology—in hopes they would use the information in the classroom to inspire students.

The panel also worked to develop a dynamic Web site on life-sciences careers that can be used by youth and others who are interested in entering this growing field.

#### CONSTRUCTION

The construction industry has been a leading source of job growth in Washington State over the last decade. Over 80 percent of all jobs in the industry and 67 percent of entry-level jobs pay a living wage.

In YouthBuild, funded by the WDC and other partners, dropout youth alternate between 2 weeks of work and 2 weeks of school, constructing a house for a family in need as they earn wages, build work experience, complete high school, and transition into a job or further education/training.

A WDC-led partnership for Pre-Apprenticeship Construction Training (PACT) helps prepare students at Seattle Vocational Institute—most of whom are young adults—to enter union apprenticeships in the construction trades. The two-quarter program covers foundation skills for construction as well as “soft skills” such as work ethic and positive attitude. At the end of the program, PACT helps to place students in union apprenticeships.

#### INFORMATION TECHNOLOGY

Information technology jobs and careers are spread throughout almost all industry sectors, making IT skills as fundamental as literacy for well-paying careers. The WDC has incorporated IT into our youth employment services in a variety of ways.

In addition, we help to fund the Digital Bridge Technology Academy, which provides technology training to low-income, at-risk youth. This collaboration of partner organizations and agencies is for students between the ages of 16 to 21 who have dropped out of high school and are currently working to earn a high school diploma or G.E.D. Youth explore technology and careers through hands-on classes, workshops, guest speakers, job shadow opportunities, field trips, service learning, and internships. Students also install and maintain computer labs at community centers throughout Seattle as a way of both putting their learning into practice and giving back to their community.

## MANUFACTURING

Manufacturing remains a significant industry in terms of volume of jobs, quality of jobs and wages, encompassing welding and machinist jobs that pay up to \$34 an hour through electrical engineering at \$50 an hour. The WDC has long-established partnerships with local industry groups and with the nationwide Dream It, Do It campaign to interest and train youth in manufacturing careers.

In addition to these high-demand sector efforts, the WDC targets specific barriers that keep young people from succeeding in school and charting their futures. These include homelessness. The WDC helped to establish the Barista Training and Education Program, which trains homeless youth to be baristas—an occupation always in high demand in Seattle-King County. Youth in the barista program find skills to earn money today as well as a springboard, through case management, housing and on-site services, to further education and training that lead them away from hopelessness and poverty.

These barriers also include criminal involvement and court adjudication. King County's Juvenile Court has been a strong supporter and partner of WDC employment/education programs for their effectiveness with this population. Just a few weeks ago, the WDC learned that we have been selected for a \$2 million Department of Labor grant that will enable us to create two new career and education centers to focus on youth offenders. We have you, Senator Murray, to thank for your assistance in bringing this extremely important funding to our community. It will allow us to serve 200 youth offenders with intensive support both for education and employment goals—a model that has proven highly effective in stopping the cycle of criminal involvement.

All these pathways and partnerships have been possible because of Federal funding for youth employment programs—all Workforce Investment Act youth funds, except for the new youth offender grant. Once again, we thank you, Senator Murray, for being a champion of WIA youth funding. You have fought hard for this community against the tide of severe funding cuts over the past few years.

But in the context of these budget cuts, I would like to emphasize to the subcommittee that despite all of our work to bring career-focused services and work experience to at-risk youth, we know it is only a drop in the bucket when we consider the thousands of youth who are dropping out of our education system without work skills. These innovative programs are extremely staff intensive and serve only a few dozen young people, compared to the hundred who could thrive with these opportunities. Without Federal investment, highly effective programs such as PACT and Health Careers for Youth will remain pilot projects that eventually fade, along with the vital employer and education partnerships that made them a success. Continued funding is needed to take them to scale and perpetuate them.

In addition, if we have hopes of affecting the dropout rate, our legislators and communities must support career and technical education in schools. High-stakes testing and budget constraints are leading schools to shortchange CTE—programs that integrate academic coursework with career awareness and exploration, occupational training, and work-based learning. In many school districts, CTE programs are still seen as educational ghettos (with all that implies for youth of color) for low-achieving students whose teachers have given up on them. Our experience, and the research, shows that the conflict between college and career training is a false one. In Washington State, those who complete a CTE program are expected to earn almost \$60,000 more by the time they are 65 than those who have not participated in CTE. These students understand not only *what* they are asked to learn in school, but *why* they are learning it. We must find a way to support career and technical education alongside rigorous academics.

I also urge you as legislators to support Federal funding for summer job programs, which have suffered greatly in the past decade and experienced a one-third decline just since 2001. Because of these cuts, thousands of low-income, at-risk youth in Washington State no longer have the option of spending the valuable summer months gaining work experience. We need to bring summer job programs back into our communities—not just for the experience itself, but for the better outcomes it brings during the 9 months of the school year.

In Washington State, we have some important assets. We have employers and industry associations who are eager to work with education and workforce development partners to ensure that the next generation is a skilled workforce. We have excellent community and technical colleges that are responsive to the needs of both students and employers. We, in workforce, development have many successful models of partnerships among all these stakeholders, and a wealth of experience in making them work. With adequate investment and shared goals with the K–12 edu-

cation system, we can address both the high-school dropout issue and the critical need for future skilled workers.

But if we continue to consider workforce issues and education issues separately, we will not be successful in addressing either.

Once again, thank you for allowing me to participate today and for your consideration.

Senator MURRAY. Mr. Aultman.

**STATEMENT OF JOHN AULTMAN, ASSISTANT SUPERINTENDENT, CAREER AND COLLEGE READINESS, OFFICE OF SUPERINTENDENT OF PUBLIC INSTRUCTION, OLYMPIA, WA**

Mr. AULTMAN. Thank you, Senator.

My name is John Aultman. I'm an assistant superintendent for career and college readiness at the Superintendent of Public Instruction's Office. On Dr. Bergeson's behalf, I'd like to say thank you for inviting K-12 to the table to be part of this discussion.

Today, I'd just like to talk about a few strong examples that make career and technical ed, that segue from what Ms. Stadelman was talking about, into reality. Successful career and technical ed programs need a few key elements. They need strong business and industry partnerships, strong—or the programs need to be aligned with the economic strategies of the State of Washington. What's the economic engine, and how are the programs in the high schools aligned with those? They need strong academic and technical applications. So, you have both. It's not the either/or. The programs need to be personalized, meaningful, connected to the student, employer, and industry demand that they might be looking toward pursuing.

In the last piece of this is the transition of the students to post-secondary, and that postsecondary includes anything that is post-high school—a 1-year certificate program, 2-year transfer, a technical degree, or a 4-year baccalaureate. I think the key piece there is, our workforce right now has a 10-year gap, and that 10-year gap is the average age of the individuals in the community and technical colleges. If we can close that gap, the economic strategies will be empowering the individuals as they go forward. Imagine a high school diploma 1 week, and I think you're going to hear today about an individual that had a high—or has a high school diploma 1 week, a registered apprentice the next week. Imagine a hospital taking individuals in and giving them 40 hours worth of shadowing experiences, watching ER, diagnostic imaging, every aspect from open-heart surgery throughout, and the hospitals being the strong partner. Imagine the in-demand scholars, that Senator Murray has sponsored in the past, to provide those incentives to go on to the postsecondary.

The last piece I will leave here is that the State of Washington, this last year, invested over \$100 million to re-engage career and technical ed, building skill centers in the State, funding activities around expanding the FTE, and also putting middle-level career and technical ed—back into the course offerings.

With that, I'll wait for the questions. Thank you.

[The prepared statement of Mr. Aultman follows:]

## PREPARED STATEMENT OF JOHN AULTMAN

Honorable Chairman Senator Murray and members of the committee, thank you for inviting me to share examples of success, challenges, and opportunities of K–12 career and technical education (CTE) programs in Washington State.

Successful career and technical education programs include the following elements:

1. Strong business and industry partnerships.
2. Programs aligned with the economic strategies of Washington State.
3. Strong academic and technical application.
4. Personalized, meaningful, connected to student, employer, and industry demand.
5. Transition of students to postsecondary training, apprenticeship, and workforce.

## STRONG BUSINESS AND INDUSTRY PARTNERSHIPS

The business and industry partners view strong program offerings as the “Talent Pool” for their future economic viability. One example is the Washington State Apprenticeship Council’s commitment to form partnerships with local school districts and construction trades programs across Washington. New Market Skills Center in Tumwater has established such a strong relationship with the local Joint Apprenticeship Training Councils that the students who meet certain criteria are directly offered and enrolled in apprenticeship training programs after graduation. “High school diploma 1 day, and registered apprentice the next day.” These graduates are earning over \$19.00 per hour with benefits and retirement. By utilizing the In Demand Scholars program for required tool and safety equipment they are able to walk onto the job site ready for “the original 4-year degree.”

Another example of a strong partnership is the commitment the DigiPen Institute of Technology has to continuing growth and partnership support with schools in the State of Washington by providing computer science course offerings. DigiPen Institute of Technology has seen the direct benefits of partnering this last year as the first graduate of New Market Skills Center High School computer science program completed his Bachelors of Science degree in computer engineering this past spring. The individual received the first Presidential Scholarship from the DigiPen Institute of Technology and was one of the first graduates that had to make the tough decision of “Which company should I choose?” because he had multiple offers starting at over \$50,000-plus bonuses.

I could site multiple other examples of strong partnerships with health care, pre-engineering, veterinary sciences, emergency services, and power generation.

## PROGRAMS ALIGNED WITH ECONOMIC STRATEGIES OF WASHINGTON STATE

This past year Governor Gregoire, Washington State Legislature, and Superintendent Bergeson invested over \$100 million in career and technical education programs. The funding to build new skills centers and enhance comprehensive CTE programs needs to align with high demand and high wage occupations. The opportunity we have today to enhance programs and align opportunities for students does not happen often and we need to keep the “future economic engine of Washington State” moving forward.

## STRONG ACADEMIC AND TECHNICAL APPLICATION

The recognition of strong academic content imbedded with technical skill attainment allows programs to succeed and provide such success stories. The career and technical core curriculum can have many outcomes such as high school graduation requirements, college credit through Tech Prep, industry certification, and Advance Placement (AP) College Board testing. A few examples of multiple outcomes include Environmental Studies, Commercial Graphic Design, Professional Medical Careers, Clinical and Scientific Investigation (CSI), Pre Vet Technology, Emergency Medical Services, and Computer Science programs at New Market Skills Center. Currently, procedures are in place for students to earn Tech Prep credit, Advanced Placement and industry certifications while participating in CTE programs. The Washington State legislature has directed School Districts to adopt policy for academic recognition within CTE programs. The Legislature required a taskforce to make recommendations on models that districts could use for cross crediting. Procedures will be developed by the task force to help individual departments, schools, and school districts to grant academic credit for imbedded content.

PERSONALIZED, MEANINGFUL, AND CONNECTED TO STUDENT, EMPLOYER,  
AND INDUSTRY DEMAND

The “Rigor, Relevance, and Relationship” comes alive for students when they have investments in their future. Scott Bond, CEO of Providence Saint Peter Hospital in Olympia, stated to his Department Managers “We have an opportunity and an obligation” to help grow our future workforce. Over the past 5 years St. Peter Hospital has allowed students from the Professional Medical Careers program to observe 40 hours of clinical applications within the hospital departments. The students enter the program knowing of two careers, doctor or nurse, and not about the other 50 medical and patient care careers available. After the clinical rotations, students have observed open heart surgeries, emergency room, obstetrics, physical therapy, diagnostic imaging, administration, lab activities, acute care and other departments. When the students return to the classroom they re-organize their schedules to fit in more math and science courses before graduation. Most health care students do not have the opportunity to observe professionals, working in their careers, until the second or third year of their college program.

This example reinforces the need to ask all students three questions:

1. Who am I?
2. What can I be?
3. How do I get there?

These are the core questions within the Navigation 101 guidance plan. The examples are clear that when students connect the high school experience with real life examples they become engaged!

Career and technical education programs have strong impacts on dropout prevention, intervention, and retrieval programs. The dropout intervention program (DPI) pilot at New Market has retained and retrieved over 200 students in the past 3 years. The key to the program is personalized attention to assist the students to advocate for themselves. This has a direct financial impact to future employment opportunities. One student said it best, “I returned (to school) so I could learn the skills to earn a living.” He did take the CTE program of his choice and the additional academic requirements to earn his diploma last June.

TRANSITION OF STUDENTS TO POST SECONDARY TRAINING, APPRENTICESHIP,  
AND WORKFORCE

Career and technical education programs must continue alignment with postsecondary and apprenticeship programs to decrease the “10-year” gap that now exists. The average age in Community and Technical Colleges is 27 years old. The individual and collective earning power is dramatically decreased with this gap in advanced training. The recent construction of the New Market Life Sciences building included five construction apprentices. Two of these apprentices were recent graduates of the New Market construction trades program and the other three apprentices were 28, 34, and 52 years old. All five apprentices started within 1 month of each other and at the end of the construction project the 34- and 52-year-old apprentices had quit.

The common theme all educators must be conveying is “are you college ready?” with college being defined as any education post high school. This would include technical certificate programs, 2 year, 4 year, and apprenticeship programs. New Market administered the Accuplacer™ community and technical college and apprenticeship placement test to all juniors and seniors allowing them to see if they were college ready. The results provided students the opportunity to refresh basic skills while still in high school and for others it built confidence that they were college material. South Puget Sound Community College agreed to accept the testing results for placement at the college. When Tech Prep college credit, Accuplacer™ scores, online unified community college application, 13th-year plan, and scholarships are added together, many of the obstacles and excuses such as, “In a few years, I need to work, or I don’t know how to apply” are removed.

FUTURE OPPORTUNITIES

- Align and provide incentives (start up funds) for high demand occupation programs;
- Expand middle school CTE exploratory programs—integrated math, science, and technology;
- In Demand Scholars Program;
- In Demand CTE Instructor Certification Scholarships;
- Integrated Academic Articulation—Statewide Cross Credit Guidance;
- Assist CTE programs to become Advance Placement (AP) Course Approved;

- Connecting K–12 CTE with the State Board for Community and Technical Colleges (SBCTC) Centers of Excellence;
- Secondary Integrated Basic Education Skills Programs—ESL Populations;
- Middle and Secondary CTE Summer School—Math, Science, and Technology using CTE as the delivery model; and
- Early Learning Linkages—State STARS Certification.

Career and technical education programs can and will provide an instructional delivery model for high demand, high wage occupations. CTE program offerings are vital to students, business and industry, and the economic strength of Washington State.

**STATEMENT OF RICK S. BENDER, PRESIDENT, WASHINGTON  
STATE LABOR COUNCIL, SEATTLE, WA**

Mr. BENDER. I'm Rick Bender. I'm president of the Washington State Labor Council. We represent about 400,000 union members here in the State of Washington.

Senator, I want to thank you for the focus on this population. So often, we hear about the need for more baccalaureates, or higher, in terms of our economy here in the State of Washington, but very few people talk about that 75 percent who don't get a baccalaureate, but may get a AA degree or go to an apprenticeship or some other type of technical program. There is a real need by employers for these type of skilled workers, and there's no question, we are facing a shortage. We have about 12,000 apprentices right now in our classes across the State, and these are some of the largest we've ever had. But we're going to need to maintain this level for the next 8 to 10 years, because, as you well know, we're facing the retirement of a lot of baby-boomers right now in this State and across the country. So, this is something that we have to deal with.

But I'm proud of the building trades, because they've been spearheading a number of areas, in terms of legislation, to help fill these gaps. They, for example, have, passed, several years ago, Apprenticeship Opportunity Program, which sets a threshold of 15 percent on our public works projects for apprentices. This should provide more opportunities for young people, for people of color, and women, to come into our construction trades. We think this is a major step forward. The building trades have spearheaded Running Start to the trades, where you can come out of high school and be ready to go right into the trades when you graduate from high school.

Then, of course we have the Helmets to Hardhats that was spearheaded by the building trades—which is the Iraq veterans coming out from the war, getting direct access to our apprenticeship programs. The building trades have been spearheading a lot of programs to provide more opportunities for a whole lot of folks to come into these skilled trades.

But we've still got a lot of work ahead. There is one area that I have a real concern, and there's a lot of discussion and debate talking about the need for another year of mathematics to graduate from high school, which we support. But it can't be just strictly an academic pathway. We think there has to be some type of career, technical education equivalent, some type of applied mathematics that people can go into, other than the academic route. We think this is extremely important, and we hope that we'll give young peo-

ple more than just one pathway, which is just academic, but give them a pathway in other areas, as well.

Thank you, Senator.

[The prepared statement of Mr. Bender follows:]

PREPARED STATEMENT OF RICK S. BENDER

Good morning, Madam Chairwoman, and thank you for inviting me to appear before you at this Field Hearing. My Name is Rick Bender and I am the President of the Washington State Labor Council, AFL-CIO. Our organization represents approximately 400,000 working women and men in Washington State. I have been a member of Washington State's Workforce Board for more than 10 years, working to address the advancement of workers into family wage jobs with benefits and retirement security; by and large those are union jobs in Washington State. Washington State ranks fifth in the country in union density with one out of five workers being part of organized labor.

Recent surveys of Washington employers state that currently 45 percent of the jobs in demand require 1 to less than 4 years of training—mid-skill jobs. Those jobs generally pay \$16.00 to \$30.00 per hour, are in construction trades, technician level skills of many occupations, health sciences, etc. The trend to 2015 is that 43 percent of those mid-skill jobs will still be in demand.

Here in Washington, we have worked in coalition to create Running Start to the Trades as a pathway for high school students to achieve credit with an apprenticeship while they are still in high school; much like Running Start which provides community college credit while in high school.

We worked to achieve legislation that requires 15 percent utilization of apprentices on State prevailing wage jobs, so that all public infrastructure investment also provides an investment in training the future workforce. We would be very pleased if you would consider championing similar legislation for Federal Davis Bacon projects so that training was an integral component of our public Federal investment, Senator.

We have a shortage in the skilled construction trades at present. For years we had approximately 9,000 enrolled apprentices in any given year. Currently we have more than 12,000 enrolled apprentices and our apprenticeship training centers are bursting at the seams. There will be a continued need to train apprentices for the next 8 to 10 years at current or higher rates, not only for the work that is already sited and bid, but to replace the retiring construction workforce which is the oldest in American history. But our high school faculty and career counselors don't know about apprenticeship or about the demand for mid-skill occupations.

We have begun to address that in Washington by working with the K-12 system and employment training providers and business and labor to expand Navigation 101, which is a career exploration curriculum for high school. Unfortunately, it is not required nor is it available in all school districts in our State. This tool has done a great deal to give real information and choices to high school students that are about aptitudes and real jobs that do not require a baccalaureate route.

We are very concerned right now that Career and Technical Education (CTE) and our Skill Centers are at risk. We are working to ensure that additional math requirements for high school graduation (third year math) are not required to be academic. We are looking for acceptance of third year math that is equivalent, but can be an applied course that demonstrates job relevance to students. Your assistance in working with educators, employers and labor to ensure that more students graduate and join the labor market would be greatly appreciated.

Thank you for the opportunity to make these introductory remarks, and I look forward to your questions.

**STATEMENT OF DAVID E. ALLEN, VICE PRESIDENT OF  
MARKET, MCKINSTRY COMPANY, SEATTLE, WA**

Mr. ALLEN. Thank you, Senator.

I'm David Allen. My brother and I own McKinstry Company, a 1,500-person design/build/operate/maintain firm, working in the Pacific Northwest. We're nearing our 50th birthday, and a lot has changed in those 50 years, including my age.

[Laughter.]

I'm not going to spend much time talking about the academic side of the battle, until the questions come up, because I think I need to make some comments, as an employer, that's really important, particularly to some of the young people in the audience and for the record.

I agree with what Rick said, that McKinstry hires from apprenticeship programs. We are signatory to seven labor union agreements. We have some 1,000 building trades workers doing everything imaginable, from designing, building, operating, maintaining, fixing, energy auditing, facilities all over the West. We also have a lot of the 4-year college-degreed people: in engineering, in purchasing, in marketing, and all that kind of stuff. But, I think, from an employer's standpoint is, we are kind of a microcosm of the problem, because we need sharp young people at all the places around McKinstry.

The Senator's office asked me to address clean technology. I'm the chairman of the board of Enterprise Seattle, the Economic Development Council of Seattle-King County, so I get a pretty cool picture of what's happening in our region by economic cluster. I'm also the HELP foreman and co-chair of the newly established Washington Clean Tech Alliance, which, as I mentioned to the Senator's staff, that in my written testimony, it may very well be the next industrial revolution. By "clean technology," I mean energy efficiency, renewables, alternate energy, biomass, water conservation, remediation, doing the right thing to the Earth. That industry—we think we're in the top two to four in North America in the fight for our brand as a place for clean technology to prosper.

With that said, unlike a lot of our last century's industries, the clean technology industry is highly solution- and idea-based, so it's going to require, not only the sciences, which are obvious, but it's also going to require people that believe in it, people that understand it. It's more about creating an idea, implementing an idea, taking care of an idea. There's going to be jobs from young people that run green buildings, to engineers that design them, we're working on two plants right now. The reason we were awarded the project is that no one owns the space. One's a biodiesel plant award in Washington, and one's a tire recycling plant. The owners didn't really have any history of who builds that kind of stuff, because it's sort of new. Both facilities have asked us to operate it when they're done. Also something new that comes out of the clean technology.

In closing, and I'm anxious for the questions, because there's a lot to say. I think we look to the community colleges, the vocational—and as I told the Senator earlier, we're in trouble. We need to get into middle schools and high schools and these community colleges and give you guys a better picture of what the opportunities are out there, and where the careers are. With that, I'll close, so we can get to the questions.

Thank you, Senator.

[The prepared statement of Mr. Allen follows:]

PREPARED STATEMENT OF DAVID E. ALLEN

During the past several years, as a result of the perfect storm of rising oil prices, energy dynamics and increased awareness of climate change our State has seen an explosion of investment in research, products and construction of all that is "Clean Technology." Like many other regions in the Nation Washington State has built an

early reputation for its leadership in Clean Technology and in fostering growth of this "new" economic sector. Clean Technology with its many "clean the planet" aspects clearly represents an opportunity to become the next industrial revolution.

Nationally, investment in the Clean Tech industry has grown 78 percent in the past year and nearly 400 percent in the past 5 years (source: American Venture Magazine). Clean Tech is now the third largest venture investment category, with projections boasting some \$19 billion in investments by 2010 that is expected to create more than 500,000 new jobs. The most notable and talked about subsectors, renewable and alternative energy, are growing exponentially but those are just part of the story. Energy efficiency, recycling, bio-synergy (waste to power), sustainable design, product re-engineering and remediation technologies are all creating a buzz.

Washington State possesses many of the critical elements required to be successful in Clean Technology cluster. It has natural resources second to none. It has a citizenry that is known for its stewardship of the environment. Washington State is regularly recognized for its entrepreneurial and innovative workforce. And those are the attributes that will attract and grow firms in this sector; a sector that will make a significant impact on the Washington State economy and job creation for many years to come.

#### JOBS, SKILLS, OPPORTUNITIES

One of the most compelling aspects of the emerging Clean Tech industry is that it brings with it a wide array of jobs/careers across many disciplines. Unlike its predecessor "industrial" industries in the 20th century, Clean Tech will require a much broader workforce representing myriad skill sets and educational backgrounds. Because of the innovative nature of this cluster the field of science will play a key role. Chemistry, physics and biology have made their presence known already and several other science needs are emerging. Engineering is a clear driver of Clean Technology with mechanical, electrical, automotive, ceramic, geosciences, thermal and civil engineering some of the leaders.

On the "execution" side of Clean Tech positions in the "executive suite" will be in high demand as well. Business and financial management is critical here, as many firms will be of start-up nature and most facing an incredible growth profile. Manufacturing, production and operations positions will be needed and will have to adapt to new processes and industrial paradigms. Skilled crafts and career positions will flourish as well. Construction trades will also be in high demand and in fact are already experiencing upswings due to these new technologies. In addition many technical crafts will be emerging in and around the operation of plants and the delivery of services etc.

The most exciting news here is wages and benefits. Unlike much of the workforce in traditional industrial type jobs, the Clean Tech sector will have primarily high-wage or family-wage jobs with 21st century benefits! In the past few years virtually every Clean Tech type firm we have met, worked with or contracted to have primarily high wage positions. The emerging Clean Tech industry is dependent on and committed to working with all interested parties to enhance worker training and education. Because of the fact that many of the processes and applications will be new, training for these positions is a necessity rather than a luxury. We anticipate partnerships with trade unions, apprenticeship programs, workforce development organizations, community colleges, 4-year institutions and local government agencies will be required to meet the needs of the future.

#### REGIONAL IMPACTS ABOUND

In Washington State there exist some 400 Clean Tech companies with more than 5,000 jobs at the present time. Many of these firms are growing extremely fast. My firm, McKinstry has added more than 250 jobs directly attributed to our energy and Clean Tech work in just 3 years. Many others in biofuels, alternate energy and sustainable design have even steeper job growth! In fact, in a recent study Washington State was reported to be a leader in both alternate fuels and green building strategies. Our region is currently collaborating with other western States and provinces on fuel cell research and the "hydrogen highway" as well as greenhouse gas reduction programs. Also of note, our unique position as a gateway to the Pacific Rim is making Clean Tech a growth export industry.

We are rapidly becoming a center for innovation and new technology, thanks to the University of Washington, Washington State University and PNNL/Battelle, among others. As of this report, new projects in the pipeline represent hundreds of millions of dollars of new investment and thousands of jobs. Research by enterpriseSeattle (formerly EDC of Seattle and King Co.) and its Clean Technology

Cluster team, indicate however, the growth and activity with new ventures is so robust that we are already depleting our current skilled workforce.

WCTA IS BORN

In 2002 the Puget Sound Regional Council embarked on creating a regional plan to ensure the economic vitality of our region (and State). Coined the Prosperity Partnership, it developed a regional work plan that now serves as a great road map for many aspects of our growth. Its final report identified five economic clusters that will drive our economy for many years and set forth to bolster the infrastructure of each of those clusters (educational needs, workforce, economic development strategies, etc.) The first four were obvious drivers: aerospace, life sciences, trade and logistics, and IT/software. The fifth, Clean Technology was the “new kid on the block.” Because it was a new idea that needed to be congealed a small group of public/private volunteers worked for several months and decided to launch a vertical trade organization called the Washington Clean Technology Alliance. In February 2007 WCTA hosted a kickoff event which yielded 35 charter members that represent virtually every element of the industry. From alternate energy to sustainability, recycling to clean manufacturing and from public representative to service firms, we have it all!

The mission of the WCTA is to help strengthen the Clean Tech Sector by providing information, networking opportunities, and advocacy. Additionally we established an overarching goal to create a Washington State clean technology “Brand” to compete globally in this sector. We have been active with monthly networking sessions, member promotion, educational panels and sponsorships and will be representing the State at GLOBE 08, with a trade show delegation. GLOBE is one of the world’s largest and most revered clean technology/environmental conference held every other year in Vancouver, B.C.

**STATEMENT OF CARLOS VELIZ, CEO, PCSI DESIGN,  
BOTHELL, WA**

Mr. VELIZ. Thank you, Senator, for the invite today. My name is Carlos Veliz, the CEO of a company called PCSI Design, located in Bothell, Washington. I’m also on the board of trustees at Everett Community College, and also the chair for Snohomish County for the Washington State Hispanic Chamber of Commerce, Bienvenido a los que hablan Espanol.

There’s a lot of things that are here today and that we’re going to be reviewing, and I’m going to try to touch on them as best I can.

My topic today, or the area that I was asked, was “building bridges.” Mine was building bridges between the corporate small business and the educational system. Being that I’m on the board of trustees, you always walk around with your trustee hat on, and you’re always seeing what’s going on in the community. But one thing that our company has been doing over the past 6 years is speaking at the middle school level, and not in the sense of pounding the mindset that, “You have to go to a university, you have to get your 4-year degree, you have to be involved in the areas that are going to take you to either a free scholarship or what have you.” What we try to do in our mentoring program that is engaging with our students is find out where their wants are, find out where their wants are today. What is their passion? What we’re losing, I believe, in our school system today—whether it’s K–12, whether it’s high school or the college—is that we’re forgetting to do some touchpoint strategies with people’s passion, because the kids today aren’t the kids of yesterday, and there’s a different model that we have today and, they’re shaking their heads, “Yes,” you know, going, “Yes, he understands,” but there’s a different model today, and we have to find a way to build that bridge between what the

model is today of these students that do have a lot of passion for a certain career. I'm almost positive that most of them don't just want a job. I'm sure that they're looking for something that they can build on and be proud and be productive into our community.

I love living here in Washington State. One of the things that we do here at our company, at PCSI Design, is that we go out of the State to bring the work back, because we talk about, "Wow, the work's leaving." As I speak of some of these things, you'll see that there's a pattern that talks about building the bridge between the corporations, small business, and education. Well, if we can go back in the educational system and try to implement some of those career mindset, going into the passion of these students and doing that, then we're going to create those more small businesses. If we can get the small businesses to go mentor and go back into the schools, because they have the closer ties, then the corporations will feed the small businesses. We have a lot of bandwidth in our communities here, and I just don't think that we finish the job. I think that we start a lot of things, and we just don't follow through. These are some of the things that I hope we can get some Q&A here today.

But I'll close off with it—because there's a lot of things I want to talk about—but I'll close it off with this. Here's a question. And don't answer it, please, because I'll answer it for you.

[Laughter.]

Do you know who designed the black box for the Xbox for Microsoft, the original black box? Do you know who designed the snow skis for the Apache helicopters and for the Black Hawk helicopters—which is a snow—it's snow ski kits? Do you know who designed the Lamont fitness spin bike and/or recumbent bike? Now, you're probably going, "Well, it must have been the companies that you just mentioned." Talk about struggling, and talk about going through the paths that some of these folks mentioned, my company, PCSI Design, is the company that designed those products for those companies. We're the only product design company in the State of Washington that is certified 8A, small business, and MBE. Now, you're saying, "That's great." Well, no, it's not great. We are, in 2007, going to 2008, and why in the world am I the only one? We have a lot of path to pave here, and I hope that we can start building those bridges sooner than later.

Thank you, Senator.

Senator MURRAY. Very good. Before Judy speaks, let me just say that we have three students here with us today who have—because I felt it was really important that we hear from business, we hear from education, we hear from labor leaders, but we also hear directly from young people who have gone through the process, or are going through the process. Because we can talk a lot about policies and resources at the top, but, if it doesn't translate and work for the generation that is the recipient of it, it isn't going to work. I felt it was very important to hear their voices.

I especially want to thank J.D., who you're going to hear from in a minute, Meisha, who's to my left, as well, and, down the row here, David, in just a few minutes. Thank you very much.

J.D.

**STATEMENT OF J.D. OSBORN, IN DEMAND SCHOLAR,  
SNOHOMISH, WA**

Mr. OSBORN. Thank you, Senator.

I'm really happy to share my perspective on this whole issue. I'm 20—like she said, I'm J.D. Osborn, 20 years old. I graduated in 2006 from Snohomish High School, and I was one of the recipients of the In Demand Scholar, which is why I'm here today.

Well, first off, I started my first internship when I turned 18. I started in a machine manufacturing place as a machinist, and then, from there I went on to being a CAD technician for two other companies, and now I'm working for Carlos, here, at PCSI Design as an intern. I'm in sophomore status at Everett Community College right now, and I plan on transferring to Western Washington University after this year.

The things that worked for me most, as far as education, is—I've always enjoyed the classes that restricted rules. I've always felt like rules have boxed me in and limited my creativity. A lot of the classes that I've liked are very relevant to what's going on today, like green technology, the green jobs you mentioned earlier. That stuff's all very interesting to me. To have that in an educational setting, kind of, let's you lose focus on the grade aspect of education and, kind of, gain an aspect on the importance and relevance of the subject.

Senator MURRAY. OK, thank you.

[The prepared statement of Mr. Osborn follows:]

PREPARED STATEMENT OF J.D. OSBORN

The In Demand Scholarship that I received my senior year in high school acted as an incentive for me to continue my education. Although I would have most likely continued my education either way, the scholarship provided more than enough reason to continue on.

As a kid I always enjoyed building things and creating but it wasn't until my junior year in high school that I actually got involved in the wonderful world of manufacturing. I started interning in the field at a young age, I believe 17, because of the program I was involved in while in high school. Each internship acted as a stepping stone to the next. I went from a machinist at Aerospace Manufacturing Technologies to a CAD technician for Accra Manufacturing and then QPM Aerospace and now I work at PCSI Design as a Mechanical Designer. I have been working for PCSI Design for a little over a year now. It has been the best job of my life so far!

I graduated in 2006 from Snohomish High School and I'm currently in sophomore status at Everett Community College. I'm getting my prerequisites out of the way in the most efficient manner. I plan on transferring to Western Washington University sometime next year. They offer a very good engineering technology program where I can both learn theory and apply it to real world situations. I will be gaining an engineering degree in Plastics with an emphasis in Vehicle Design. WWU just started offering this specific degree this year which is great because before I couldn't decide which one to choose, plastics or vehicle design. The reason I chose this specific field of engineering is based on my work experience. Plastics and light weight materials such as resin-infused composites are the wave of the future because they are lighter and stronger. I predict that the demand in this field will only grow through my years of education ensuring a job upon graduation. Dedicating my life to solving future problems addressing issues like global warming is very self satisfying to me and I hope to make a positive difference every day of my life for the rest of my life.

Some of the most enjoyable classes I have taken and learn most successfully in were the classes with very little structure and addressed real world situations frequently. They spoke deeper to me than textbooks or worksheets which allowed me to lose focus on the grade and gain focus on the material. Let me give a couple examples of great classes I have taken and why. I will talk about them in chronological order.

The first class was Science Fiction or commonly known as Scifi. Everyday I came to this class I left with something positive that I would take to my lunch table and share with my friends. A lot of it was based on the future and the cutting edge of technology. Everyday we engaged in class discussions and most of the time we would get way off track but we would all be awake, engaged and learning.

The second class I want to talk about is my CAD and Precision Machining class. The technology in this class was very advanced and blows any engineering class that I've taken at Everett Community College out of the water. The teacher had interest in every single student's success. Personally, he acted as my counselor and advisor and if it were not for him I would not be here today. He pushed me beyond what was required for the class and showed me how the things I was doing applied to the real world. I remain in very close contact with this teacher today.

Onto college, I took three English classes from the same teacher. In these classes we learned all about semiotics, the specific reason to why things are the way they are and advertising/marketing techniques. I have hated my English classes for as long as I could remember but these three quarters were some of the best classes I have ever taken. I never knew that I would actually use the knowledge from my English classes as a fundamental basis for my engineering studies. My research paper was on a new building that just opened at Everett Community College. My perspective on architecture before and then after is something I hold priceless in my thoughts everyday. It was at this point that I learned the importance of education.

The last class I would like to address is my speech class. The instructor in this class takes a different approach to public speaking. There are basically four types of speeches and she teaches this by letting the students pick their own topics, giving advice to make your speech great and limiting the rules and specifications, allowing you to be as creative as you'd like.

In conclusion, I would like to close with my vision of what I feel programs should be like for future students in my position. The four examples I have presented have a few things in common which I feel should be the foundation of all structure in all education situations. The elements are bringing relevance to every class meeting, limiting rules to allow more creativity, and having teachers that take interest in the student's success. I hope you can find my perspective as both relevant and helpful to solving this issue with the lack of pathways to career success for my generation and the next!

Thank you.

Senator MURRAY. Meisha.

**STATEMENT OF MEISHA NASH, STUDENT, NEW MARKET  
SKILLS CENTER, TUMWATER, WA**

Ms. NASH. My name is Meisha Nash, and I'm currently a New Market Skills Center student, and I'm here today to tell you a little about myself and the different experiences I've had in and out of school systems.

Originally I'm from North Carolina. In elementary school, I received straight A's. I loved school and the teachers. Basically, it was all I had.

When I went to high school, there were so many people that I became a face in a crowd so large, the teachers barely had time to notice me. With this drastic setting and curriculum change, I was overwhelmed. I developed severe depression and eventually turned to drugs. I never had the support of a stable family life. So, without the school setting that I loved, I was ready to give up.

I continued to struggle in school while maintaining a job that supported my increasing drug addiction. I eventually came to the conclusion that I did not want to be going in the direction I was going in, and I did not want drug use to be my future occupation, so I entered myself into a rehab program and got my drug addiction under control. After that, I continued to struggle in school and was far behind my fellow classmates. I figured it would be much easier to get my GED, and I was under the impression that it

would be equivalent to getting a high school diploma, so, when I was 16, I dropped out of school and, within 2 weeks, received my GED. For the next 2 years, I worked as hard as I could. While staying with family members, I ended up supporting them, as well as myself. I knew I wanted to get back into school, but did not have the resources or the means to do so.

In January 2006, I was given the opportunity to come to Washington and stay with my aunt and uncle for a few months break from the chaos I was living in. A few weeks after I arrived, I read an article in the newspaper about a young mother who had earned her GED and returned to school to get her diploma. This sounded interesting, so I decided to look into the program. I found out that, not only could I get my diploma, I could also earn college credits at the same time, at no cost. This was exactly what I needed, and, within the next week, I decided to make my stay here permanent and began attending school.

I had no idea if I could actually support myself here, but I knew I would give my best effort. It would have been impossible if I had not had the help and support of so many caring people that I met in my school and community. They have done so much to help me with my financial situation, such as transportation and food vouchers, to make it easier to concentrate on my education. But what I am most appreciative of is the moral support they have given me, telling me that I am worth it and I deserve the opportunity to do the best I can in life. For that, I may never thank them enough.

With this newfound confidence and skills and abilities I have learned, I will go much further in life. I will be getting my high school diploma this June, and I'm in my third quarter at South Puget Sound Community College. I was recently hired by Sodexo at New Market, as a cashier for the culinary arts program.

While attending this program, I have found what I love to do. I plan to get a degree in culinary arts and business, and one day I plan to own my own restaurant. I know I'm a long way from achieving my dreams, but I now know that it is possible.

Thank you.

Senator MURRAY. That's great. Thank you very much, Meisha.

Sorry, you get to follow that.

[Laughter.]

Mr. GULLIOT. I beg your pardon?

Senator MURRAY. I'm sorry, you get to follow Meisha.

[Laughter.]

**STATEMENT OF DON GULLIOT, SECRETARY-TREASURER,  
WASHINGTON STATE ASSOCIATION OF ELECTRICAL WORKERS,  
SEATTLE, WA**

Mr. GULLIOT. Good morning, Senator Murray and members of the committee. Thank you for the opportunity today to address you.

My name is Don Gulliot. I am the business manager of Local Union 77 with the IBEW. We represent the employees that provide you power from the utilities in our State. Thank you for inviting us to comment this morning.

Local 77 represents 6,800 utility and construction workers in our State. This includes investor-owned public utilities, municipalities, REAs, and Federal and nuclear power plants. We currently have

approximately 68 collective bargain agreements in the State. Today, what I'd like to speak to, which is a common thread, is the aging workforce and what we are doing, and what we are not doing, about it.

The other thing is regional training centers, what our union is doing, and what our international union is doing, and what we're doing with the junior colleges here in the State of Washington; workplace safety, which goes along with training—on-the-job training; and a concern about the use of foreign workers and the reducing of carbon emissions.

That's what I'm prepared to speak to today, and that concludes my presentation, at this time.

Senator MURRAY. OK.

**STATEMENT OF DAVID HARRISON, CHAIR, WASHINGTON'S  
WORKFORCE TRAINING AND EDUCATION COORDINATING  
BOARD, OLYMPIA, WA**

Mr. HARRISON. Senator, I'm David Harrison. As you know, I am chair of the State Workforce Training and Education Coordinating Board, which is a partnership of education, labor, government, and business to help skill Washington for a high-skill, high-wage economy. You already know that, from what you've heard already, that we face huge challenges in this State, and we're addressing those challenges, all the more so because of what you're doing in the other Washington, and your relentlessness on these matters. So, next time you're at 38,000 feet over North Dakota, being served the mystery snack, know that we appreciate it.

[Laughter.]

Today, November 28, is the day in our history where knowledge, skills, and information are most critical, not just to our human opportunity, but to our economic vitality. Until tomorrow. This is, as you well know, a central strategy for our State, to prepare for the future. In that context, both you and the Governor have expected us to get it, and get it done, primarily by emphasizing and responding to the central matter, which is the skill gap, the gap between what employers need and workers have. The existence of such a gap, as you know, makes employers less competitive, and makes it less likely that youth entering the workforce will receive a sustainable wage.

The annual employer survey by the Workforce Board shows that we're meeting only about 70 percent of the demand for people with 1 to 2 years of postsecondary training. This is numerically, the biggest single skill gap in our State, just that particular element of the skill gap translates to around 25,000 people short. And as your obsession, to the extent we can put young people on a pathway, and keep them on the pathway, we can and will close that gap. We have numerous initiatives in progress to close the gap. My written testimony calls out high-demand programs of study at the community and technical colleges, opportunity grant program, increasing support of skill centers, and, as you know, Navigation One-on-One, which is an all new, all school counseling model that helps put youth on a pathway.

It would not be whining, I don't believe, to say that we are not always seeing our Federal partner with us in these matters. As you

try and sharpen the focus of the national government on the young person's transition to work, we do have further schemes and dreams, and I want to quickly call out three.

The Board and its partners are intent on using the reauthorized Perkins Act to create and sharpen clear programs of study. We worked hard on Perkins. The resources behind Perkins are a big deal, because those dollars, as John would attest, go toward better curriculum and better articulation between programs of study at the high school level and what happens at the community and technical college. As you know, that pathway, to be a pathway, has to be clear.

Second, I wanted to call out the fact that, as you well know, we're running on fumes with regard to WIA youth dollars, and WIA youth direction; so, as you work on the future of the Workforce Investment Act or in other venues, whatever you can do to sharpen the sense of pathways and the resources and approaches that the national government takes to these matters would be treasured, as we, at the same time, in the State, I think, are looking for—and the Governor's looking for—continued improvements to how career and technical education works, and how it connects to the community and technical colleges. If you can help make a WIA that connects to those challenges a little bit more sharply, that would be a wonderful thing.

There are considerable WIA youth resources, including discretionary resources we use now for dropout prevention in really exciting ways.

And then, last, a big dream, and that is more support and incentivization of work-based learning for young people. As you know, there are really exciting models in and outside of the skill centers as to how employers connect, not just with existing workers and the older worker or the skilled worker, but the young person on the path. We can keep the path broader, well lighted, keep the ditches further away from the path if employers are there with us. There are some great examples—robotics in Mukilteo, healthcare in Yakima, all the very exciting construction industry work that's going on in schools in Spokane in all these cases. Whatever you can do to connect those schemes to the weight the Federal Government moves the employers would be a wonderful thing.

So, just those few schemes and dreams. Thank you, again, for all your work.

Senator MURRAY. Thank you.

[The prepared statement of Mr. Harrison follows:]

PREPARED STATEMENT OF DAVID HARRISON

Honorable Chairman Senator Murray and members of the committee, thank you for the opportunity to speak and present written remarks to the Employment and Workplace Safety Subcommittee of the Health, Education, Labor, and Pensions Committee. Senator Murray, your leadership on workforce development issues has been a beacon to the Washington workforce community. We appreciate your commitment to helping students prepare for careers and meeting the workforce needs of industry. We believe that enhancing career pathways for students is an indispensable strategy both to help students succeed and to help companies compete. As promising as are the efforts we will all discuss today, they represent only a beginning of a job that must be done.

A vital role of Washington's Workforce Training and Education Coordinating Board (Workforce Board) is to identify the skill and training needs of businesses in Washington State and the supply of trained individuals provided by educational in-

stitutions and to advance strategies to close the gap between the two. Our analysis based on projected job openings and employer surveys have consistently shown that the greatest gap in meeting employer demand is for mid-level postsecondary training—training that is more than 1 year but less than 4 years in length. Such training is provided by our community and technical colleges, apprenticeship programs, career and technical education programs in comprehensive high schools and “skills centers” (local school district collaboratives that focus on CTE preparatory coursework). Since 1998, this system has only been meeting from 66 percent to 77 percent of projected employer demand annually for persons completing these mid-level programs. In order to close this skill gap at the mid-level by 2010, we would need 26,000 more community and technical college student FTEs than were enrolled in 2005.

Under Governor Gregoire’s leadership, we have been redoubling the efforts to close the gap. At the community and technical college level, we have addressed “high employer demand programs of study” which are undergraduate certificate or degree programs in which the number of students prepared for employment per year is substantially less than the number of projected job openings in that field—state-wide, or in a sub-state region. In Washington, these high demand programs of study include accounting, aircraft mechanics and technicians, auto diesel mechanics, construction trades, education, healthcare practitioners, science technology, transportation, and installation, maintenance and repair.

In addition, we have sought to expand access to this outstanding community and technical college system. A major success toward accomplishing this objective was an appropriation of \$25 million in the 2007–2009 State-operating budget to expand the “Opportunity Grant Program” which provides wrap-around support services and financial aid to low-income adults for 1 year of training in mid-level high demand programs of study. This will enable low-income students to reach the “tipping point” of education required for economic self-sufficiency.

The initiatives to confront the skill shortage at the earlier steps of the pathway are equally critical, as too many high school students face a situation where no path is clear to them. In “*High Skills, High Wages*,” Washington’s 2006 Strategic Plan for Workforce Development, the Board has established the following system objective:

“There should be secondary CTE programs throughout the K–12 system that enable students to explore career pathways and complete preparatory coursework that matches their aspirations. The career pathways should be articulated with postsecondary education and training and result in industry certification.”

The recently re-authorized Perkins Act is a tool in furthering this objective. The Carl D. Perkins Career and Technical Education Improvement Act of 2006 provided for the development and implementation of career and technical education (CTE) “programs of study” that include a nonduplicative progression of courses that align secondary education with postsecondary education. The Workforce Board and its K–12 and community and technical college partners are in the process of planning the implementation of the Perkins Act, including designing a process for development and approval of CTE programs of study.

The focus of the No Child Left Behind Act, on the other hand, has presented obstacles to furthering career pathways. Many local school districts are assigning more coursework centered on test performances, causing a reduction in skills courses in some districts. In response, the Workforce Board is working on a number of initiatives with its partners to ensure career pathways are available to students throughout the State, including the following:

- We completed a study and recommendations for the 2007 legislative session on improving access to “skills centers” and many of those recommendations are being implemented;
- In preparation for the upcoming legislative session, we are working with the Office of the Superintendent of Public Instruction (OSPI) to secure funding for implementing “high demand” CTE programs of study and the development of articulation agreements between secondary and postsecondary programs that provide a program of sequenced courses and ensure all students have access to dual enrollment options;
- The Board is part of a legislatively mandated advisory committee to the Legislature that is examining how CTE programs can guarantee rigorous academic content and thus be recognized as meeting academic course equivalencies; and
- The State Legislature has implemented a grant program that enables local school districts to work with apprenticeship councils on aligning curriculum to provide direct or preferential entry for students who complete pre-apprenticeship programs.

While we are making important progress in this State in building multiple career pathways for students, much remains to be done. Tech Prep programs have developed a number of articulation agreements between individual high schools and individual community colleges. The skills centers in the State have been increasing their course alignment with postsecondary opportunities as well—New Market and Sno-Isle Skills Centers have been leaders in this effort. However, more resources need to be allocated to the development of model curriculum and accompanying articulation agreements that can be replicated statewide. This is a time-intensive process that involves bringing business, labor, and K–12 and postsecondary faculty together to establish standards and develop curriculum frameworks. While some States (California and South Carolina) have been successful in securing significant State resources for this work, additional monies allocated through the Perkins Act would go a long way to making sure these opportunities exist throughout the State.

An important part of career pathways for students is work-based learning. We need to do more to involve business and labor and provide opportunities for students to learn at workplaces. This can take the form of co-ops, internships, pre-apprenticeship programs and other strategies. Some examples in this State include the mentoring by Electroimpact in the robotics program in the Mukilteo School District and the “Youth Works” internships provided by Memorial Hospital for a number of high school students in Yakima County. Much more needs to be done in this respect. Congress should explore providing incentives to business and other mechanisms to increase work-based learning opportunities for students.

It is critical that we continue to acknowledge the vital role that career and technical education plays in providing opportunities for secondary students to achieve academic success and prepare for careers. We know that secondary students must be engaged and motivated to learn. Career and technical education provides the relevance for many students needed for their engagement, as well as an opportunity to learn academics in a “hands-on” manner. Career and technical education programs of study options are a necessary tool for ensuring all students learn the skills they need to be successful in today’s economy.

**STATEMENT OF BOB DREWEL, EXECUTIVE DIRECTOR,  
PUGET SOUND REGIONAL COUNCIL, SEATTLE, WA**

Mr. DREWEL. Well, thank you, Madam Chair, for this opportunity. My name is Bob Drewel, and I am the executive director of the Puget Sound Regional Council. I just want to take a moment to join the chorus of thank-yous to you, and I do this with appreciation and admiration and affection for your boundless energy and passion and care for the citizens of this State and this Nation, and we’re very grateful for your leadership.

The Puget Sound Regional Council is the home to a coalition known as the Prosperity Partnership, and our goal is to develop 100,000 new jobs in this region by the year 2010. I might add that two of the co-chairs of this organization, Mr. Bender and Dr. Mitchell, are on the panel here this morning, so I’ll try and be as useful as possible when you have two of your bosses in the room.

Fundamental to our effort is the linking of the education system with the demands of the workforce. This is particularly important in a State like Washington, which is, by many measures, the best educated in the United States. Again, the size and the scope of this program is not only in this State, but in the Nation. Washington has more engineers per capita, and ranks in the top 10 in life sciences, recent graduates in science and engineering, and computer scientists. Seattle was recently named as the best-educated city in America, with over half of its adults holding a bachelor’s degree. Of course, this means for our citizens to be competitive for a job in this State, you must be educated beyond high school.

Research by the Partnership for Learning on behalf of the College and Work-Ready Agenda, tells us that 77 percent of the jobs

in our State that pay a family wage require some college, and over half of the family wage jobs require at least a bachelor's degree.

However, in our State, like many States in the Nation, we are simply not providing our students enough opportunities to participate in this economy. Even though we lead America here in this region and in the State in high-tech job categories that I described earlier, we are 37th in production, in the 50 States, in conferring of bachelor's degrees, and 38th in conferring degrees in science and engineering.

Consider the following: between now and the year 2012, just under one-half of the job openings in Washington that require a bachelor's degree will come in six fields: computer science and engineering, life sciences, research, secondary teachers, health sciences, and nursing. In 2005, our colleges and universities were only able to provide 14 percent of their graduates these degrees. That's not a match that will carry us into the future for the economy. It's just not simply a problem for our colleges and universities, all too often, students are leaving high schools not prepared for the study in fields—that's been mentioned on a number of occasions—to earn these degrees, and basically not prepared for college or other advanced learning. According to the report by the Washington State Board for Community and Technical Colleges, 52 percent of incoming students to our community and technical colleges must take pre-college remedial courses—to earn their college degrees—during their careers. This number is as high as 63 percent for African-American students and 67 percent for Latino students.

However, Prosperity Partnership and its 250 member organization believe that we see a solution. First, we must invest in the capacity of our colleges and universities to provide access to high-quality bachelor's degrees, and we have identified the need for 10,000 additional bachelor's degrees by the year 2020. I suspect the same could be said for many of the States in our Nation.

Second, we must concentrate our increased degree production in the fields where we know the jobs are. Consider computer scientists. The State of Washington estimates that each year between now and 2012, 3,900 jobs will come open in our State requiring a computer science degree. Currently, fewer than 700 such degrees are conferred across the State each year. We must simply invest in those degrees so that the skill sets that you've heard described up to this point, and the excitement that Meisha feels about her future, we can deliver the opportunities.

Third, we must inform students, parents, teachers, counselors, and, frankly, anybody who will listen to us, about the opportunities that I just mentioned.

In summary, the economic reality is that we are simply not providing our students with the education they need to be successful in this economy. Through a series of steps—and there is more to be done than the three issues that I've just chatted about—we can meet this challenge, but it requires rethinking how we deliver these skills to our students and what the appropriate roles of government are.

I look forward to the opportunity to respond to questions.

[The prepared statement of Mr. Drewel follows:]

## PREPARED STATEMENT OF BOB DREWEL

Thank you, Madam Chair, for the opportunity to testify before this committee today. I am Bob Drewel, Executive Director of the Puget Sound Regional Council. My agency is the home of a coalition known as the Prosperity Partnership, which is an effort to secure long-term economic prosperity and grow 100,000 new jobs in this region by the year 2010.

Fundamental to that effort is the linking of our education system with the demands of the workforce. This is particularly important in a State like Washington, which is by many measures the best educated State in the United States. Washington has more engineers per capita than any State, and ranks in the top 10 in life scientists, recent graduates in science in engineering and computer scientists per capita. Seattle was recently named the best-educated big city in America, with over half of its adults holding at least a bachelor's degree.

Of course this means that in order to be competitive for a job in this State, you must be educated beyond high school. Research by the Partnership for Learning, on behalf of the College and Work Ready Agenda, tells us that 77 percent of the jobs in our State that pay a family wage require some college, and over half of the family wage jobs require at least a bachelor's degree.

However, in our State—like in many other States around the country—we simply are not providing our students enough opportunities to participate in this economy. Even though we lead America in the high tech job categories I described earlier, Washington is 37th among the 50 States in per capita conferring of bachelor's degrees, and 38th in conferring degrees in science and engineering.

Consider the following information: between now and 2012, just under half of the job openings in Washington that require a bachelor's degree will come in six fields: computer science, engineering, life sciences research, secondary teachers, health technicians and nursing. In 2005, only 14 percent of the graduates from Washington's colleges and universities earned a degree in one of these fields.

Let me say that again . . . half of the job openings that require degrees will come in these fields, but only 14 percent of our students are receiving the appropriate education to fill one of those jobs. The natural consequence of course is that we are importing people—either from other States or from around the world—to fill the jobs that our students cannot.

This is not simply a problem for our colleges and universities, however. Our students all too often are not leaving high school prepared to study the fields that are necessary to earn these degrees, and are often simply not prepared for college. According to a report by the Washington State Board for Community and Technical Colleges, 52 percent of incoming students to our community and technical colleges must take pre-college remedial courses during their college careers. This number is as high as 63 percent for African-American students and 67 percent for Latino students.

However, the Prosperity Partnership sees a solution. First, we must invest in the capacity in our colleges and universities to dramatically expand access to high-quality bachelor's degrees. We have identified a need of 10,000 additional annual bachelor's degrees by 2020, and I suspect the same could be said of many States around the country.

Second, we must concentrate our increased degree production in the fields we know the jobs are. Consider computer scientist: the State of Washington estimates that each year between now and 2012, 3,990 jobs will come open in our State requiring a computer science degree. Currently fewer than 700 such degrees are conferred across the State each year. We must invest in these degrees.

Third, we must inform students, parents, teachers, counselors and anyone else who will listen about the opportunities our increasingly technology-driven economy presents, the fields of study that allow participation in that economy, and the classes students should be taking in middle and high school to study these topics. An emphasis must be placed on allowing students to experience the exciting fields growing in our economy—not just telling them about it.

This is an excellent opportunity for the Federal Government's participation. I am reminded of the effort our Nation put into science and engineering following the launch of Sputnik, and I am heartened by the success the national government in Ireland has had in helping its citizens understand the opportunities before them, and how to reach their true potential. I look forward to discussing this in more detail during the roundtable.

In summary, Madam Chair, the economic reality is that we are simply not providing our students with the education they need to be successful in this economy. Through a series of steps—and there is more to be done than the three I have laid

out above—we can meet this challenge, but it requires rethinking how we deliver these skills to our students and what the appropriate roles of our governments are.

I would be pleased to answer any questions and look forward to our discussion.

**STATEMENT OF TERRY SEAMAN, VICE PRESIDENT,  
SEIDELHUBER IRON & BRONZE WORKS, INC., SEATTLE, WA**

Mr. SEAMAN. Thank you, Senator.

My name is Terry Seaman. My wife, Heidi, and I own and operate Seidelhuber Iron Works, a 101-year-old steel fabrication plant started by Heidi's grandfather in 1906. We employ about two dozen people, including ourselves.

I'm a proud member of the Seattle Manufacturing Industrial Council, and have served as its co-chair for 5 years.

Over the past several decades, my volunteer work includes serving on the board of the Seattle-King County Workforce Development Council and as chair of its Youth Council, serving on the King County Children and Families Commission, and chairing the Advisory Board for the King County Juvenile Detention Facility.

In my view, too many people and agencies dismiss traditional industry as a relic of the past. However, there continues to be good job and career opportunities on an extremely large scale in this sector. Many of these jobs are accessible to people who may not have the skills and aptitudes to obtain comparable wages and benefits in other employment sectors.

Industrial employers tend to be forgiving regarding past poor life choices, but value a new employee for an honest work ethic and willingness to learn new skills while on the job. Entry-level positions generally pay well, and there's considerable opportunity for career advancement and wage progression. According to a recent employment security job vacancy survey, industrial employers in the State have over 15,000 unfilled job openings. The metal trades cluster, which I'm part of, according to B&O tax records, has enjoyed 96 percent revenue growth and 15 percent job growth over the past 5 years. That compares favorably with the economy as a whole, which grew 39 percent revenues and 12 percent in job growth in the same period.

Good economic development policies build on a region's strengths. Our workforce and youth programs should do the same. One of our region's greatest strengths is industry. I hope that today we can discuss how we can better educate and train young people to take advantage of the excellent career opportunities in the industrial sector.

Thank you.

**STATEMENT OF DAVID STEINHOFF, ELECTRICIAN'S  
APPRENTICE, SUMNER, WA**

Mr. STEINHOFF. Thank you, Senator Murray.

I'm David Steinhoff, and I went through the "Get Electrified Program," which is a program sponsored by the Workforce Development Committee. And it was a great program. I got into the Residential Wiremen Union, which is the JTC, member of the IBEW, and I just recently graduated, and now I am a residential wireman. Along the way, it was interesting to find a career that I would enjoy, because, going into this program, I, frankly, had no idea in

what I wanted to do, and this program offered the perfect solution to testing it out with not completely committing myself to going into the Residential Union.

In closing, it was a great program, and the same with the apprenticeship in the JTC.

Thank you.

[The prepared statement of Mr. Steinhoff follows:]

PREPARED STATEMENT OF DAVID STEINHOFF

As a freshman in high school I won the regional International Science and Engineering Fair and traveled to Louisville Kentucky to participate in the International fair. This was an indicator that college was the path for me.

My sophomore and junior year I took electronics and advanced science and math classes to prepare me for my college years.

During my junior year I went to the career office to find out about a job for the summer. There were three options: a 2-week program at Bates Vocational School for electricians, a 4-week program with Bonneville Power, and the Get Electrified program. I was accepted in all three programs and chose the Get Electrified program because it continued through my senior year. I began working that summer as an electrical apprentice and decided becoming an electrician was the right career for me.

During my senior year I went to school for half the day and spent the rest of the day working as a pre-apprentice Monday—Thursday. On Fridays the Get Electrified program provided training in conflict resolution, research into the electrical field, safety training, resume writing and other basic job skills.

After graduation from high school I continued my education as an electrician while working full time at City Electric of Tacoma. The Pierce County Workforce Development Council In Demand Scholar program provided me with scholarship funds to help pay for books, tuition, tools and other work-related items. The classes provided through the union are accredited and will give me 25 credits toward an AA or higher degree if I decide to continue my education.

I am currently working as an electrician for City Electric of Tacoma. I have completed my 2 years of training as a residential electrician. The next step for my career is to take the test so I can be a licensed Residential Journeyman Electrician B.

My near-term future career plans include training to become a licensed commercial electrician.

For students who struggle to complete high school, more emphasis needs to be placed on vocational training and apprenticeship programs. When I attended the career fairs at my high school, the colleges were well represented, but I found very little information on the construction trades.

More funding to help students pursue a career in the construction trades is needed. Funding for part time or after school work programs are needed to give students who struggle academically or who choose not to pursue college a chance to try out other career options. The School to Apprenticeship program is a proven program which would benefit from increased funding.

The Pierce County Workforce Development Council provides an excellent opportunity for those students who are not college bound. Increased funding for scholarships is needed to help students with continuing education to get ahead in their chosen career.

**STATEMENT OF CHARLES H. MITCHELL, CHANCELLOR,  
SEATTLE COMMUNITY COLLEGE DISTRICT, SEATTLE, WA**

Mr. MITCHELL. Thank you. Senator Murray, I, too, would like to offer our thanks for this opportunity to discuss this much needed item in our State.

I couldn't help but hear David and how he's come through a pre-apprenticeship program, and now—he's gone through the apprenticeship, and now you're a regular card-carrying individual. I say that, because we have—here on the front row—we have Bob Marcos, who's with the Seattle Vocational Institute, and he's brought with him some of our students, and they are in the pre-

apprenticeship program right now. I know they're looking forward, through those pathways, so that they will be in the same seat here.

My name is Charles Mitchell, and I'm chancellor of the Seattle Community Colleges. I think, around the table, I represent the community college system.

Statewide, we have 34 community college districts. Annually, we graduate about 500,000 students. That's about 60 percent of the students in higher education. Coming down more locally, in Seattle, we have three colleges, and we have Seattle Vocational Institute, and we have five other learning institutions.

I'd just like to say, about community colleges—I always say that I think, along with the GI Bill and the community colleges—community and technical colleges, we kind of democratized education, because we gave people who, before, never had an opportunity to go into higher ed, that opportunity.

We have three basic missions. Of course, we have the transfer programs and—of our colleges, including the University of Washington, 41 percent of those students who graduate from our 4-year colleges had their first experiences at our community colleges. We also have basic skills programs. Students come for English as a second language, high school completion, and adult basic education.

Also, as you know, and more to what we're talking about today, we have the professional technical programs, and we have many throughout the State and throughout our Seattle community colleges, and we have many of the certificate and degree programs for students, where they can get livable wage jobs and the same jobs that we're talking about here today.

Our community colleges—we, kind of, sit in the middle of everything, because we partnership with all of the institutions. Of course, the K-12, we're very interested in how students are performing in the K-12, because they're coming through us, and too many of them would have to take some of our developmental classes, especially in the area of math. It would be helpful if they came more ready. But we are working on that with the K-12 districts throughout our State.

We partner with business and industry. With our community colleges, all of our programs, we have advisory boards, and they consist of individuals from the industry, and that way we're able to keep up with the latest state-of-the-art, so that when our students graduate from our programs, they will be ready.

We partner with the Department of Labor. In fact, the school that we're in here today—South Seattle Community College—they have one-third of all of the apprenticeship programs in the State of Washington among our community and technical colleges.

Also, we work with many of the community organizations, because we feel that we serve our community, and so, we're involved with a lot of that.

We partner with the 4-year colleges, as well. The University of Washington, as I said, we do transfer students to there. We have great partnerships with the Federal Government. I like to give credit to Senator Murray of some of the programs that we have. At our district level, we have a health institute, and a DOL grant really helped us there. We have a \$2.8-million grant, and that, along with some of our State moneys, we've been able to build a health

institute, where we're able to start students at a CNA, certified nursing assistant, going to an LPN and an RN. We couple that with some moneys that we get from the State in a program called I-BEST, I think it's Integrated Basic Skills and English as a Second Language. But with that money we're able to hire two instructors. We hire an instructor to teach the content of the class, and they also teach the language. That way, the students can get through the program sooner than if they took the language classes first and then took the vocational program second. That's an example of how we've utilized moneys from the Federal Government, as well as the State, and how that has helped us to get the job done.

I just want to say one thing about—I think it's been mentioned—about the baby-boomers and the retirement. That is so true, because many of these individuals who are working with us, they're saying, "We cannot find people for the jobs." And it's going to get worse, because we have more people retiring every year, of those baby-boomers. I'd just like to say that we have the high school students, and we concentrate on that, but, as well as that, we have, in the State of Washington, 1.4 million individuals who are between the age of 25 and 49, and these are people without—they either have a high school degree or less. These are students that, somehow have to come into our colleges to get the training, be retained, and graduate in these programs so they can help out the industry. That 1.4 million is the equivalent of 10 years of graduating classes for all of the high schools in the State of Washington, and so, with those graduating classes, they will not meet the need—those coming through that pipeline. So, we have to find a way to educate that other group that's out there. In addition to that, many of these individuals, if they do not get the education, we may have to pay in a negative way, in the prisons or in some other way.

I'm just pleased that we're together today to try to talk about these solutions of how we're going to solve the problems of our skilled workers.

Thank you.

[The prepared statement of Mr. Mitchell follows:]

PREPARED STATEMENT OF DR. CHARLES H. MITCHELL

Good morning. My name is Dr. Charles Mitchell and I am chancellor of the Seattle Community College District. I am pleased to be able to appear before the Subcommittee on Employment and Workforce Safety to present the perspective of the Seattle Community Colleges, as well as the community and technical colleges of Washington State.

I would like to first start by providing some background information about Washington's 34 community and technical colleges and their role in Washington State's economy. To give you a sense of the scope of the role of community and technical colleges in Washington's higher education system, in Fall 2006:

- More than 250,000 students enrolled in Washington's community and technical colleges (the colleges serve approximately 500,000 students annually, or about 60 percent of all students enrolled in Washington's higher education system).
- Almost 86,000 of these students were enrolled in workforce education courses. Workforce education students were older (median age 29) with almost 36,000 students enrolled full time (42 percent).
- Almost 65,000 students were enrolled in academic transfer programs. Transfer-bound students were typically young (median age 21) and enrolled full time (about 60 percent).

- Approximately 33 percent of transfer students and 14 percent of workforce education students were enrolled in pre-college courses to improve their math, reading, writing or study skills.
- Approximately 20,000 students were enrolled in basic skills training.

When we look at our workforce programs, we see the critical role that community and technical colleges play in Washington's economy. In responding to workforce needs, community and technical colleges offer a broad array of programs. They range from traditional transfer degree programs to highly sophisticated technical training programs that prepare students for high-wage jobs, to basic education and English as a Second Language (ESL) courses. An increasing number of our students are "reverse transfers": people who have completed baccalaureate programs and decide to enroll at a community college to pick up specific occupational skills in order to work in new occupational fields.

At the Seattle Community Colleges, we educate more than 50,000 students annually at our three colleges, a vocational institute and five specialized training centers throughout Seattle. With more than 2,400 faculty and staff, we are one of the largest operating organizations in Seattle, providing a significant economic benefit to the region. We prepare students to successfully transfer to 4-year institutions, successfully enter the workforce, gain basic skills training, and continue life-long learning.

We pride ourselves in our focus on diversity and are leaders in addressing the educational needs for students of color. Seattle is highly diverse, with residents reporting more than 100 different ancestries and speaking multiple languages. Reflecting this diversity, almost half of the students at the Seattle Community Colleges (49 percent) are students of color and we transfer more students of color and international students to the University of Washington than any other higher education institute.

I would like to turn now to four key issues that I submit to the Subcommittee for consideration:

1. Current and future employer needs for highly skilled workers in Washington State;
2. Pathways that engage students in high school, prepare them for postsecondary education and career training, and lead to family-wage jobs with good benefits;
3. Successful partnerships that help youth gain career-building skills and that develop a supply of highly skilled workers for employers; and
4. Ways the Federal Government can serve as a catalyst in making connections between high school and post-graduation opportunities for students.

#### 1. CURRENT AND FUTURE EMPLOYER NEEDS FOR HIGHLY SKILLED WORKERS IN WASHINGTON STATE

Washington is the Nation's leading State in international trade per capita, with one in three jobs tied to international trade. We are truly a globally competitive State in that we export three times as much as the average State and our total trade is more than two times that of the average State. Washington's economy is a leader on many measures, including our favorable business climate, level of innovation, and attractiveness to new business ventures and start-ups.

While we enjoy one of the strongest economies in our Nation today, our industries and businesses are experiencing severe shortages of skilled workers in key industries, impacting our economic prosperity. Jobs in demand requiring a community college level education include computer support specialists, health care professionals, aircraft manufacturers, mechanics and service technicians, and those working in the construction trades.

As the subcommittee's research noted, this past spring there were more than 87,000 open positions and 148,000 unemployed people throughout Washington State. This shortage of skilled workers will continue to increase due to demographic changes, in particular, retiring baby boomers and an increasingly diverse population with greater educational needs.

In 2005, more than 22,000 Washington employers (11 percent) had trouble finding workers with either a professional-technical certificate or 2-year degree. In particular, employers say that skills shortages were hurting their businesses by limiting output or sales, lowering productivity, and reducing product quality. And one-third of businesses report that the skills required to adequately perform even production or support jobs had increased over the last 3 years and that the need for workers with postsecondary training will continue to increase.

Some level of postsecondary education is now necessary for a job that pays a living wage. At a minimum, research by the Washington State Board for Community and Technical Colleges has shown that 1 year of postsecondary education and a cer-

tificate is necessary. Compared with students who earned fewer than 10 college credits, those who took at least 1 year's worth of college-credit courses and earned a credential had significantly higher earnings, up to \$8,500 more annually.

Our community and technical colleges play a critically important role in addressing these issues and ensuring that we have a skilled workforce. We see this in our efforts to make sure that every student is ready for college. Within 3 years following high school graduation, about half (47 percent) of all high school graduates have enrolled at a community or technical college in Washington. We have more work to do, however. Compared with other States, Washington ranks poorly in the percent of students enrolling in college directly from high school and in the percentage of ninth graders who complete an associate degree or higher.

We know that we face challenges in filling those jobs that require specialized skills unless our colleges and our business industries make major investments. Better preparation for high school students is one part of the solution, yet training more high school graduates alone will not meet Washington's job skills gap.

Now, our challenge is that in Washington we have 1.4 million individuals between the ages of 25 and 49 with a high school degree or less. This is equivalent to 10 years of graduating classes from all of our public high schools. Many of the individuals in the cohort of 25–49 years of age are people of color and people with ESL instructional needs. These are the students that we are working with and it is imperative that we are successful in bringing these individuals to our colleges and enrolling them in our workforce programs.

## 2. PATHWAYS THAT ENGAGE STUDENTS IN HIGH SCHOOL, PREPARE THEM FOR POSTSECONDARY EDUCATION AND CAREER TRAINING, AND LEAD TO FAMILY-WAGE JOBS WITH GOOD BENEFITS

Washington's community and technical colleges have undertaken a number of initiatives to improve student pathways, including pre-college courses, the Transition Mathematics Project, the Running Start program, the Opportunity Grant program, and the Integrated Basic English and Skills Training (I–BEST) program. We have comprehensive articulation agreements with our 4-year colleges and institutions and are one of several States to offer 4-year applied baccalaureate degrees at our community and technical colleges. The Federal Government also plays an important role through the support provided by Department of Education programs and the Department of Labor's Community-based Job Training Grant.

Despite increasing demand for skilled workers with postsecondary training or education, recent high school graduates are not prepared to take college level courses and about half of all high school students entering our colleges require pre-college (or developmental) coursework. While the need for pre-college education programs at the postsecondary level is a significant policy issue, pre-college education is indispensable, given the overall level of the Nation's educational system today and the demographics of the college population. It is important to remember that pre-college programs serve far more than just recent high school graduates, and that the need for remediation is not always reflective of the quality of current high school education.

To address the need for better college-level math preparation, the Washington State Transition Mathematics Project (TMP) has designed standards with teachers and faculty from high schools, community colleges and universities to help students meet admission requirements and avoid remediation.

Washington's highly successful Running Start program allows high school students to begin their college studies while still enrolled in high school, greatly shortening the time required to earn a postsecondary degree. At the Seattle Community Colleges, we are pursuing these and other articulation initiatives with the Seattle Public Schools to successfully enroll high school graduates in our vocational and academic transfer programs.

In the last legislative session, the Washington Legislature provided enhanced funding for two highly effective programs that get students into the workplace: the Opportunity Grant program and the I–BEST program. Based on Georgia's successful Hope Grant Program, Opportunity Grants provide educational access and support for low-income adults to progress further and faster along demand career pathways. Opportunity Grant funding is used to provide eligible students with tuition and fee waivers, books, childcare support, and a variety of student wrap-around support services.

The I–BEST program is an effective instructional approach that pairs ESL/adult basic education instructors and professional-technical instructors in the classroom to concurrently provide students with literacy education and workforce skills. For instance, North Seattle Community College's I–BEST Accounting Paraprofessional

program provides practical training to prepare ESL students for work as book-keeping, accounting or office clerks. Students will receive support from ESL faculty while they complete four quarters (62 credits) of accounting and business courses. Similarly, South Seattle Community College has a large immigrant student population seeking job skills training. To address the needs of these students, the college has developed innovative health care job training courses that infuse ESL instruction into the curriculum.

Comprehensive articulation agreements also support students successfully transferring from our community and technical colleges to 4-year institutions. Almost 500 Seattle District students transferred to the University of Washington Seattle campus in 2005–2006 and about 12,000 students transferred statewide to 4-year institutions. This is a significant pipeline for first-generation college students, low-income students, and students of color. Statewide, students are transferring from community and technical colleges into high demand fields: 39 percent of math, science, engineering, engineering tech and computer science baccalaureates, and 55 percent of math and science teacher baccalaureates are 2-year college transfer students.

In addition to hosting 4-year university degree programs at our campuses, another important initiative at our community and technical colleges is applied baccalaureate degrees. South Seattle Community College is one of four community and technical colleges statewide authorized to offer an applied baccalaureate degree in Washington State. This initiative will further enhance pathways for students to gain the higher education skills needed to succeed in high-demand occupational fields. Other innovative programs include Seattle Central Community College's participation in the Lumina Foundation's Achieving the Dream program, and development of a new Employment Resource Center at North Seattle Community College that will co-locate several State agencies to support better integration of employment, educational and social service providers.

Federal programs are critical to community college initiatives to improve student success. The Department of Education's TRIO program is an important resource that provides early intervention and support services to encourage disadvantaged youth to complete high school and enter college. All of our colleges have benefited from the TRIO program. Seattle Central Community College has participated in the TRIO Student Services Support program since its inception and the colleges also participate in the Upward Bound and Talent Search programs. For instance, each year the TRIO Talent Search program provides educational opportunities to more than 600 6th–12th grade school students from seven schools in the Puget Sound region. More than 3,500 students have benefited from the Talent Search program in its 7-year history at South Seattle Community College. We have also received Federal title III funding to increase the number of ESL students transitioning into college-level coursework. Title III funding has been critical for non-native English speakers to succeed: 85 percent of the nursing students at South Seattle Community College were enrolled in the ESL program. In addition, many community colleges are also deeply involved with their local school systems through the Department of Education's GEAR UP program. Finally, the Seattle Community Colleges receive significant financial resources under the Perkins Act to support career and technical education that prepares students both for further education and for the workforce.

Another Federal program, the Department of Labor's Community-Based Job Training Grant, has provided \$2.8 million to the Seattle Community Colleges to train more than 700 students in high-demand health care occupations. The capacity-building program will have long-term positive effects for our health care programs. As you can see, Federal support is a critical component of our workforce development strategy.

### 3. SUCCESSFUL PARTNERSHIPS THAT HELP YOUTH GAIN CAREER-BUILDING SKILLS AND THAT DEVELOP A SUPPLY OF HIGHLY SKILLED WORKERS FOR EMPLOYERS

As I have discussed, we have extensive partnerships with our public schools, universities, workforce development agencies, Federal agencies, and business, labor and industry partners. In particular, community and technical colleges in Washington State have close relationships with business, labor and industry through our program Technical Advisory Committees, through close coordination with our workforce investment system, and through professional organizations, associations and State economic development agencies.

Recognizing the need to fill high-skill, high-demand occupations with qualified workers, the Washington State Legislature allocated significant high demand funding to community and technical colleges statewide in the right areas—science, technology, engineering, math, health care, and manufacturing. This included funding for an additional 700 FTES statewide and 55 FTES for the Seattle District. At the

Seattle Community Colleges, we are using high-demand funding to respond to critical shortages of skilled staff in health care through our Health Care Education Institute and building successful career pathways for our students in a variety of high-demand fields.

#### 4. WAYS THE FEDERAL GOVERNMENT CAN SERVE AS A CATALYST IN MAKING CONNECTIONS BETWEEN HIGH SCHOOL AND POST-GRADUATION OPPORTUNITIES FOR STUDENTS

Several trends affect how we deliver training and instruction:

- Globalization and increasing international competition—nations with strong educational systems are going to be the ultimate economic leaders;
- Rising skill requirements across the economy, ranging from manufacturing to professional services—jobs that pay a living wage increasingly require postsecondary education;
- Rapidly increasing costs of education—rising costs of tuition, textbooks and living costs are far outpacing income growth in a period when advanced skills training and education requirements are increasing; and
- Increasing diversity in our population—Washington State will become increasingly diverse, with the highest growth rates among first generation students and students of color.

In response, community and technical colleges are:

- Restructuring instructional programs and classrooms to keep pace with global trends and new learning modes;
- Launching new teacher-training partnerships with 4-year colleges and universities to support student success;
- Searching for new funding streams to ensure our students have the resources they need to successfully meet these challenges, especially first-generation and low-income students; and
- Developing innovative instructional programs that focus on first-generation and non-English speaking students with effective ESL instruction. The Seattle Community Colleges are leaders in offering health care training using this method of instruction.

I would commend to the committee the need to more closely examine these trends, examine how Washington's community and technical colleges are responding innovatively to these issues, and consider Federal support for our efforts.

Congress plays a critical role in identifying and supporting programs that have been proven to increase the success of community and technical college students. The Federal TRIO programs, created within Title IV of the Higher Education Act of 1965, are educational opportunity outreach programs designed to motivate and support students from disadvantaged backgrounds. Their intent is to provide equal educational opportunity for all Americans regardless of race, ethnic background, or economic circumstance. As I noted previously, we have several TRIO programs underway at the Seattle Community Colleges; unfortunately, the programs have not received sufficient funding to keep pace with inflation and rapidly increasing higher education costs. This has resulted in drastic program cuts in staff development, student support services, and other program costs, with a likely reduction in program enrollment rates. Increased support is essential to maintain the quality of this highly effective program.

In addition, funding provided through the Department of Labor Community-Based Job Training Grant has allowed the Seattle Community Colleges to substantially increase our capacity to serve students in high-demand health care training programs. Designed to build long-term capacity, these Federal resources are a critical catalyst in addressing long-term workforce development needs and we hope the program continues. And continued support under the Perkins Act is vital to the long-term success of our career and technical education initiatives with our K-12 partners.

Finally, I would like to point out that the singular importance of Federal financial aid and the need to make it more accessible for workforce-bound students. A recent study conducted by the Washington State Workforce Training and Education Coordinating Board found that the financial costs of tuition, fees and living expenses, coupled with lack of information about training opportunities and financial aid, were the greatest barriers to student success.<sup>1</sup> I would recommend that Congress

<sup>1</sup>The report, *Workforce Education Financial Aid and Student Access and Retention*, may be retrieved online at: <http://www.wtb.wa.gov/Documents/Tab5-WorkforceEducationFinancialAid.doc>.

consider ways to further consolidate and simplify the delivery of workforce education financial aid.

In closing, at the Seattle Community Colleges we are “democratizing education” by promoting diversity and excellence for all our students . . . whether it’s an immigrant learning a new field while undertaking English instruction, a transfer student intent on earning a baccalaureate degree, a dislocated worker seeking job retraining, or a retiree preparing for a second career.

Thank you for your invitation to speak to the commission on behalf of Washington’s community and technical colleges. I am happy to answer any questions that you may have at this time.

Senator MURRAY. Thank you very much.

Well, thank you, to all of our panelists. We have some tremendous institutional knowledge here from many different aspects, as we’ve all heard, from education, from business owners, from labor, from workers, from young people themselves. I think it’s really clear why this hearing is so important and what we hope to learn from it.

We cannot afford for a third of our young people today to not graduate, and not have the skills they need to enter the workforce. We need every single one of them, for our businesses to expand, to grow, and continue the needed economic stability in our region. Businesses need to work with us to make sure students have the right skills and that we are educating young people in those identified skills.

For me, the most important thing is showing every young person out there that there is a pathway to success. We don’t just have the 50-year-ago model that said you went through school, graduated, went on to college, or not, then got a job. We have to find a way for every student, as Meisha pointed out, to find the right career path for them. It’s a tremendous challenge for us.

I’m holding this hearing as a way to begin to understand what some of these challenges are. I will continue to hold hearings around the State and will be using what I learn from here to work at the national level and make sure that our national policies and resources are being used to meet these needs.

I hope to throw out some questions to our panelists here and for those of you who think you can contribute, please feel free to answer.

Let me start by asking all of you, from your individual experience, whether it’s an employer or a student, whether it’s a worker, yourself, or whether it’s clients that you work with or programs that you work with, what are the barriers that you have encountered finding skills training for yourself, for an employee, or for your clients, or whoever you work with? What are the barriers there to getting the proper skills training for jobs we know are out there?

Let’s start with you, Kris.

Ms. STADELMAN. Well, I want to say, first, that I think we know what works. I think, on the demand side, we have learned that it really is about the connection of the employer with the industry and with the company with education that makes a difference. But, on the other hand, the barrier is that it’s generally one school at a time, one company at a time, one industry at a time, personality-based, based on the person who really drives that connection. Bob Markholt, from PACT, is a perfect example of a program that is highly integrated with industry, and that’s why all of his students

wind up in apprenticeships and with good jobs. But, without him, I'm not sure it would be the same. I think we lack a systemic approach of involving employers with education.

On the supply side, I think we know what works in helping young people, especially those at risk for homelessness, for dropping out of school, being in trouble with the law. What works is interaction with a single caring adult and also experience on the job or knowledge of what a job might be, seeing themselves in a job someday, whether it's an internship or work experience or whatever. We know that that works. But the resources keep getting smaller to deliver that case management, that person who's going to help them with structure, find the tutor, give them encouragement. I think we, at the WDC, do a really good job of that, but last year, Senator, we only served 870 young people, the smallest number ever. Now we know, because of the Federal budget, that number is going to get smaller again next year. Resources to deliver what we know works is our barrier.

Senator MURRAY. Others?

Bob.

Mr. DREWEL. Well, just following up on Kris's comments, it's an access problem, either to community colleges, to apprenticeship programs. I would suspect there is not a person here, an employer, our friends from organized labor, educators, or students who wouldn't agree with the comment, if you had greater points of access, if you had resources that could be deployed in a fashion, perhaps, with less strings attached to them, because there are a lot of constraints that come with these dollars, that we would do away with the problems of not having enough nurses, but we know that community of medical colleges have many more applicants for nursing programs than they can possibly meet. I think the situation just grows in community colleges, in engineering programs. They're programs that cost something. Well, the future ought to cost us something if we're going to be successful. I think Kris's theme—and I'd be pleased to hear from our friends from labor here on the apprentice programs or—how many applications do you have, and how many opportunities do you have to respond to them?

Senator MURRAY. Yes, Mr. Veliz.

Mr. VELIZ. An invitation to the table on inclusion, Mr. Drewel is talking about. It's—in the aerospace industry—and that's what's worrying, as far as mechanical engineering and being around for 10 years in this industry. I started my career 27 years ago, at Atari. Most of you guys don't know that, but older folks—us—we know what Atari is.

[Laughter.]

So, a lot of years working in the high-tech industry. Of course, someone who brought me here was mentors who basically grabbed me by the shoulder and neck and said, "Stay in school and finish and move on."

But, the biggest challenge—as I have said, it's an invitation to the table on inclusion. Here's some of the things that I wrote down about what that means.

We need to find a way to strategize with our youth today in our school system, the same way we strategize in the business industry. Yes, we have a need for a more inclusive workforce, and we

need corporations—we need small businesses that are going to actually reach out to these mentoring and intern programs. But, what's the vehicle? The vehicle is the pipeline, the pipeline that comes from the larger corporations. It is not the government's responsibility, it is not the corporation's responsibility. It's the strategic plan of all us having to put this plan together and say, "OK, you know, if"—I'm just going to put a name out there, just because it's there—"the Boeing company." Here, we have this incredible industry. It's a company called the Boeing company, who, globally, is our wow factor for Washington State. OK? So, they go and sell planes all over the world, they open plants all over the world, because they have to—that's their core competency, selling planes. They have to. Well, we also need to make sure that we have the backfill of that pipeline for the small corporations in Washington State which feed our school system, which feed you guys out there. That's the pipeline.

Here's an example. Snohomish High School, where J.D. came from—what's the program?

Mr. OSBORN. It's the precision machining and CAD.

Mr. VELIZ. OK. Several million dollars of high-tech—they can run their own company from Snohomish High School. They can build their own airplanes from Snohomish High School. That's how powerful this high school is. But they're producing individuals that are coming out of the high school system into the college system that are much more advanced. True?

Mr. OSBORN. True.

Mr. VELIZ. Here's this—

[Laughter.]

Mr. VELIZ [continuing]. This path—here's this vehicle that we have in our access today that—are we plugging into it? No. Are we creating models that match that around the State? No.

Tulalip Tribes. Did you know that the Tulalip Tribe today has the bandwidth to compete or surpass Comcast? Are we plugging into them? No. It's a different topic. But there are struggles there. OK? We can talk—we can discuss that.

Mr. HARRISON. I want to build on it. I think that's absolutely right. The vehicle, then, for making sure what you're arguing should happen happens is much richer, vital partnerships between individual companies, groups of companies, and school systems. I was just going to add a little painful part of that. Navigation One-on-One is the new instrument that the school systems are supposed to use to help get a kid on a path. Right now—so far, at least—that's working; it could be wonderful, but it works better, I think, in terms of which college do you want to go to than it does with which other career or technical opportunity you might want to advance. We have got to figure out a way to get the companies of Washington into the school systems of Washington in huge new ways. For a kid—"kid"—for a young person, there's got to be some kind of new light that goes off. There are 100 different ways to meet the needs of that kid.

Mr. VELIZ. No, I disagree with that.

Mr. HARRISON. Pardon.

Mr. VELIZ. Excuse me. I disagree with that. When our youth come to our schools every single day, there needs to be a door that is inviting—

Mr. HARRISON. You're agreeing with me. I'm not—

Mr. VELIZ. Well, I want to—there's something that you mentioned there that I don't agree with that—

Mr. HARRISON. OK.

Mr. VELIZ [continuing]. It has to be inviting, in a sense where the students are engaging with the administration that either are bilingual, that can actually relate to our students that are walking in the door. Again, it's that invitation to the table, and it's inclusion, right? What we have today in a lot of our areas, in our schools, which is going to continue unless we change something, and it's going to hurt all of us as we move forward, whether we like this or not—what's happening is that we're lopsided. We have the—whether it's the African-American or the Hispanic community or the Asian, these islanders, or the tribes around the State, they're wanting to come into the system, they're wanting to be a part of the table. But we're on the back end for our administrators, we're not bringing enough of the matching and kind of—

Senator MURRAY. So, we're not—

Mr. VELIZ [continuing]. Bringing that flow.

Senator MURRAY [continuing]. Inviting everyone to the table.

Mr. VELIZ. Exactly. And we need to do that, because—

Senator MURRAY. You're talking about students themselves?

Mr. VELIZ. Well, we need to have for example, an administrator—if I'm in the class, and I can mention—there's a couple of high schools in Snohomish County that I think we have like, 70 percent of minority students, and less than 5 percent of the administration is minority.

Mr. HARRISON. Let me add one thing to that. I agree with that 100 percent. While we're setting—it's another missing dimension, and that is, when you're 14 or 15, you're developing an idea of what you want. What you're saying is, have people there that can help you do that. I think we have work to do there. We're also sending the signal that career and technical pathways are not—we're not sending the signal that they could be pursued effortlessly and beneficially. Right now we have a big tension over grade 11 and year 12. Director Stadelman said it perfectly, it's "both/and"—we want rigor, we want relevance, we want academic preparation, and we want relevance for career and technical skills. Right now in our WASL focus, our understandable WASL focus, we have the danger that we kneecap career and technical education on a regular basis, and we've got to stop that.

[Applause.]

And we can stop that.

Senator MURRAY. Rick Bender.

Mr. BENDER. Yes. Senator, I want to follow up with what David said. The reality right now, we're not doing a very good job in our K-12 system with our counselors, advising what the opportunities are for young people, besides just going on to college. Not every student wants to go on to college when they get out of high school. But we've got to provide them the information that they need to make good choices in terms of pathways, where they can make a

good living with benefits and retirement security. We also need to take a look at our approaches. We can't just teach the WASL. For example, Retinville Tech has produced a text that is construction math. How often do we hear from young people that, "I'm never going to need that math once I graduate from high school?"

[Laughter.]

Well, what this does, it translates what you need to know in mathematics to be a skilled carpenter or a skilled plumber/pipe-fitter, or a skilled sheet-metal workers. We need to take a different approach, in terms of embodiment of a different pathway so that these students can get involved and engaged in a career that they want, and understand what the requirements are going to be—

Senator MURRAY. So, you're saying that the curriculum itself in schools is a barrier to students seeing those other career opportunities.

[Applause.]

Mr. BENDER. Yes. It's directed toward going to college. That's great, and I support that very strongly. But the reality is, that's probably not the best way to teach a lot of young people, where math is not really a prime interest of theirs, but they need to understand that math does play a role in various occupations and careers that they might want to go into, and then teach it from that approach.

The other problem that we have, too, I think, in the K-12—or whole system—it really isn't a seamless system. We want it, but it isn't. I had a chance to go to Germany and take a look at their apprenticeship programs, and I had a chance to visit Siemens Corporation, which is a multinational corporation, very big. They train 10,000 electrical apprentices every year, but they have a system, where, if they so desire, they get 50 percent of the—those who complete their apprenticeship program get an opportunity to go on to get an electrical engineering degree. We don't have that. We have to start all over again, once you go through your apprenticeship and you become a journey craft level, if you want to become an engineer, you have to start from ground zero, and that's a barrier. We need to take a look at a system that's more seamless.

Senator MURRAY. Mr. Allen.

Mr. ALLEN. Yes, for a more holistic view, I think that a real barrier that speaks to all of this is—and I see it in my kids' schools—is that we need to have a societal paradigm shift in how we're saying what a career is to kids. We don't have any employees at McKinstry that we don't view as having a career path, from the building trades—we have building trades people—"I've done that for 4 years, I'd like to get more into the building operation and the computer side of it. How do I do that?" We don't have any strata on who's better than anybody else at the company. If what you say about passion drives a successful career, I think a view of what's out there would stimulate the passion, which would then work toward a career. I think we're trying to get into the middle schools with the plumbers and pipefitters trade—to get the families at the table so that we tell—and there is a certain amount of illusion—I have to be careful with this, because we hire 4-year college graduates a lot—there's a certain amount of illusion that a 4-year degree can get you to a higher wage—family wage—faster than not

doing that. I'm telling you right now, well, I'll go on the record, I guess—the building trades people that work for us make between \$75,000 and \$120,000 a year. A 5-year apprenticeship, if you went in at 18, you'd be 23, you're making journeyman wage. I'm telling you, you could take some time off and settle for \$90,000.

[Laughter.]

I'm not advocating you tell your kid, "Don't go to Harvard, because you could be a plumber." What I'm saying is, there's a lot of cool things about building trades, about manufacturing, where they're having trouble with getting people into manufacturing, because all of us adults have told kids that manufacturing is an assembly line on the Ford Motor Company in 1930, and it's dirty and you get hurt, which is not true anymore. I just want to have some truth spoken in middle school and high school about——

Senator MURRAY. Well, let me ask the students. Is there a pressure feeling, beginning early on, middle school, that if you don't have a 4-year Harvard degree, then you're not a success in our society?

Mr. OSBORN. To an extent, yes. Ever since I've been young, people have told me that you need to have that piece of paper, that's what gets you to the job and secures you when layoffs come and everything else. For me college has been holding me back, so far, at Everett Community College. I'd like to take a class in green technology or sustainability or anything like that, but, instead, I'm having to take courses like this quarter, where I'm taking a CAD class, where I'm learning a software that I've been using for 4 years already——

[Laughter.]

Mr. OSBORN [continuing]. In industry and in high school.

[Applause.]

And it's holding me back, and it's making me pay for classes that I don't feel are useful to me.

Mr. VELIZ. May I, please? Just to be clear, we hire degreed engineers. I mean, we have some of the best engineers that come from——

Senator MURRAY. So——

Mr. VELIZ [continuing]. The automotive industry——

Senator MURRAY [continuing]. We need that.

Mr. VELIZ [continuing]. Aerospace, scientists. We have some of the best. Of course, our young J.D., here, he seems to be the "Wonder Boy."

Mr. OSBORN. They call me "Wonder Boy" at work.

Mr. VELIZ. That's right.

[Laughter.]

Senator MURRAY. Let me hear from this side over here. Yes.

Mr. GULLIOT. I'd like to make a comment of what we were talking about earlier, the apprenticeship programs. I had mentioned, earlier in my introduction, that I represent the utility workers, but I'm also a secretary-treasurer for the Washington State Electrical Association, which we have 21,000 electrical workers. Now, just take this room here, and imagine this is our workforce. In 10 years, take 60 percent out of it. That's our problem. We're trying to get apprentices. The building trades did a great job in getting that apprenticeship issue. The problem that we have in the utility side is

that the employers aren't hiring, because they have—it goes back to the 1990s, when deregulation came down. The first thing the utilities did to survive was to cut training, cut all the fat out of the system. We have been going along, and generation has gone up 30 percent, our infrastructure is in a mess, to be honest with you—and it's gone up 30 percent, but the workforce has gone down 27 percent. Now, that sounds like you're getting a lot of stuff done with a few people, and that is correct. These few people are working tremendous amounts of hours to keep your system on. Believe me, right now, electricity is a drug, because as soon as it goes out, you guys start calling us.

[Laughter.]

No question about it. And it's the linemen, it's the electricians, the people that install our solar panels. I mean, there's all sorts of work for us. Not everybody in this room needs to go to college, especially in our industry. It's nice. But if you get into K-12 and teach these students, yes, there's a certain level of math in our industry, but primarily it's on-the-job training, but you have to have that certain math. If you don't have that math, there's nothing we can do for you. But, as mentioned earlier, if you get into this program, in 4 years you're pulling down 65,000 bucks, that's pretty good.

Mr. HARRISON. Senator, one of the exciting things about this is all these things are true, that is, we need more and better high school graduates who stop right there. We need more and better people with 1 and 2 years of technical training. It's a big gap. And more and better college graduates. If you could get that done by a couple of weeks from now—

[Laughter.]

Senator MURRAY. Tomorrow.

[Laughter.]

Bob, earlier, you were talking about 10,000 more slots needed at our universities. That's really expensive. Our State legislature just cannot implement that tomorrow, because you have to hire all the instructors, arrange the classroom space, all those things. Some of what I'm hearing is, there are a lot of pathways to success that we could coordinate. Maybe you don't necessarily need to get a diploma today if you're getting some career training, or if these career skills can translate into some of those needed college credits. Are we working on that at all?

Mr. DREWEL. Yes. The issue of seamlessness has come up, the issue of how it is we get students to talk about these opportunities. I think, just to sum up this part of the conversation, and I'm going to give you plenty of time—you've been so patient here—we talked about access points. We're just talking about lining up these access points and making sure that the resources that we now have, individually, are shared in a collective fashion.

Second, the whole issue, if you will, of the 10,000 new degrees, the State did step forward in this legislature—and the Governor—and, at the expense of \$93 million, funded these baccalaureate degrees. But the community colleges, per capita, got more of that investment, indeed, than did the 4-year institutions. The reason is, it is a point of access. Dr. Mitchell commented that if—40 percent of the transfer students go on the 4-year schools. You can't develop

the types of industries I chatted about earlier if you don't have laboratory technicians, if you don't have the individuals who really understand how this works.

I hope that gets to the point, but what I'm hearing here—and, unfortunately, crisis has become an overworked term, certainly at this stage of this country's maturation—but, at the end of the day, when you hear figures of not having individuals to keep the lights on, keep the water running, and conversations of that nature, I think what you've launched here today is this discussion about, How do we give the citizens of this country an opportunity to maintain the country, to advance their own careers, and provide for a stable society? There isn't a person at this table who wouldn't argue that education is the answer to that, and we just simply have to meld these access points together, and we have to be smarter about how we do it.

For the students in the room, we need to get out of the "telling you how to do it" business and getting into options so you can experience what it is that you might be able to do in the future.

Senator MURRAY. Mr. Seaman.

Mr. SEAMAN. Thank you. First of all, I want to comment on Rick's comment about the WASL. It's really true, I think, that if you could do one thing that would improve test scores in the WASL, it is to show students that the material being tested is relevant to their lives. That would solve almost the whole problem with the WASL, in my view.

On the issue of barriers, I run a small company—and Kris can probably tell you, I'm not very good at theory, but I am good at reality and—

[Laughter.]

Mr. SEAMAN [continuing]. Reality, for me, is the Seattle area, because that's where our business is and where I've been doing it for 32 years out of 101 years of the company's existence. What I see as the barrier in Seattle for young people—the biggest barrier is, frankly, the K–12 system here. That's not to say that there aren't great teachers and administrators in the Seattle school district, and that they aren't doing terrific things. But, as a whole, I just don't see that system serving a lot of these kids well. I mean, first of all, there's a very high dropout rate. But even some of the kids that don't drop out don't find themselves in—it's one of the reasons why the average age in a place like this is 30 instead of 19 or 20, is that we're not serving them well in the K–12 system.

One of the big specific barriers I see there in Seattle—and I know this isn't always true elsewhere, there's been examples of where it's not true, here today—is that we really need a full-size rigorous—for old-fashioned term, "vocational high school"—skills center, if you want to call it that now, whatever you want to call it. But we need a really committed one, where both the academic and the vocational skills are held in high regard and taught well, because a lot of kids will learn better in that system—in that kind of situation. I think that if we had such a school, first of all, it would probably serve as a model for one or two more that we could use in this area, and it would probably further serve as a model for how some of that curriculum could be better adapted into the other high school curriculums. Another example where it's not

working well is, as Dr. Mitchell says, the community colleges, which by and large are doing a pretty doggone good job with the kids, are spending a lot of time doing remedial work, because that's what they've got to work with. They're doing a pretty good job of it, but they shouldn't have to be spending their resources on it.

I would advocate, in this specific area anyway, that a barrier is the lack of that kind of vocational training in the K-12 level.

Mr. MITCHELL. I would agree that we need, especially in the Seattle area, some type of skills center. They do have them in some of the other colleges.

The other problem with that, and I don't blame the WASL for everything, but—

[Laughter.]

Mr. MITCHELL [continuing]. But one of the things—and we've kind of created this monster, where all of the schools are measured on how those students perform on the WASL. Sometimes that can be a detriment. If you look at the funding of the budgets—and say you're a high school principal, and you get so much money based off of—if students have the free lunch, you get more money, and so, you have a set amount of money, and you're measured on how your students fare out in the WASL. And so, you have a program—say, a vocational program that's—and they're more expensive to run, because of equipment and so forth. Where are you going to put your money? What's happening—there's no incentive of putting that money into the vocational programs, and that's the reason that we would like an option, if we're not going to have them within the schools, that we would like to have a skill center.

Senator MURRAY. Well, without putting words in anybody's mouth, it sounds to me like we have focused our education system on specific skills testing, through WASL and other things, when what we need is a more diverse education system.

Mr. MITCHELL. Right.

Senator MURRAY. Pathway to success that allows people to be able to—

Mr. MITCHELL. Especially—

Senator MURRAY [continuing]. To be successful in many different ways.

Mr. MITCHELL. Yes, especially, you have a school district with close to 50—more than 50 percent students of color, low-economic households, and so, many of those students, if they're just measured by how they're going to fare out as a college transfer student, then we're losing a lot of those students, because they don't have that alternative to go into one of the vocational programs, because many of the schools have dropped those programs, just because they're more expensive to run.

Senator MURRAY. Bob, last comment on this, and then I want to, kind of, change topics.

Mr. DREWEL. Thank you.

I'll be very brief.

Again, we're returning to this flexibility and access issue. But, in the absence of a teacher here on the panel, some of us have been, on some occasion—and this idea that what happens in our K-12 systems gets laid off at the feet of the educators, I think, entirely too often. When you began the panel here today, you were looking

for a broad-based response, and particularly on this question, What's the barrier? Well, I think there is a problem with a decline in resources, that has been referenced here, that if we don't address them through this hearing and other efforts—for a couple of decades, this country asked teachers to do everything but teach. We sent them children who were just plain hungry, instead of hungry to learn; we got into the business of not-safe environments at home; we took that biggest building in the neighborhood—a school—and made it not the community center anymore, but just the biggest school—just the biggest building in the neighborhood. We've got to help teachers, we have to help administrators, we have to help these young folks have those Formica-kitchen-tabletop conversations about the future again. I remember, when I was growing up in this neck of the woods, somebody had that conversation with me a number of times, about, "You know, you might want to go to work for the Boeing company, or you might want to do this, or you might want to do that." Those were meaningful conversations, because the resources and opportunity were there. What you've launched today is an opportunity to reassess that inventory, not only of financial support, but community support and get this business of literacy into the literacy of education so that this region can continue to grow.

Senator MURRAY. Well, thank you. When I spoke, at the very beginning, I talked about the skills gap that we have, the fact that we have 87,000 job vacancies, and 164,000 people looking for work. If all of you could take a minute and define for me, from your perspective, What are the skills or requirements that we're missing? What are we not getting in our education system that businesses actually need? I would broaden it a little bit—all of us need to call a plumber or an electrician sometime in our lives, and boy, try doing that right now, it's almost impossible. From some of your different perspectives, what are some of those skills that we are missing today.

Mr. HARRISON. Senator, the annual survey that the Workforce Board does with its partners surveys Washington employers, and it focuses, as you might expect, on both harder technical skills, specific technical skills, and their absence. Employers are faced with not hiring the job at all, because specific technical skills are not present. But there's a lot of attention in the employer survey on what has, I think, unfortunately, been called softer skills, having to do with basic computation work readiness and so forth. I know you've thought about that, as well. On the Workforce Board, we've worked with some national partners and developed what we're calling a work readiness credential. There are some other efforts to try and certify a job seeker with regard to their work readiness, so that employers who might be concerned that work readiness is absent, could get more comfort. The issue there is, of course, How do you teach and advance work readiness? But the survey does show that skill gap is not just specific technical skills, but readiness to work.

Senator MURRAY. John, Aultman.

Mr. AULTMAN. I think that when you change the conversation from, earlier, what the academic skills that we're lacking, and when you ask the employer, on the other side, it ends up to be the soft skills, the ability to show up to work, be on time, "I'll train

them, I'll go from there," but there's a blend in between. It's that combination of the technical skill and the academic skill and the chance for career and technical ed to demonstrate the academic skill and give credit for that academic content through cross-crediting as a method of delivery, other activities around that. But the biggest skill, when parents come in, is—my last 7 years as a director of a skill center in Tumwater, at New Market—parents would come in, and they would say, "Johnny's not doing too well, so we're going to bring him over here and put him into one of these programs." Their parents may have only known about carpenter, plumber, cook, or mechanic, and that was their perception of that. But the student's perception was more around the 10 highest growing occupations: the healthcare, the clinical scientific pieces, the computer science, the things that engaged him. The skill piece there is one piece, but then the knowledge gap is the other piece about what's available for both parents and students, is probably the largest gap that, as an educator, we find.

Senator MURRAY. Mr. Allen, you—

Mr. ALLEN. Yes, just real quick, on the soft skills, I'd just like to report, I checked with our vice president, who—we were in a hiring frenzy for 3 years, at all levels. There's clearly a gap, in the last 20 years, especially, with communications skills. The point is, the people that do well, no matter if you're a machinist or an engineer or an apprentice or a carpenter, the best—the people that are the most—have the best ability to write, to present their position, to communicate—and I think that goes back to school's fundamental fear of teaching a lot of the softer skills, even the vocational skills, because the maths and sciences has been such a—with Google and Microsoft and Intel and Dell and all these guys, there's this huge illusion on math and science, not that it's not important, but I'm telling you, we're hiring—this is our vice president—we hire best available athletes. She's—what she means are people that are sitting in the interview that are interested and enthusiastic and can communicate themselves. I go to my son's high school, Bellevue High School. I asked the principal last year, I said, "How many kids take debate? How many English classes actually have group working sessions where everyone has to speak and present their position? How much of that stuff's going on?" And he said, "Not enough." And I think those are the soft skills I've seen.

Senator MURRAY. On this side.

Mr. DREWEL. There seems to be one new entry into the calculus, as well, and that's—this is the subject of creativity. I've just heard from a number of employers at all levels—and I think we used to call it something like "Send us people who can think," which sets the bar relatively low. But—

[Laughter.]

Mr. DREWEL [continuing]. This idea that you have the ability to be creative and that we provide an educational environment as you come up through the learning process, that there is some value in this creativity, whether you're hanging a line or whatever the issue might be. We're hearing that more and more. We're also hearing—

Senator MURRAY. Are we losing that in our education system—

Mr. DREWEL. Pardon me.

Senator MURRAY. Are we not teaching that? Are we losing that in our—

Mr. DREWEL. Again, I don't know enough about this subject matter. I would defer to the experts. But what we're hearing is that people need to think differently about today's problems in the workforce. To do that, they have to have come from an environment that spawns this sense of creativity, that there are other ways to get to the end solution, other than the way we've been doing it for the last X number of years. I don't know if there is a creativity bend in the K-12 system or not.

Mr. AULTMAN. I can respond to that. There was—as one of the outcomes of Washington Learns last year, creativity was one of the goals that was added to that, so that all of your applications, if it's in a healthcare area, you might be solving a world issue, or you take that on as a real-life issue, just like was mentioned earlier. If it's in the computer science area, it may be a game design that is combined with math, science, and graphic arts. DigiPen Institute of Technology just had their first graduate out of a high school program. The student had about 3 months to decide which job he wanted as he graduated. It was one of those tough decisions, which one best fit his need. So, creativity is coming back in. It's not just the drill and application aspect of it.

Senator MURRAY. I would tell you that this is a little bit disconcerting to me, being on the committee that is going to reauthorize No Child Left Behind, creativity has not been a word that has been put on the table. I appreciate that knowledge. Thank you.

Other comments? Rick?

Mr. BENDER. Senator, just one comment. I think there's been a number of studies done, though, that a good teacher in the K-12 system can tell you by the third grade who your dropouts are going to be. That's why I think that the Governor's initiative on early childhood education, and really concentrating on those early grades—because once they start falling behind in those early grades, those are the students who are not going to make it through the system, and they're going to have a tough time getting a good family wage job with benefits. I applaud those efforts, because I think we really need to start concentrating, focusing on, and figuring out ways to get those young children up to standard so they can make it through the system. Otherwise, if you just pass them on from grade to grade, and they can't read or write, or don't have the basic math skills, they're not going to be able to make it in any kind of technical or apprenticeship program, let alone go on to college.

Senator MURRAY. Yes, Mr. Seaman.

Mr. SEAMAN. Thank you. I agree with the folks here that talked about the soft skills and the work readiness skills as being necessary, especially for entry-level positions. I think it goes beyond that, when I look at this, too. Because I also agree with the folks that say we need to do more, in terms of the academic and technical skills. But I would say that those work readiness skills, those soft skills that make a person equipped for an entry-level position—say at my plant—are exactly the same skills that the student needs to learn the academic skills. If they don't have the commu-

nication skills, the teamwork skills, the sense of responsibility, you're not going to be able to teach them the academic skills.

I think all the young people need these work readiness skills. I think it's the foundation of everything.

Senator MURRAY. Dr. Mitchell.

Mr. MITCHELL. Yes, I just want to go back—I know we talked about this whole math problem, but I just don't want us to get off of that, because, when I look at many of our students, students coming in from high schools and students trying to get out, we have so many students, that they might have a B average in English and the other skills, but they cannot do the math. Some way—and I agree with Rick, it would be better if we had that at K-12, where they would grasp the math at an early age. But that's a huge challenge for us. Because there are so many students that come in that are taking developmental math and spending a lot of time in that. I think that's something that we really need to concentrate on.

I agree with Rick, too, that it should be more of applied math, but, wherever you go in the industry, you have to know some math. We have to find a way to improve the teaching and learning in math.

Mr. HARRISON. Senator, this is playing out right now in the discussion over meaningful high school graduation requirements. It's being voted upon by the State Board of Education, the newly reconstituted board. The discussion is over third-year math and whether there is an advanced algebra alternative that is rigorous and relevant and meets curriculum standards, and how those would be reviewed. It's what the workforce community, education community, and corporate community is working on right now. The Perkins connection, of course, is, you've tightened, in reauthorization, a lot of the focus of Perkins and ended up making resources available for programs of study and curriculum improvements, and we're trying to use some of that money here to work on what that third year looks like, because it's so critical in all these discussions.

Senator MURRAY. Carlos, can I come back and ask you—you were saying that some of the students—and J.D.'s a good example—are beyond what even the colleges are teaching, or high schools are teaching. Can you talk a little bit about some of the skills you see that we're missing, as an employer?

Mr. VELIZ. I agree with the soft skills, and that's why I wasn't commenting, because these were good comments on the soft skills. The only one that I could have added to that was industry-centric. The education they're receiving on a daily basis, is it industry-centric? Yes, we had, landscapers and plumbers or electricians, but again, it was very minimal, or things that weren't a part of what our core competency is. In my opinion, I think those industries like that are good in some other State—Idaho or Wyoming or something like that—where maybe there's not a whole lot of industry, like Washington State. I think that the fact that the students are kind of being held back—or not coming out with soft skills—is an issue, but it's also being fueled by the lack of—and we get back to the very beginning here—is lack of inclusion, because, again, there has to be some excitement of “why I'm here today” at this institute or at the school or what have you. When I have students every year

that have come through our company—and I think we had, what, five last year? About five? I think we probably average four to six students a year that come through our—

Senator MURRAY. Now, do you go out to the high school to find those students or—

Mr. VELIZ. Middle school.

Senator MURRAY. To middle school.

Mr. VELIZ. Middle school. Every single year, I have two middle schools run about a dozen or so students through the summertime, and we have two sessions, so we have about 24 to 30 kids come through our office, and we sit there and try to understand where they're at, where they're going, and what their passion is. Then we follow them, or we invite them to our Student of Color Conference that is being held at the Everett Community College that we started 5 years ago. It's interesting, because here we created this program called the Student of Color Conference, where we give out scholarships and we invite, all these kids from the local high schools and middle schools. We have great sponsors. Our hat goes off to the Boeing company, Microsoft, and Starbucks. But isn't it amazing, though, that we have to create this Student of Color Conference, that probably should have already been in place by, maybe, the career center, reaching out to all these communities? But yet, it takes two individuals to reach out to 500 kids in the local county to bring them in.

Again, I think it's part of that inclusion, of knowing what your assets are in the community, and then plugging into them. I just don't think we're doing that. That kind of goes hand-in-hand with these lack of soft skills that they have, coming to us. We spend our time trying to go out to the middle schools—we just went, a couple of weeks ago, to a high school and spoke, together, by an invite of a teacher that's seen the interest of what we were doing. And they said, "You know, these guys, they're not a large company, they're a small company, but they're sure interested in supporting"—

Senator MURRAY. J.D., how did you hear about this? How did you get involved in this?

Mr. OSBORN. Carlos came to my Intro to Engineering class my first quarter at Everett Community College, and gave a speech about what his company was doing. I personally wanted to be a designer, so I chased him out the door and grabbed his business card, sent him an e-mail the next day, got invited in for an interview, and then got a job.

Senator MURRAY. All right. So, you were self-promoting yourself.

Mr. OSBORN. Yes.

Senator MURRAY. Let me turn to Meisha. You've described to us a very rough beginning to your career, and some really difficult challenges that you overcame. There's a lot of young people out there exactly like you. A lot of them. You had a little bit of personal gumption to get to where you are. How do we reach all those other young people who are just like you out there?

Ms. NASH. I don't know. I think that a lot of information is really just not out there. I had no idea that I could return to school after getting my GED. I happened to pick up the newspaper one day—and usually I don't pick up the newspaper, but—

[Laughter.]

Ms. NASH [continuing]. I did, and I saw that article, and it was really interesting to me. I don't think that the information is out there. I think a lot of kids don't know that they can come back after they've been out for periods of time.

Senator MURRAY. What would have been a good way to reach you if you hadn't lucked out and read a newspaper one day?

Ms. NASH. I'm really not quite sure. I don't watch TV, either. But a lot of people do.

Senator MURRAY. So, we need to do a better job of communicating?

Ms. NASH. Yes.

Senator MURRAY. I think Carlos said it—of reaching out and finding those kids, and picking them up. That takes—

Ms. NASH. Yes.

Senator MURRAY [continuing]. Individual work, right?

Ms. NASH. The information really just isn't out there for random people. You have to really be looking for it to know it's there.

Senator MURRAY. David, talk to us a little bit about how you found your path here.

Mr. STEINHOFF. Well, it's exactly like how he said. You go into the career office, all you'll see is college brochures, this, that, and your technical and your vocational and your apprenticeship offers are kind of shoved in the back, covered in dust, and—

[Laughter.]

Mr. STEINHOFF [continuing]. Two years old. It's exactly how he says, you've got to go in and you've got to look for it, if that's what you want.

Senator MURRAY. Is that how you—

Mr. STEINHOFF. And that's—

Senator MURRAY [continuing]. Found the program?

Mr. STEINHOFF. Yes, that's exactly how. I went into the career office looking for a job. I knew I didn't want to do McDonald's and didn't want to work at a grocery store, so I wanted something a little bit more. They pulled out these three little brochures that were in the back. There was Bonney Lake Power and a Bates program, and then the Get Electrified Program. Like I said, that was a year old, so it's really about getting the programs out there. I've heard that it's gotten a lot better and that they're—like, mainly the union, the IBEW—is sending a representative to the schools and preaching about the apprenticeship programs and the offers that they have.

Senator MURRAY. When do we need to start doing a better job of reaching out and finding students and helping them find an alternative path to success?

Mr. STEINHOFF. I'd have to say probably the middle school. I think that that's the perfect time to, before they start realizing everything and what they want to do. It's a good time to put the idea in their head, because, as I said, it's all about college, from the high school I went to, and even after I was in this program, they called me into the office and asked me why I didn't take my last college requirement. And I said, "I'm not going to college."

Mr. BENDER. Senator, if I could comment.

Senator MURRAY. Yes.

Mr. BENDER. One of the problems that we're facing in this country is, there's a stigma that, somehow if you don't have a 4-year degree or higher, you're a second-class citizen. We've got to overcome that. I think we need to get the information out there that there are some tremendous opportunities for young people that pay a good family wage job with healthcare and with pension, that you can live a good life. The other issue, too—what I find is so frustrating—when I'm asked to speak to the K-12 system about opportunities. They'll send me to an alternative school, and they won't let me speak to the main student body. I'm very happy to talk to alternative schools; I want you to know that.

[Applause.]

But I would like to be able to talk to the main—I mean, the streamline—the mainline students and let them know what opportunities are there out there for young people who may not want to go on to a college, but want to have a good career down the road.

Senator MURRAY. Mr. Allen, I heard that figure of 90,000 that you were talking about. Tell me how we do this better.

Mr. ALLEN. Well, exactly, I was going to say the same thing. It's in the counseling office. Middle school is a good place to start getting kids out to the shops and out to the businesses and see what happens in the kitchen of a restaurant. I mean, there's all these great culinary jobs coming out of here, and it's just—I'm telling you, I sat with my son's counselor, in ninth grade—they gave it by alphabet, so you know who you got—and it dawned on me, I've got 1,000 employees without 4-year degrees, and probably 200 of the 500 office workers don't either. And I'm sitting here, and they're not saying one word about what you're talking about or what you just talked about. I just can't believe we can't institute in this country a dual opportunity counseling option so the counselors do—maybe you bring in counselors that specialize in tracking the trades and the career paths.

The last thing I want to say is, it is unfair—the stigma is forever—it is unfair to say that 4-year equals career, because I have lots of friends now whose kids are calling me, wanting to come down for an interview, that have a 4-year liberal arts degree from a small East Coast college. Now they want to figure out what the heck they want to do, and I don't think that that's wrong, either, doing that, if you opened your mind. But I'm saying we need to get the counselors and the educators having the mental paradigm shift and not—to destigmatize things.

Senator MURRAY. Mr. Allen, so you know, I've introduced legislation, and been working on it for 4 years now, trying to get academic counselors into our middle schools to help students find a career path, because most of our counselors today are focused on the social challenges that they have within their schools, as they should be. I think we need a completely different person who's focused on academic counseling.

Mr. DREWEL. Senator, we have a wonderful opportunity in this State—it's Senate bill 5731. It was a result of the work that Prosperity Partnership did. The quid pro quo for the \$93-million investment in the very programs that we're talking about is that we have to come together and develop a program of, How do we get into the middle schools, how do we get into the high schools, how do we

have these opportunities? I'll certainly talk with your staff about that.

Senator MURRAY. OK.

Carlos, you had something you wanted to add.

Mr. VELIZ. Thank you, Senator.

Again, I just want to add this, just for the record. The equation that I believe we should probably look at is that small business is the asset to, in my opinion, our educational system. The corporation's asset is a small business. If we can find a way to improve that to the small businesses that are here, and that will be listening or reading—feed our pipelines so we can go do our due diligence in the community, the way we enjoy doing it, because we are closest to the community where we live. That big building in the community, that Mr. Drewel was talking about, we feed that. We have to feed it, because those are our employees, and those are our families that we associate with daily. But we also need the support of that pipeline from the corporations, and since you're a part of that committee, you know the government contracts that are available out there for small businesses that—and even ourselves that are here—we're too many thousands of miles away from DC. to have access to those. That's obviously a different topic. But, again, those are the things that will help us be better stewards to our local community.

Senator MURRAY. David Harrison, you had a comment?

Mr. HARRISON. Senator, I just wanted to note that we sometimes make it sound like these pathways are distant from each other. Ms. Stadelman's "both/and" comes to mind again. That is, the career and technical pathway and the B.A. pathway are near each other and have to be caused to intersect when it is the preference of the learner, going forward. We have to do a better job of creating the consistency of curriculum to make that possible over—that's what, of course, the applied baccalaureate seeks to do, and we have to make it possible—for someone who's selected a technical training path to circle back, if they wish, to the baccalaureate, and you need to expect more from us in that regard, too.

Senator MURRAY. I'm going to go to Don and then to Dr. Mitchell.

Mr. GULLIOT. First of all, I'd like to congratulate the young gentleman down there that joined our ranks with IBEW. I also admire his courage for taking the position that, "I'm not going to go to college. There's something else I want to do." There is a valuable need for apprentices in our program. I can certainly assure you of this; a bachelor's degree, associate degree, that does not make you a journeyman in our trade. You're going to have to go through an apprenticeship program, simply because of the hazards of our trade and the on-the-job training that we have to do—and you have to be standing next to a journeyman to do that. I have a real fear in our industry, the electrical industry, because of the manpower shortage, that the employers are going to start pushing to shorten the training program. That bothers me a lot, because they have failed to train.

But, once again, not everybody wants to go to college, and some of them can't afford to go to college. There is a family wage job out there, if you get into an apprenticeship program.

Senator MURRAY. You've identified a concern of mine, as we reach this crisis where we need skilled employees in a lot of different places—air traffic controllers, for example, who are retiring dramatically, and we still haven't trained replacements. We don't want to get to a point where we're rushing education and skills and creating unqualified employees.

Mr. GULLIOT. Right.

Senator MURRAY. Putting all of us at risk in many different ways for a lot of different reasons. We have to be very careful of that.

Mr. GULLIOT. Nationwide, Senator, we're probably—in our journeymen classification for the utilities, we're 90,000 people short, and we need them today. We can't fill the jobs today.

Senator MURRAY. And we don't want somebody untrained doing that.

Mr. GULLIOT. That's true, absolutely.

Senator MURRAY. Dr. Mitchell.

Mr. MITCHELL. Well, David was trying to say something, so I wanted him—you'll have your comment, and then——

Mr. STEINHOFF. I was just——

Mr. MITCHELL [continuing]. I'd like to go after David.

Mr. STEINHOFF. I was just going to say that the IBEW program that I went through also offers the option to go to Pierce College and pick up your A.A. degree, as far as your electrical training counts as all your core classes, and then you just go back and take a couple of math and English classes and you can get your A.A. degree through the union.

Senator MURRAY. So, it's not an either/or——

Mr. STEINHOFF. Yes.

Senator MURRAY. Right.

Dr. Mitchell.

Mr. MITCHELL. Yes. I had a comment. Earlier, when we opened the comments, we were talking about some of those students that are performing the lowest, and many of these are African-American students, Hispanic students. It goes back—when we talk about this negative stigma attached to vocational or professional occupation programs, that still dwells within the African-American community, as well. An example of that—even the church that I attend—and we give scholarships out each year, and I sit back—and so, if a student got a scholarship and they're going to Seattle Central or South or North, get a little applause, and then if they're going to the University of Washington or Harvard, they get a loud applause. A lot of that, frankly, is because—I know when I was in the Seattle school district and I wanted to go to the University of Washington, and the counselors were pointing me to a vocational school—many of the parents from that age, or some of the kids, react negatively to vocational programs and don't realize the wealth that's in it, the salaries that you can make. And so, we have a job to do, not only stigma within the schools, but within our community and the parents. The parents make a big decision as to the direction of where those students are going. That's one of the things that I've tried to do personally, as well as our schools, is get that word out there that these are great professions to go into.

Senator MURRAY. Right.

Well, we are at the close of the time that we've been allotted here, and I have to say this has been a very fascinating and dynamic discussion. I'm excited by the fact that a lot is going on in our State. I think we are really beginning to focus in a very positive way on bringing together our businesses, labor, students, and our education system to address future opportunities.

My goal, at the end of the day, is for all the young people out there to know that we want each one of them to be a success and that there is a way for them to be a success in a career that is important to them. We all have a lot of work ahead of us. We've identified a lot of the challenges ahead of us. We have identified a lot of the paths that we need to start looking at. I certainly will be using this hearing, back in Washington, DC., to look at ways that the Federal Government can better support what is happening here, be a better partner, and move us in a better direction.

This is just the first of several hearings that I intend to have on this issue as chair of the Employment and Workplace Safety Subcommittee. I hope that the excitement I feel today from all of our participants is something that will help motivate our entire country to really make this a priority. I intend to use my position to help with that.

I want to thank all of our panelists again today for your participation.

[Applause.]

I want to remind everyone who's here that the record will remain open on this committee. We appreciate anybody's willingness to write a comment. Again, my staff is outside, ready and willing to take those comments.

I especially want to thank Bill Kamela, who's back here behind us, my staff from Washington, DC., who's helped organize this. Bill and his staff have done a tremendous job in putting this hearing together, and will continue to work on this issue. Bill, thank you, to you and all of your staff.

With that, this official hearing is adjourned. Again, I want to remind all of you, your participation is important. Please don't hesitate to comment.

Thank you.

[Additional material follows.]

## ADDITIONAL MATERIAL

PREPARED STATEMENT OF DAVE JOHNSON, EXECUTIVE SECRETARY, WASHINGTON  
STATE BUILDING & CONSTRUCTION TRADES COUNCIL, AFL-CIO

Honorable Chairwoman Senator Murray and members of the committee, for over 50 years the Washington State Building and Construction Trades Council has represented the interests of building and construction trades affiliates in Olympia and within local communities. Our affiliate unions have worked together to build communities and educate highly skilled craftsmen and tradeswomen for over a century throughout Washington. This effort exists within each State across the Nation as well. Throughout history and in classrooms and on the job today, expert professionals in their craft continue to educate youth through apprenticeship in construction.

Unfortunately, over the past two decades apprenticeship and careers in construction have suffered an unfair negative image, and at the least, been forgotten as a career path for college-level attainment that provides stability and value for individuals and families within our communities.

Quality constructors, both as skilled crafts and contractors, are local economic infrastructures that must be maintained to actually construct local public and private development and improvements. In-sourcing workers and management to perform these vital functions simply weakens a State or communities ability to thrive. Any financial gains recognized would be short sighted lacking economic strategy; now obvious in our difficulty to supply quality contractors or sufficient numbers of skilled labor to meet workforce and infrastructure demands before us today and in the future. In 2005, the National Bureau of Labor Statistics released a report projecting that nationwide *185,000 new apprentices would be needed per year for the next 10 years* to meet demands of our industry. Washington's future needs for skilled constructors are expected to be greater than the national average.

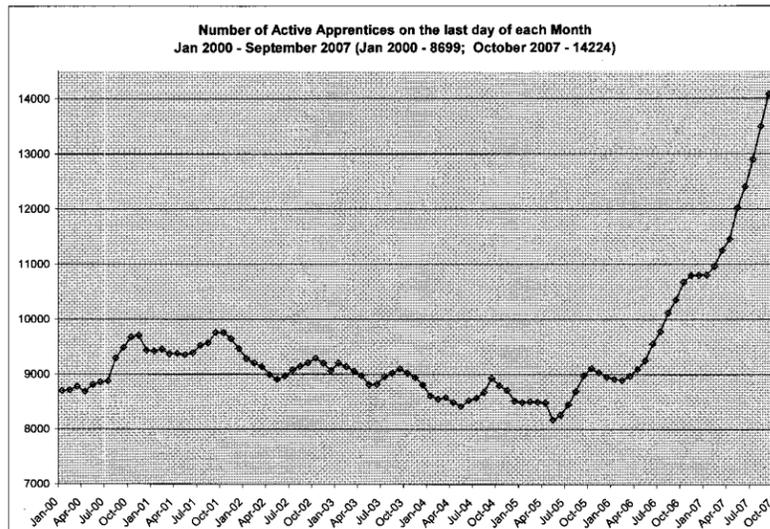
Successful education partnerships have been in place between management and labor in the construction industry through Joint Apprenticeship and Training Committees (JATCs) working together to educate the next generation with the latest techniques and technologies in our construction professions. Affiliates of the Building Trades and signatory Contractors have worked diligently to reconnect with K-12 and our community college systems and universities to return construction and the trades through apprenticeship to the minds of educators, parents and especially students. We support our Career and Technical Education community and their efforts to help us rebuild the bridge for students to transition into rewarding careers within our industry.

Washington State is the first in the Nation to systematically build into law apprenticeship utilization statutes that require the use of apprentices on public works construction. The attached chart indicates a direct correlation between the enactment of these State laws and the increased number of apprentices entered into State-approved apprenticeship programs. In fact, most of our JATCs are now working at capacity year round filling educational facilities with the newest generation of quality constructors. The efforts of the JATCs are primarily private schools, funded by labor and employers, affording our facilities, educators, equipment, tools and curriculum. Support from government funding is appreciated, but most programs feel greater support from our State and Federal Governments, as partners in community and economic development, should be increased for qualified apprenticeship programs. Apprenticeship is a proven educational and workforce investment worth increased support.

Federal WIRED Grants are one example to bring best practices together to support economic development within regions. We wisely utilize the support from our Federal and State Governments, but we'd welcome increased partnerships to support our JATCs. Apprentices young and older have transitional needs to succeed in the trades; and addressing the retention demands of apprentices on JATCs is an issue that could be further explored with increased support for students of all income levels. Raising a family within the demands of our industry is not easy. Understanding that wages are good as long as our members are working and the need to keep projects in the works to maintain quality constructors within local communities must remain in view to provide solutions. In closing, supporting the awareness and value of our industry's successes for individuals, contractors and community and economic development to K-12 and higher education communities also needs support from government to inform the unaware and to change the negative perspective that currently exists in some districts.

I invite you to visit our Web site at [www.WaBuildingTrades.org](http://www.WaBuildingTrades.org) to make contact with our local JATCs, to view the DVD message marketed to increase student

awareness of apprenticeship and to take a copy of our “*Apprenticeship: The Original Four Year Degree*” packet to your high school to help reach potential quality constructors within your community.



PREPARED STATEMENT OF PAT MARTINEZ JOHNSON, KING COUNTY  
WORK TRAINING PROGRAM

I am a youth educator and employment professional with 30 years of experience working with at-risk youth. I work for King County and have been a program designer and manager and a partnership builder for 20 of those 30 years. I currently coordinate a learning center—Learning Center North. Learning Center North is a collaboration of Shoreline Community College, King County Work Training, Seattle-King County Workforce Development Council, and the Shoreline School District. The center effectively reengages 16–21-year-old high school dropouts and helps them move on to advanced training and/or employment.

EFFECTIVE DROPOUT REENGAGEMENT

1. Approximately 30 percent of the youth who start high school do not graduate. The options open to these dropouts are limited. If these youth are not reengaged in education, our potential and needed workforce is severely depleted. We lose skill, productivity, and potential at an enormous economic and social cost. This situation is exacerbated by the astronomical costs of the services that high school dropouts often end up needing in terms of public assistance, mental health services, or incarceration.

2. Many high school dropouts will not return or cannot return to high school. This can be true for many reasons: Their skills are too low; their behavior records too severe; their lack of success too personally overwhelming; and/or their personal barriers too great. Bottom line, at some point, they are too old with too few credits to go back to seek a high school diploma. Again, remember the 30 percent number.

3. Effective programs exist that offer GED Plus. These are programs that usually involve a community-based organization, school district, or college as well as employers. Individualized instruction, case management or mentoring, a focus on basic skills remediation, GED preparation, and assistance in transitioning to college and/or work are provided. These programs offer the only hope for a significant number of dropouts who are not going to return to high school and are not ready for college.

4. Workforce Investment Act (WIA), grant, and local funding are key funding elements for these centers but State Basic Education funding has to be the foundation. The major obstacle preventing the establishment and continued existence of GED Plus programs is “No Child Left Behind.”

5. “No Child Left Behind” (NCLB) says a GED is a negative outcome. Students who are reengaged in education, attain their GED and go on to short- or long-term training and employment are considered failures by the Federal standards of “No Child Left Behind.” School districts and States do not want these negative statistics.

6. “No Child Left Behind” needs to be changed so that GED is either a positive outcome—as it is in federally funded WIA programs or, at a minimum, students who attain their GED’s need to be taken out of the denominator for NCLB when dropout rates are calculated for schools, school districts, and States.

7. A GED alone should not be used to measure student success. GED Plus programs should also be measured by the extent to which students make measurable gains in key basic skills areas and the extent to which youth transition on to apprenticeship, professional technical advanced certificate or degree programs, or to traditional college or employment.

8. States and school districts need to be encouraged and sanctioned to build, support, and fund networks of GED Plus centers with public education dollars as the foundation and other leveraged funding and partnerships as key components. These should not replace all the critical efforts to prevent youth from becoming academically at risk and all the efforts in place to keep our youth in school through graduation and beyond. But the white elephant in the room needs to be recognized—not all students do or will get their diploma and we cannot afford to lose these youth either.

#### WORKFORCE INVESTMENT ACT FUNDING

1. The Workforce Investment Act (WIA) youth program funds have been steadily deteriorating—year by year—for decades. These funds, and the programs that operate with these funds, are critical to supporting and helping low-income, at risk youth achieve key benchmarks in basic education, work readiness, skills training, higher education, and employment.

2. WIA funding for youth needs to be maintained or, ideally, restored to the levels that existed under the Comprehensive Employment Training Act (CETA) or the Job Training Partnership Act (JTPA).

3. Programs funded through WIA build and rely on partnerships with business, labor, school districts and higher education. These programs provide needed intensive support to youth with multiple barriers. They provide long-term follow up and transition services. Programs funded through WIA have to meet tough, specific performance measures related to employment and education and retention if they are going to continue to receive funding.

#### PREPARED STATEMENT OF BOB MARKHOLT, PROGRAM DIRECTOR, SEATTLE VOCATIONAL INSTITUTE PRE-APPRENTICESHIP CONSTRUCTION TRAINING (SVI PACT)

##### INTRODUCTION

##### *Need for a Skilled Construction Workforce in the Puget Sound Area*

The Puget Sound region is in a construction boom. Private and public construction projects are creating a huge demand for new workers. Projections from Washington State Employment Security Division suggest there will be about 10,427 annual job openings in Washington’s construction industry over the next few years to 2014. According to the Workforce Board’s recent survey, employers are having difficulty filling current openings. Among firms attempting to hire construction workers, 71 percent had difficulty finding qualified job applicants—the highest reported percentage of any sector.<sup>1</sup>

##### *Need for High-Wage Career Training in the Puget Sound Area*

An increasing number of people are left out of the economic vitality of our region. This is part of a national trend (the growing income gap between the very rich and the rest of us) but it is also due to regional factors such as the high cost of housing and other living expenses, and a large high school drop out rate.<sup>2</sup> Additionally, much of society and the educational system are laboring under the false assumption that everyone will go to college. This has never been true in the history of the United States. Traditional forms of training, such as apprenticeship, are not touted

<sup>1</sup>From *High Skills, High Wages 2006*, Washington Training and Education Coordinating Board. The full report is at [www.wtb.wa.gov/documents/hshw06\\_fullreport.pdf](http://www.wtb.wa.gov/documents/hshw06_fullreport.pdf).

<sup>2</sup>Thirty-three percent of the high school class of 2001 did not graduate in Washington State. *Washington State High School Graduation Rates*, Manhattan Institute for Policy Research, 2002, funded by the Bill & Melinda Gates Foundation. [http://www.manhattan-institute.org/html/cr\\_27.htm](http://www.manhattan-institute.org/html/cr_27.htm).

as viable career paths in our schools, and most students do not know about the high-wage, high-demand career opportunities they provide.

#### *SVI PACT Construction Career Pathway*

Pre-Apprenticeship Construction Training (PACT) began in 1998 to prepare its graduates to enter construction trade apprenticeships. Over 150 graduates have become carpenters, electricians, laborers, painters, sheet metal workers, iron workers, cement masons, and plumbers.

Before they enrolled in the PACT program, nearly all were very poor and unemployed or marginally employed. Now, they are working at leading construction companies such as Mowat Construction, Hoffman Construction, Lease Crutcher Lewis, Merlino Construction, and Absher Construction. These companies will attest that PACT provides well-trained, dedicated and reliable employees. There are countless stories of PACT graduates whose lives have literally been turned around by this program. They are now paying taxes and building our city.

PACT has achieved these results by addressing our students' barriers to entry into construction trade apprenticeships and by forging strong partnerships with the apprenticeships, unions, construction companies and the community.

Since the majority of PACT's students are minorities, opening doors within the construction industry for people of color has been critical. Great strides have been made in this regard due to strong leadership in the building trades and a strong job market. Another key factor has been EEO and apprentice utilization requirements on publicly funded projects such as Sound Transit, Federal Highway Administration projects, and King County's Brightwater Sewage Treatment Project.

#### PACT FACTS

##### *Program Background*

- 90 percent of students graduate. Ninety percent of graduates enter a construction apprenticeship program.<sup>3</sup>
- Program training is focused solely on preparation for construction trade apprenticeships.
- Program is comprehensive: recruitment, training, support services, and placement are all done within the program.
- Program works with students to remove barriers to employment such as lack of a driver's license, poor math skills, poor job skills.
- Program expanded in January 2007 increasing capacity by 50 percent.
- The retention rate of PACT graduates in the building trade apprenticeships is 10 percent higher than the average.

##### *Students*

- 100 percent low-income
- 10 percent female, 90 percent male
- 26 percent immigrants
- 43 percent have been incarcerated
- Asian/Pacific Islander: 7 percent
- Black: 72 percent
- Hispanic: 7 percent
- Native: 4 percent
- White: 7 percent
- Other: 1 percent

##### *Advisory Board/Partners*

- PACT Advisory Board is made up of representatives from construction companies, labor, and the public and non-profit sectors.
- Articulation agreements are in place with most apprenticeship programs.
- Community and support service partners: Therapeutic Health Services, Unity House re-entry housing, TRAC Associates, DADS Program, Urban League, Apprenticeship Opportunities Project.
- PACT graduates are the largest source of recruitment.

##### *Challenges*

- One-third of program's cost is provided by community college district. The program must raise the remaining  $\frac{2}{3}$  of program costs.
- Keeping pace with construction industry demand for new workers.

<sup>3</sup> Statistics from 2004 through the end of 2006. In 2004 the program was reconfigured to its present length and curriculum.

## FEDERAL SUPPORT FOR THE CONSTRUCTION TRADES CAREER PATHWAY

The Federal Government can provide support for low-income people moving into high-skill and high-wage careers through a variety of policy and funding measures:

- Funding for training, including pre-apprenticeship training,
- EEO & apprenticeship requirements on federally funded construction projects, and
- Confronting the prevailing myth that everyone is going to college and providing leadership on post-secondary training, such as apprenticeship, that leads to strong skills and good paying jobs.

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ATTACHMENT.—JOHN COLLINS, JOURNEYMAN LABORER

## ***John Collins***

Journeyman Laborer



### **Before the Program - Summer 2004**

**Type of work:** unemployed

**Wage:** \$0

**Overview:** Finishing high school and on probation after spending two years in juvenile detention, but heading “back to the same old stuff.”

### **NOW - October 2007**

**Current Trade:** Journeyman Laborer, Local 242

**Current Wage:** \$26.00/hr, union benefits

**Overview:** Has worked for Lease Crutcher Lewis since his graduation from PACT in early 2005. He is working on the re-build of Garfield High School.

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### **What are your goals?**

I'd like to become a construction foreman. I like to keep busy. I enjoy coaching football, and I go and talk to high schools almost every week about the trades, unions and the PACT program.

### **What did PACT do for you?**

PACT helped me become sober and focused. Being with other people who were like me and the faculty's faith in the students motivated me.

### **What stands out when you think back on the program?**

When I was in detention I thought about how things were going to be different when I got out, but within two weeks of getting out it was all down hill. Then I met a woman who got me involved with community service coaching football and who took me to SVI. Getting into the pre-apprenticeship program is what made the difference for me.

## PREPARED STATEMENT OF SHEPHERD SIEGEL, SEATTLE PUBLIC SCHOOLS

Career & Technical Education is 21st century education. It will increase the number of youths who live meaningful lives, and it will rescue and strengthen our economy. Thus, all educators must bring fresh eyes to our calling, and to this pedagogy that serves virtually all learning styles. Career & Technical Education is about our young people's quest to continue building the world. It is about ethical business that serves our great society; human services that nurture the caring relations we all depend upon; media that increases communication and decreases distance in the global village; and the science, engineering & industry that will preserve our environment, feed our poor, house and transport us for all generations.

Who are the advocates for Career & Technical Education? They are citizens and parents, educators and employers, colleagues and mentors who want the best secondary education and the best and most meaningful lives for high school graduates. Not a self-serving special interest group but servants of community, who work for social justice that does not come without a foundation of economic justice. Not advocates of an obsolete or archaic *system*, but those ready to rip the shroud of an obsolete and archaic *stereotype* that gives way to a substance and style of education, retooled and reborn, ready to play a major role in 21st century secondary public education.

Two arguments dominate the landscape: CTE as alternative learning and dropout prevention, and CTE as the key to economic revival. Both arguments have merit, and together the poignancy that the kids in our school systems are pushing out are the ones who will save our economy and redeem our democracy.

While State after State moves into an educational landscape of standards based on the needs of humanities-based baccalaureate institutions (and subsequently come to doubt these high-stakes one-size-fits-all approaches), the emerging realization is of the need to offer students varied modes of learning, without relapsing into a tracked environment. The most reliable tradition of secondary alternative learning—one that with continuous improvement can provide all students with the context and hands-on approach that will lead them to academic and adult life success—is Career & Technical Education. The stories of students who finally mastered math, learned to write and speak clearly and with purpose, found a reason to stay in school, put history in a meaningful economic context, discovered passion, pride in product, and their career pathway . . . are endless. Leading models of small schools like *The Met* in Providence, New Jersey, synthesize the best of the independent study model of alternative schooling and the context and engagement of Career & Technical Education. It's a powerful combination with implications for every high school. And just under the surface of these academic successes is the true dynamic of the "holding power" of CTE.<sup>1</sup> That dynamic is fueled by the replication of our local community on the high school campus. That is, our students arrive in exceedingly diverse packages, and our teaching corps must reflect that diversity, not only as men and women, not only as being racially and culturally diverse, but our teachers must also represent the diversity of learning styles, and of the intellectual, visceral, kinesthetic, and streetwise wisdom that CTE teachers, schooled less so by universities and more by industries, bring to our high school students.

The second argument, equally valid, is that our country needs to increase the amount of and access to Career & Technical Education in order to reclaim jobs that are currently going offshore; to regain primacy in innovation and engineering; and to provide employers in all industries with workers who know how to craft, repair and build things, to care for and educate our young, to care for the environment and feed the hungry, to practice ethical and competitive businesses, to make our national economy strong and replete with meaningful and well-paying jobs. This "vocational" argument is often rejected out-of-hand, based not on data and research, but upon the folk belief that CTE represents a form of tracking, that it is racist in its 19th and 20th century roots (i.e., following the Industrial Revolution).

It is a life-and-death issue for our economy in particular and American society in general that this misunderstanding be resolved, that we learn, as other industrialized nations have learned, that dignity, gainful employment, intellectual challenge, and social justice are all to be found in the pursuit of non-baccalaureate educational paths that lead to anything from a career in automotive technology to child-care, from small business to teaching, from information or engineering technology

<sup>1</sup>See University of Minnesota, St. Paul, National Research Center for Career and Technical Education. (2001). Career and Technical Education in the Balance: An Analysis of High School Persistence, Academic Achievement and Postsecondary Destinations. Retrieved August 19, 2005, from the National Dissemination Center for Career and Technical Education Web site: [http://www.ncte.org/publications/infosynthesis/r&dreport/CTE\\_in\\_Blnce\\_Plank/CTE%20in%20Blnce\\_Plank.html](http://www.ncte.org/publications/infosynthesis/r&dreport/CTE_in_Blnce_Plank/CTE%20in%20Blnce_Plank.html).

to farming or sign language interpreting.<sup>2</sup> There is nothing racist in that. Quite the reverse. When vocational education makes a promise to oppressed minorities and then does not deliver on that promise . . . that is racist, and that was indeed the case in the early to mid-20th century. That is no longer true, and it is the responsibility of every CTE educator to ensure that it is never true again. Today, it is Career & Technical Education, CTE, that can and will deliver diversity and equity, and narrow the educational, skills, and citizenship gaps between the races, men and women, rich and poor, those with and those without disabilities.

A strong and sustainable economy will require millions of educated technical workers, child-care providers, schoolteachers, entrepreneurs, agricultural scientists, nurses, engineers, information technology professionals and the like. The myth that any kind of technical training focus at the secondary level repudiates educating citizens for active participation in a democracy, or that it “dumbs-down” literacy and numeracy skills has been disproved for decades by the success of European economies and nations who provide serious technical training to a populace more politically aware, more historically conscious, and more democratically active than Americans. Data consistently show that Career & Technical Education programs increase college enrollment and reduce dropouts, and do not negatively impact test scores.<sup>3</sup>

In other words, our responsibility is to do more than deliver on the career-related skills and standards found in our curriculum. We must also ensure that graduates of our programs are finding adult success. That is the only real accountability measure that matters. State exams pale in comparison to the truly high stakes of our commitment to prepare students for an adult life well-lived and prosperous, with not a single life wasted.

The way to accomplish this is through a rebuilding of our CTE programs in a manner that is fully integrated with the mainstream life of the comprehensive secondary school, or of each and every small middle or high school. Urban school systems have a unique opportunity to create varied, comprehensive, and robust CTE offerings that provide opportunities for all students, opportunities directly related to their adult lives as citizens, workers, scholars and lifelong learners. Unlike small rural or suburban systems, or a stand-alone small school, a large school system can create a full menu of CTE offerings, using economy of scale and making the most of the diverse interests and talents of an urban population. Unlike a vocational-technical center, technical high school, or regional CTE school, CTE in a large school system can be integrated with the academic life and educational pursuits of a heterogeneous population of students, reflecting the purpose and inhabiting the very highest ground of what a democracy can be: full mobility for student interest, full access to all aspects of an industry, full respect and dignity for all pathways that lead to a gainful and meaningful adult life.

There is a vital conversation about why large school districts have not always taken full advantage of this opportunity, but my purpose here is more to present a plan for how, given the will of our community—teachers, administrators, leaders, families, employers—our public secondary schools can become just such a place of comprehensive opportunity for all students. To build robust CTE programming that serves all students, every CTE course must be closely associated with career pathways. Every CTE class must have the necessary relevance, rigor, relationships and results.

When a critical mass of American educators are convinced that building such a CTE system is essential, we will need to find new and better ways to define Career & Technical Education, to put it into a language that leads to constructive dialogue and viable proposals that create the interdisciplinary teaching teams, the fun and valuable project- and community-based learning opportunities, and the 21st century high school that leaves no child without an exciting and meaningful future. There is a vital place for CTE in every high school. To that end, I am proposing a four-approach model of Career & Technical Education. These approaches are anything but discrete: they overlap and commingle in a rich swirl of purposeful and focused education that leads students to their passions, their minds, and their purpose. And all of these approaches can be found in the five broad categories, or pathways, which CTE uses to deliver its content and as a taxonomy to help young people get a grasp on the adult world they will soon enter:

1. Science, Engineering & Industry
2. Health & Human Services

<sup>2</sup>These pathways are frequently referred to as “sub-baccalaureate”, a more than unfortunate term. So long as the sub-baccalaureate career path carries the cultural stigma of a “less than” career course, we will continue to have a “sub-Asian” and “sub-European” economy.

<sup>3</sup>Plank, S. (2001). *Career and technical education in the balance: An analysis of high school persistence, academic achievement, and postsecondary destinations*. Maryland: Johns Hopkins.

3. Business, Marketing & Information Technology
4. Arts, Communications & Media
5. Agriculture and Environmental Science

#### APPROACH ONE: INDUSTRY CERTIFICATION

This is a critical approach to Career & Technical Education. As our Nation's workforce and economy create new and more technical/professional careers, high schools that invest in Career & Technical Education programs that grant marketable industry certifications will offer their students great benefits. This approach is the equivalent of what we in Washington State call *preparatory* CTE course sequences. This type of CTE provides *context and specific outcome*. These require the scheduling, counseling, equipment and facilities to sustain student enrollment over a 2- or 3-year period. In most cases, this provides students with advanced placement in community colleges. Research bears out that students in this pathway, contrary to popular belief, attend college at a high rate, and fare well in their careers and income levels. In 2005, Washington's State legislature began consideration of legislation whereby students could opt for certain industry-certification course sequences in lieu of taking the State's 10th grade exam. Demonstration pilots are planned. Examples of CTE Industry Certification routes include Cisco Networking; tech prep and other higher education articulations; pre-teaching/child care; pre-engineering (Project Lead the Way); and Automotive Youth Educational Systems.

#### APPROACH TWO: COLLEGE AND UNIVERSITY PREPARATION

These are CTE courses that function as providing a *context, but not necessarily an industry-specific outcome*. In other words, these CTE courses engage and interest students through their real world relevance, but the measure of each course's worth is its ability to prepare students for State exams and entrance into baccalaureate institutions. Virtually all CTE taught to standards is excellent preparation for college or other postsecondary education or training. These are CTE equivalents of core academic courses. Students benefit from the career pathway interest they provide, and from the opportunity to exceed academic standards through alternative learning modes, and in alternative contexts. These courses will help to close the achievement gap, and students of a wider range of abilities will be able to successfully reach for a 4-year college education. More importantly, they will develop strong learning and thinking skills. This approach to CTE is best exemplified by school system initiatives to cross-credit CTE courses with core academic courses (Applied Math, Pre-Engineering, Accounting, American Sign Language, Photography, Nutrition and Wellness, Graphic Design, Education, and Family Health are all good examples). The No Child Left Behind Act's definition of "highly qualified teacher," as it is currently written, unfairly limits what CTE can do for our students' academic achievement. That is, with few exceptions, teachers must hold a baccalaureate degree in the subject to be cross-credited to, in order for that cross-credit to count.

#### APPROACH THREE: CAREER ACADEMIES

Career academies are perhaps the most exciting and successful high school reform effort of the past 50 years. And their success in retaining students and launching them into positive post-high school outcomes is extensively documented by the research.<sup>4</sup> Career academies are defined as an integrated team of academic and CTE teachers. Students form cohorts who take at least half of their scheduled classes together. Classes revolve around a career theme. Students generally participate in job shadows, career conferences, mentoring, and student leadership activities in and out of the classroom. Paid summer internships help students connect the classroom activities and instruction with real-world experiences. While CTE in these academies less often lead directly to industry certification, the students are deeply immersed in all aspects of a particular industry, and they graduate able to pursue a variety of pathways, which most often includes a college education. In other words, career academies are examples of context and approximate outcome. Academies rely on strong and consistent support from advisory boards, and need the support of counselors and principals at their school in order to schedule and group students to provide a deep experience of the chosen career theme. Academies work so well because teachers come together with an emphasis of students in common instead of specific subject matter, i.e., academies are the original, contemporary small learning community. Academies also have the advantage of accommodating heterogeneous groupings of students, and data are now being collected on student outcomes. Se-

<sup>4</sup>See <http://casn.berkeley.edu/clearinghouse.html> for links to recent published research.

attle Public Schools has 14 career academies in six high schools.<sup>5</sup> They are in Architecture, Construction & Engineering; Biotechnology; Environmental Science; Finance; Global Studies; Hospitality & Tourism; Health & Environment; Information Technology; Maritime Studies; and Public Service.

#### APPROACH FOUR: THE ART OF CRAFT

This type of CTE, most frequently found in the *Science, Engineering & Industry* pathway, is the one that has taken the most serious beatings in high school reform debates. It is not organized around formal industry certification, nor the most common academic standards, and is unfortunately taught apart from the mainstream of the high school. It has *less specific context, and less specific outcomes*, which is what makes it, like art, so vulnerable in a standards-based educational environment. Yet there is a significant minority of students and graduates who will tell you that their experiences in just such “hobby” courses were the most important ones in their high school experience. That these classes gave them a reason to stay in school and not drop out. That their minds were opened to thinking and learning through the hand or the heart, in a way that other classes could not reach them. That they got started on learning in a way that DID lead to industry certification, a gainful career, and/or a college degree. That through the explorations in this woodworking, sewing, entrepreneurship, photography, or other CTE “craft” course, they went through a process of self-discovery that was essential to them finding their true and successful course in life. We may live to regret the rapid elimination of courses that take this approach.

A full and common grasp of these four approaches to Career & Technical Education will equip CTE teachers, administrators, education reformers, facilities planners, school board members, community groups, students and their families to look at high school reform in a fresh and grounded way. It will provide us all with the tools to continue to redesign our high schools to become centers of our communities where students do not drop out, where graduates have the skills, knowledge and direction our country needs in order to create a higher quality of living, and a place where students find their passions, their direction, and the power to provide value to their own community, their own family, their country and the world.

#### PREPARED STATEMENT OF LINDA TIEMAN, RN, MN, FACE, EXECUTIVE DIRECTOR, WASHINGTON CENTER FOR NURSING

As the population in Washington State ages, the caregiving population is aging too. The “Nursing Supply and Demand through 2025” study completed by the University of Washington Center for Health Workforce Studies under contract from the Washington Center for Nursing, indicates that must increase the numbers of RN graduates by 400/year, every year, from 2010–2025 to mitigate the shortage. The average RN in WA is 48.5 years of age, older than the national average age. The WA State Department of Labor continues to identify Registered Nurse as one of the top 10 professions with significant vacancies and continued growth of jobs; currently, they report ~5,000 vacancies. Supply and demand are the two sides of this equation.

#### SUPPLY

Our schools of nursing are able to accept ~51 percent of the qualified applications (actual applicants with duplicate applications removed from the count) into their programs. This number is approximately 700 individuals who, if accepted, would most likely complete the RN program and join our workforce. The limiting factor in the supply side of this equation is the lack of qualified faculty to teach nursing. Salary is the issue in this limiting factor; community college nursing faculty experience up to a 50 percent salary reduction if they leave the professional practice world and accept a teaching position. Even with adjustments for 9-, 10-, or 12-month contracts, this fact is accurate. Most report that their new graduates earn 40 percent more than they do when they begin working. The workload of faculty has been poorly documented but when one adds this to the low salary, it’s not surprising that Master’s- and Ph.D.-prepared nurses are not attracted to the educational world. In many cases, a nurse with the education to teach must wait until he/she retires from another role to begin teaching. While this individual brings important experience to their teaching, their “life” as an educator is much shorter than if he/she had begun

<sup>5</sup>At one high school, wall-to-wall small learning communities manifest as three career academies, and another is headed in a similar direction.

teaching earlier in the career. To attract younger, appropriately-educated teachers, the compensation must be competitive.

We know through a recent survey of our nursing programs that 83 full-time faculty will be retiring by 2010. Forty percent of the Deans and Directors of our programs are retiring in the next 2 years. Who will replace these educators and educational administrators? This salary issue is a serious barrier to our ability to meet the promise to Washingtonians that they will receive healthcare when and where they need it.

Our State has not addressed this severe salary differential between education and practice, and must do so. A number of States have implemented salary adjustments for both public and private nursing program faculty. The prolonged wait to be accepted into a nursing program discourages talented individuals and drives them to other professions. In addition, the inability to be accepted discourages incumbent workers and second-careerists. Thus we lose nurses from three potential recruitment areas. We have not yet seen the retirement coming in the direct care, leadership and educational sectors of nursing, but we know that 2010 is the year that the first significant wave of "baby boomers" will reach 65 and potentially retire. Our timeline is short. If we do not address this issue we will begin to see frightening gaps in our ability to provide care, to mentor new graduate nurses as they make the transition into the profession, and to retain nurses.

A number of interventions are already in place to address the supply issues:

- Our nursing schools have increased capacity and graduates by 80 percent since 2001.
- Partnerships with industry have supported working RN's to participate as clinical faculty.
- The State's loan repayment program recently amended its policy to include educational programs to become nursing faculty as eligible for these dollars.
- Partnerships between Associate Degree and upper division RN programs can be found across the State, expediting the educational journey for students.
- Our State is a leader in its distance learning capabilities (on-line and TV learning) and we can do more.
- Coordination of clinical placement sites, which can prevent nursing programs from accomplishing their goals, is expanding statewide, based on success in the Pierce county-southwest WA Clinical Placement consortium.
- Expansion and coordination of High Fidelity Simulation to enhance education is occurring across the State. The sooner we ensure that every program and care-site has access to well-managed simulation the better.
- A Master Plan for Nursing Education has been under development since 2006, and will be delivered to the Department of Health in December 2007. Required by a grant to WCN, its goal is to assure the health of Washington's residents by having a sufficient supply of appropriately educated nurses to care for them; additionally, it seeks to be student-friendly, effective, efficient, educationally sound, and collaborative with industry. The plan speaks to the faculty issues as well. (I am happy to supply either the latest draft or the final version when completed).
- Because nursing, like all clinical programs, is more expensive for a college or university, the methodology for how the State allocates funds must be altered. Funding a History student FTE at the same level as a nursing FTE makes no sense; the latter requires more resources in terms of people, equipment, and time, than the former. This old methodology is a barrier to nursing programs.
- A program to bring nursing education to the rural areas of the State is in process; this is a collaborative effort of the AHEC's, WCN, Lower Columbia College, WSHA, the State Board of Community and Technical Colleges and several rural organizations. This innovative program addresses the dilemmas of place bound individuals who want to become RN's but cannot leave their home areas, and the desire of rural organizations to have a well-educated workforce that remains in their communities.
- Several programs are looking at specific underrepresented populations' needs for assistance in becoming nurses.
- A plan is under way in Pierce County to create a program for internationally (formerly "foreign") educated RN's who are not practicing as RN's to prepare themselves to take the NCLEX and become licensed in WA. Once funded and implemented, it can be replicated in other areas of the State.
- The Governor's Healthcare Disparities Council is interested in exploring the application of its' goals and principles to expanding a diverse healthcare workforce.
- There is a desire to work with DOD to create pathways that are effective and educationally sound so that military personnel can transition into a civilian educational program to advance their education. Work in this area was completed last

year by the Nursing Care Quality Assurance Commission and interest in this area is high.

- WA has been a leader in expanding the role of the Advanced Practice Nurses, so that patients can be served by them as their primary providers. We have 6.7 percent more ARNP's in WA today than we did last year, and our schools are preparing more each year.

#### DEMAND

On the opposite side of the scale is the demand for nurses. Again, DOL tells us that employers report an increasing need for Registered Nurses in most venues for care, and a need for more Licensed Practical Nurses (LPN's) in Long Term Care and Home Care. Over 50 percent of our nurses work in the 109 Acute Care Hospitals across the State. As "acute" care continues to move into Long Term Care and the Home, the need for nurses grows in those areas; concurrently, the patients who are in the acute hospitals are extremely ill or have complex surgeries that cannot be done in the outpatient setting, and thus require intense care. Older patients consume more healthcare resources, often have fewer support systems in terms of family, and have the limitations that normal aging brings. As our State's population continues to expand, our hospitals are seeing increasing numbers of patients even as acute care moves to other settings.

Stabilization of the workforce through improvement of what is called the workplace environment is critical, and is in the hands of leadership in an organization. Data show us that salary & benefits continue not to be the most important issue for nurses but involvement in the workplace decisions, a focus on patients first, flexibility in scheduling, attention to the needs of aging nurses, access to educational advancement, positive MD-RN relationships, support systems so that a nurse can do nursing work, appropriate staffing, a nurse leader who is at the executive level of the organization to impact decisions that affect patient safety and staff satisfaction, and recognition are all important. Clearly there are work situations where compensation may not be competitive or appropriate for the work done; again, it's incumbent on the employer to address those issues.

Redesigning how care is delivered is an important component of retention; patients, care, and knowledge is different than when the systems we still use were designed. We need new and different answers to the questions of how to ensure that patients in all settings receive the right care, from the right person, at the right price.

According to the UW Center for Health Workforce Studies, approximately 85 percent of licensed RN's who are healthy & less than 69 years of age are working. Retaining these nurses is critical to ensuring the health of our citizens.

One aspect of retention that has just been studied in WA is the transition of new graduate RN's from school into their first professional roles. This is the most vulnerable time for us to retain or lose nurses. Data verify that hospitals in WA that have a planned program of transition have a 90 percent retention rate of new graduates after 1 year of employment. Because national data report that up to 1/3 of new RN graduates report that they plan to leave nursing within a few years, we must intervene to retain these nurses. Nursing is unique in its historical thrusting of educated but inexperienced nurses into positions of great responsibility with little support or transition. Other professions approach this period of transition differently; teachers complete a student teaching period, new accountants start at firms "crunching" numbers, engineers have at least a year of learning, physicians complete residencies. The complexity of patient needs, the expansion of medications, technology, and information demand that we ensure that every new graduate have an effective transition from student to novice professional. Recently a nurse told me that she cares for "x" patients each shift and adds "technology" as an additional patient needing her time and energy. It's no surprise that dissatisfaction is high in this new graduate workgroup if minimal acknowledgement of what is needed exists in an organization.

Traditionally, Home Care and Public Health have not hired new graduates because those roles require high levels of independence, critical judgments, knowledge of community health and population management. Given that the average Public Health Nurse is >50, and that our Public Health Department budgets preclude their paying salaries that are competitive, there is new thinking about whether a new RN graduate could be successful in this area. Corollary to this is the question about how to help nurses who have been in the acute hospital make the transition into either Home Care or Public Health. My recent meeting with several directors of large Home Care agencies revolved around the same issues, though salaries are not so much on an issue. Lack of funding to study, design, implement and evaluate transi-

tion programs into these areas, where more and more patients now receive care, is a barrier for them.

We all know the complexity of these issues and share the worries about whether we're doing enough, well enough, quickly enough. WCN was created to ensure that we have enough nurses with the appropriate education to care for WA's citizens both now and in the future. All of the work that has been done since its creation is in service to that mission.

I welcome the opportunity to speak with any/all of you about the information submitted here, and hope that this has been helpful to you.

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MANUFACTURING INDUSTRIAL COUNCIL (MIC),  
SEATTLE, WA,  
November 21, 2007.

Hon. PATTY MURRAY,  
*U.S. Senator,  
Chairman, Subcommittee on Employment and Workplace Safety,  
Russell Senate Office Building,  
Washington, DC. 20510.*

DEAR SENATOR MURRAY: Thank you for the opportunity to participate in the November 27, 2007 field hearing of the HELP subcommittee.

The Manufacturing Industrial Council is a non-profit advocacy group for industrial businesses in greater Seattle. I am a former co-chair of the MIC. In my professional life, I am the vice president of a 101-year-old steel fabricating firm in Seattle, Seidelhuber Ironworks. Over the past decade and a half, I have also served as a volunteer member of the King County Workforce Development Council, the King County Child and Family Commission, the advisory board for the King County Youth Center (a juvenile detention facility) and the advisory board for "ArtWorks," a non-profit program that uses art to help develop stronger self confidence and career directions for disadvantaged young people.

This letter and my testimony to the committee reflect both the collective view of the MIC and my personal views and experiences involving youth programs and the industrial business sector.

In my experience, too many people and agencies in the public sector dismiss "industry" as a relic of the past while they rush to identify and embrace the "next big thing." In fact, companies like mine and others that are represented by the MIC are part of a growing, dynamic economic force that continues to provide the economic and social bedrock of our Nation and many pillars of the so-called "new economy." At the same time, industry continues to provide good job and career opportunities on an extremely large scale. Contrary to common misconceptions, many industrial sectors are also suffering from a shortage of skilled workers and professionals that appears to be growing more and more severe.

You and your staff have correctly identified the enormous opportunity that exists to better link these career and job opportunities with young people who need to gain a toe hold in the workforce and find their place in the global economy.

Are these career opportunities good opportunities for every one? No. But for young people with the right aptitudes and attitudes, these opportunities often prove to be literally transformative, empowering them to lead productive, rewarding lives in which they are capable of supporting themselves and their loved ones. There's a good reason people call these "family-wage" jobs and I see the proof every day at Seidelhuber Ironworks as I watch our employees come to work.

The extent of the industrial labor shortage is reflected in a survey of job vacancies that is conducted on an ongoing basis by the Washington State Department of Employment Security. The survey conducted last spring which showed industrial employers with openings for:

- 4,362 employees in construction;
- 6,595 employees in manufacturing;
- 2,527 employees in wholesale distribution; and
- 2,135 workers in transportation.

These numbers added up to 15,619 openings. Among the four business groups with the most job openings, the industrial sector placed second to health care (17,000), and ahead of retail (10,000) or restaurants and hotels, (8,000).

In my experience, public sector workforce and education agencies tend to divide the industrial sector into its individual components, and seldom look at them in the aggregate. This is a huge mistake that blinds people to the full range and size of the available industrial career opportunities.

Industrial career opportunities share many key characteristics that are highly relevant to your focus on career paths, upward mobility and the needs of employers and young people.

All industrial sectors are dominated by activities and working environments that tend to appeal to people who share similar aptitudes and attitudes toward physical work and challenges. As stated earlier, these environments are not suited to every one, but they often work best for people who may struggle to find success in retail or service sectors.

All industrial sectors also provide a large number of entry-level positions that are highly accessible to people who may not find comparable wages or benefits in other employment sectors. Each also tends to offer career pathways that can lead to excellent pay and other rewards for individuals who are willing and able to obtain higher skills and more education.

Employers in these sectors also tend to be forgiving. At most companies, your "record" starts with your first day on the job and if you can put in an honest day's work every day, that's more important than any poor life choices you may have made in the past.

These industrial sectors also tend to be very healthy, contrary to popular misconceptions. For instance, our company is part of a business cluster called the metal trades. This cluster includes the metal fabricators and machine manufacturers who make the structural parts, gears, engines, pumps, and contraptions that drive modern industry.

Five years ago, many "experts" considered metal trades doomed to economic obsolescence due to inexorable changes in the global economy. But, instead of going away, the metal trades enjoyed a remarkable boom. According to State B&O tax records, metal trade companies in Washington enjoyed 96 percent revenue growth over the past 5 years, reaching collective revenues of \$9.2 billion, and 15 percent job growth, to more than 32,000 employees.

That was significantly faster revenue and job growth than the economy as a whole (39 percent for revenue and 12 percent for jobs). As a result, the metal trades cluster is now a bigger sector in Washington than many other, much more visible sectors. For example, companies engaged in real estate generated \$8.9 billion in revenues; telecommunications, \$8.8 billion; insurance, \$6.3 billion, and private sector legal services, \$4 billion. Metal trades revenues and jobs even grew faster than companies engaged in computer services, which collectively recorded 65 percent revenue growth and 8 percent job growth.

While this success was notable, it was not truly exceptional. Over the past 5 years, construction revenues were up 56 percent to nearly \$42 billion, and jobs grew 34 percent. Other industrial sectors also grew faster than the overall economy, including boat building, aircraft and aircraft parts manufacturing, wood products and furniture making.

Good economic development policies build on a region's strengths. Our workforce and youth programs should do the same. One of our greatest economic strengths is industry. We applaud you for conducting this hearing and urge you to provide the leadership that this issue so badly needs. We look forward to supporting your efforts in the future.

Sincerely,

TERRY SEAMAN, VICE-PRESIDENT,  
*Seidelhuber Ironworks.*

[Whereupon, at 11:28 a.m., the hearing was adjourned.]

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