

# **Testimony of Jason Bates**

Manager

Toyota - Bodine Aluminum, Inc.

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## **“Helping Students Succeed by Strengthening the Carl D. Perkins Career and Technical Education Act”**

**COMMITTEE ON EDUCATION & THE WORKFORCE**

United States House of Representatives

2175 Rayburn H.O.B.

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10:00 a.m.

Good Morning, Chairman Kline, Ranking Member Scott, and members of the Committee.

My name is Jason Bates and I am Manager of Administration at the Toyota Bodine plant, in Jackson, Tennessee. I started working for Toyota a little over 10 years ago – just 2 months after the start of production in Jackson. At the plant, I’m responsible for all aspects of HR, safety, production control, training and development, and public affairs. Last January, I was appointed by Governor Bill Haslam to serve on the Tennessee Workforce Development Board.

Thank you for the opportunity to address the Committee on Perkins CTE reauthorization. This is an important topic for Toyota and manufacturers across the nation. As you know very well, a strong manufacturing industry is fundamental to our nation’s economic prosperity. Through my testimony, I hope to demonstrate how U.S. manufacturers rely on education policies that are intentional in generating a robust, world-class workforce pipeline. This committee, in my opinion, is uniquely situated to help sustain America’s global manufacturing competitiveness and keep our nation’s economy thriving. In fact, the work of this committee can reinvigorate the foundation required to ensure America’s long-term global manufacturing leadership.

### **Toyota in the United States**

Let me start with a factoid that may surprise you: the most “American” car on the road today, according to Cars.com, is the Toyota Camry.<sup>1</sup> That vehicle, along with the other models produced by Toyota in the United States, is supported by a large manufacturing infrastructure.

Toyota operates ten vehicle and parts plants in the U.S. Together these plants produce 10 models and are supported by over 500 U.S. supplier plants. When you combine our research and design, manufacturing, sales and marketing, and finance groups, Toyota in the U.S. employs roughly 35,000 team members. Add the spin-off jobs associated with our operations and Toyota is responsible for 365,000 jobs in the United States.<sup>2</sup>

Bodine Aluminum, the subsidiary I work for, was actually founded in 1912 in St. Louis by Jesse R. Bodine. Toyota acquired the company in 1990. Today, Toyota Bodine produces various aluminum cast parts for our engines and transmissions, such as blocks, heads and transmission cases. In fact, it is a point of pride that my plant produces the engine block for every Toyota and Lexus model manufactured in North America. We like to say that Toyota manufacturing starts in Jackson, Tennessee.

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<sup>1</sup> See <http://www.cars.com/articles/the-2015-american-made-index-1420680649381/>

<sup>2</sup> Based on a 2011 Center for Automotive Research Study. Includes direct dealer and supplier employees and jobs created through their spending. See <http://www.cargroup.org/?module=Publications&event=View&pubID=11>

## **Skills Gap**

As you might imagine given that description, Toyota's direct and indirect employment needs in the U.S. are significant. In fact, they are much like other large-scale, engineering-based and advanced manufacturing companies in the United States. Consequently, Toyota faces formidable challenges arising from our country's "skills gap".<sup>3</sup> By "skills gap" what I mean is the mismatch between the demands of a rapidly changing workplace and the shortfalls in the academic preparations that young people have acquired in high school and college.

For example, the job of a maintenance technician at Toyota Bodine is very different today than it was 15 years ago. In the past, a technician likely focused on just one craft, say electrical. Today, that technician is expected to perform multiple tasks, such as electrical, fluid power, and mechanical. In the ten years my plant has been operational, we were never at 100% employment in this job category – that is, until now thanks to the collaborations we have with the local education system.

Toyota's response to the skills gap has been both vigorous and innovative. We have partnered with community colleges and other schools around the country – over 50 of them so far – to develop benchmarked educational programs in two areas where our needs are particularly acute. First, we develop top service technicians for our Toyota and Lexus dealerships through a program called Toyota T-TEN<sup>1</sup> and, second, we are educating skilled manufacturing technicians for our factories through an effort called the Advanced Manufacturing Technician (or AMT) program.

Our experience in trying to recruit qualified students to succeed in these programs, in turn, has underscored the importance we place on initiatives to promote science and math in high schools, and to encourage secondary school students to see technology and manufacturing as appealing career choices.

## **Advanced Manufacturing Technician (AMT) Program**

Today, I will focus my remarks on our AMT manufacturing program. I was responsible for launching and developing the Tennessee version in 2014.

The AMT program has quickly become a core component of Toyota's manufacturing success. It is designed to supply our U.S. factories with a cadre of skilled technicians who manage and maintain complex robotics and other manufacturing equipment. At Bodine, this group of workers represents about 25% of our team members.

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<sup>3</sup> The skills gap is widening. 3.4 million manufacturing jobs are likely be needed in the next decade and 60% may go unfilled due to the talent shortage. As a result, the U.S. manufacturing sector is likely to suffer a shortfall of 2 million workers over the next decade. See the 2015 Manufacturing Institute/Deloitte study at <http://www.themanufacturinginstitute.org/~//media/827DBC76533942679A15EF7067A704CD.ashx>

In its current form, AMT began in 2010 as a collaboration between the Toyota manufacturing plant in Kentucky and the Bluegrass Community & Technical College. Since then, it has expanded to public-private partnerships in eight states – Alabama, Indiana, Kentucky, Mississippi, Missouri, Tennessee, Texas, and West Virginia.<sup>ii</sup> Across these locations there are about 400 students enrolled. The number is expected to significantly increase in the coming school year, and continue to grow after that. At most of these locations other companies, ranging from global manufacturers like Toyota and 3M to small manufacturers like a home flooring company, also participate. These companies work together to support the program and call themselves the “Federation for Advanced Manufacturing Education,” or FAME. Altogether, there are more than 160 companies involved in AMT. This is an important aspect of the program that I will return to because private sector engagement is critical to solving the skills gap on a national level and Perkins CTE reauthorization can help foster that outcome.

Classes are conducted in an environment that is set up to look, feel, and function like the work environment. Students work and attend classes 40 hours a week (plus 2-4 hours a day of homework and study time) for five straight semesters. Their time on the shop floor allows students to earn up to \$30,000, generally enough to cover tuition and expenses.

Both their study and work experiences are organized around a structured sequence that teaches multiple technical skills, math, reading, problem solving, communications, and interpersonal skills. The ultimate objective is a graduate who is multi-skilled (in electrical, fluid power, mechanics, and fabrication); who has strong math and reading capabilities; who is a fast technical learner; who is a problem solver and a good communicator; and who is a conflict resolver comfortable working as part of a team. For Toyota, this is the model for a globally competitive manufacturing technician, and it is this high-caliber graduate we expect our educational partners to produce. Toyota believes Perkins CTE reauthorization can encourage work-based learning opportunities, which would foster high-quality outcomes.

Finally, the AMT Program is part of a system of closely integrated career pathways that allows students, based on their motivation, to continue on to Advanced Manufacturing Business (AMB) or Advanced Manufacturing Engineering (AME) degrees.<sup>iii</sup> The engineering pathway is being developed now. The business pathway is operational and includes programs leading to a Bachelor’s degree in Operations Management, a Master’s certificate, and two Master’s degrees. It’s an unparalleled pathway system in the U.S.

### **Integrating Elementary and Secondary Schools into AMT Success**

Critical to AMT’s success is identifying qualified prospects. AMT students come from a variety of places – the majority from high schools, others from military service, while some students are displaced or underemployed workers.

To ensure high-caliber talent is coming into the program, Toyota has increased its coordination with secondary and elementary schools. This effort is meant to directly address the part of the skills gap that can be attributed to the insufficiently developed talent pool coming through the education system.

AMT focuses on long-term relationship building with the high schools that feed into the colleges offering its program. Part of our recruiting dynamic is having high school juniors, sophomores, and freshmen come see our facilities – year after year. We also interface with teachers and counselors. As they learn more about the program, their view of manufacturing as a career pathway for their students change, and they start to encourage students to take a serious look at our program.

Another important aspect is encouraging the right kind of learning at early stages of a student’s development. Toyota maintains a close working relationship with Project Lead The Way (PLTW), a nationwide program that supplies innovative science, technology and math curricula to some 8,000 schools across the country, as well as professional development programs for K-12 teachers in the STEM fields. PLTW’s basic approach turns the traditional, separated learning process for science and math on its head, relying on a new paradigm of project-based learning that pulls the two fields together to create a discovery process that enable students to, in effect, lead their own learning. In recruiting applicants, AMT puts a strong emphasis on finding students who have been successful in PLTW programs.

There are other STEM programs Toyota partners with that produce high quality outcomes. These include FIRST Robotics and VEX Robotics. Just a few weeks ago, for example, the VEX Robotics World Competition took place and schools that feed into our AMT programs in all eight states participated.

### **Tennessee Experience**

Our local experience in Tennessee is similar to those in other states. For years, manufactures in the area struggled to find qualified candidates to fill open skilled positions. The problem was not just an immediate need but also a long-term concern. An informal survey conducted by our local Chamber of Commerce indicated that between 2020 and 2025 upwards of 150 skilled jobs would open up either through retirement, attrition or expansion. Unfortunately, a ready pool of candidates did not exist. The local technical schools were not providing graduates to meet the numerical needs, let alone the skill set needed to support the technology in our highly advanced manufacturing environment.

After sharing Toyota’s success with AMT in other states, the administrators at Jackson State Community College (JSCC) were willing to change their approach to educating and training future technicians. As work-based learning is critical to our success, the first step was to get the support and commitment of other area manufacturers in the program. A group of 18 to 22

students was necessary for the school to consider a new program and the Toyota Bodine plant alone could not provide co-op opportunities for that many students. With other manufacturers taking one or two co-ops annually, however, a full class could be established.

Together with JSCC, Toyota reached out to many other area manufacturers in a wide range of industries to gauge their interest. We talked to plant general managers, HR managers, and maintenance experts about the value of AMT. Many local companies – Delta Faucet, Stanley Black & Decker, Armstrong Flooring, Pinnacle Foods, to name a few – recognized that this program would create a highly qualified and educated future pipeline of skilled technicians. Altogether, 18 companies joined.

Just a few days ago, the first class of 21 AMT students graduated from JSCC with an associate degree in applied science. Of those, 2 are continuing on with their education at a four-year institution and the remaining 19 are in the process of being hired as regular, full-time skilled maintenance technicians by their co-op company. There are 20 first-year students who will transition to their final year this summer and we just completed the selection process for another 25 students to begin their AMT experience in the Fall.

Here is what company leaders involved in the program are saying:

- Metal Technologies: “AMT has undoubtedly filled a tremendous gap as a successful recruiting and training strategy.”
- Ceco Door: “We have struggled for several years to find good, quality maintenance candidates to fill our openings. This program incentivizes students who are interested in the field.”
- TBDN Tennessee Co.: “We are so proud of our AMT students and the contribution they are making in our company and community. It has been great for us to watch these young people grow and learn maintenance skills, but it's even more rewarding to know that we are helping support a training system that is so crucial to manufacturing. This is a step in the right direction.”

In addition to local industry and education leaders, the State of Tennessee also played a pivotal role. The AMT lab at JSCC would not be the state-of-the-art training center that it is without the support of state and national grants assisting in equipment purchases and instructor training. Tennessee Governor Bill Haslam provided \$900,000 for equipment purchase and the Tennessee Labor Education Alignment Program (LEAP), developed by the state legislature, also provided monies to support our AMT program.

Grants from the Perkins CTE Act provided the resources to purchase a manufacturing simulator. The simulator creates real world experiences in programmable logic controls, robotics, automation, electricity, and fluid power. With this simulator the instructor can also insert faults in the process allowing the students to practice their troubleshooting skills thereby developing additional skills that are essential in today’s advanced manufacturing.

## **Role of the Perkins CTE Act**

Clearly, a strong alignment between the manufacturing and education sectors is of utmost importance to Toyota. We were very thankful that the Committee passed the Workforce Innovation and Opportunity Act (WIOA) in the previous Congress. Your emphasis on requiring greater business community involvement in state workforce development decision making is proving very helpful.

As I mentioned at the outset, this past January, I was appointed by Governor Haslam to serve on the Tennessee Workforce Development Board. I am honored to serve in this position and am grateful that my Governor believes my Toyota experience can help foster an even stronger workforce development system in our state. I am excited to share Toyota's best practices with the state in order to broaden the impact of our ideas. Many of my Toyota peers are similarly situated on workforce boards where we have manufacturing operations. As a company, we believe aligning Perkins CTE reauthorization with WIOA would help make the workforce system more efficient and easier to navigate for employers interested in lending help.

Before the Committee today is an opportunity to continue making progress in this area through the Perkins Career and Technical Education Act. Toyota supports reauthorization of this Act. In doing so, the Committee should focus on areas of improvement that will better serve future workers and employers. A reauthorized Act should,

- First, align CTE programs directly with the needs of regional, state, and local labor markets in manners consistent with WIOA.
- Second, it should encourage and support meaningful collaboration between secondary and postsecondary institutions and employers; the AMT program is an example of an effective model.
- Third, it should increase student participation in work-based learning opportunities; again, our model is a good example of this.
- Finally, it should promote the use of industry-recognized credentials.

Reauthorization of Perkins CTE in this manner will strengthen the workforce pipeline across America. It would strengthen the foundation manufacturers like Toyota rely on.

Thank you for allowing me to testify before the Committee and I am happy to answer any questions you may have.

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<sup>1</sup> The current list of educational institutions partnered with Toyota through the T-TEN program include: Lawson State CC, Bessemer, AL; Gateway CC, Phoenix, AZ; Citrus College, Glendora, CA; Cypress College, Cypress, CA; San Diego Miramar College, San Diego, CA; Universal Technical Institute, Sacramento, CA; Ventura College, Ventura, CA; Atlantic Technical Center, Coconut Creek, FL; Miami Lakes Educational Center, Miami, FL; Mid Florida Technical, Orlando, FL; Kirkwood CC, Cedar Rapids, IA; Universal Technical Institute, Chicago, IL; IVY Tech CC,

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Indianapolis, IN; Jefferson CTC, Louisville, KY; Massachusetts Bay CC, Ashland, MA; The Community College of Baltimore County, Catonsville, MD; Dunwoody College of Technology, Minneapolis, MN; Ranken Technical College, St. Louis, MO; Forsyth Technical CC, Winston Salem, NC; San Juan College, Farmington, NM; Columbia Greene CC, Hudson, NY; Monroe CC, Rochester, NY; Suffolk CC, Selden, NY; Stark State College of Technology, North Canton, OH; Oklahoma State University Institute Of Technology, Okmulgee, OK; Umpqua CC, Roseburg, OR; Universal Technical Institute, Exton, PA; Eastfield College, Mesquite, TX; San Jacinto College Central, Pasadena, TX; Texas State Technical College, Waco, TX; US DOL Job Corps Program, Clearfield, UT; Tidewater CC, Chesapeake, VA; Clark College, Vancouver, WA; Shoreline CC, Shoreline, WA; Spokane CC, Spokane, WA.

<sup>ii</sup> Educational institutions affiliated with the Advanced Manufacturing Technician (AMT) Program include: Bluegrass CTC, Georgetown, Kentucky; Bridgemont CTC, South Charleston, WV; Vincennes University, Vincennes, IN; Itawamba CC, Fulton, MS; Alamo Colleges, San Antonio, TX; Jackson State CC, Jackson, TN; Calhoun CC, Tanner, AL; Jefferson CTC, Louisville, KY; State Tech College of Missouri, Linn, MO; Gateway CTC, Florence, KY; Elizabethtown CTC, Elizabethtown, KY; Somerset CTC, Somerset, KY; Owensboro CTC, Owensboro, KY; Southeastern Kentucky CTC, Cumberland, KY; Madisonville CTC, Madisonville, KY; Hopkinsville CTC, Hopkinsville, KY; West Kentucky CTC, Paducah, KY; Maysville CTC, and Maysville, KY.

<sup>iii</sup> Toyota is currently collaborating with the University of Kentucky to develop an Advanced Manufacturing Engineering (AME) program; Northwood University is currently the Advanced Manufacturing Business (AMB) program provider for the entire U.S.