

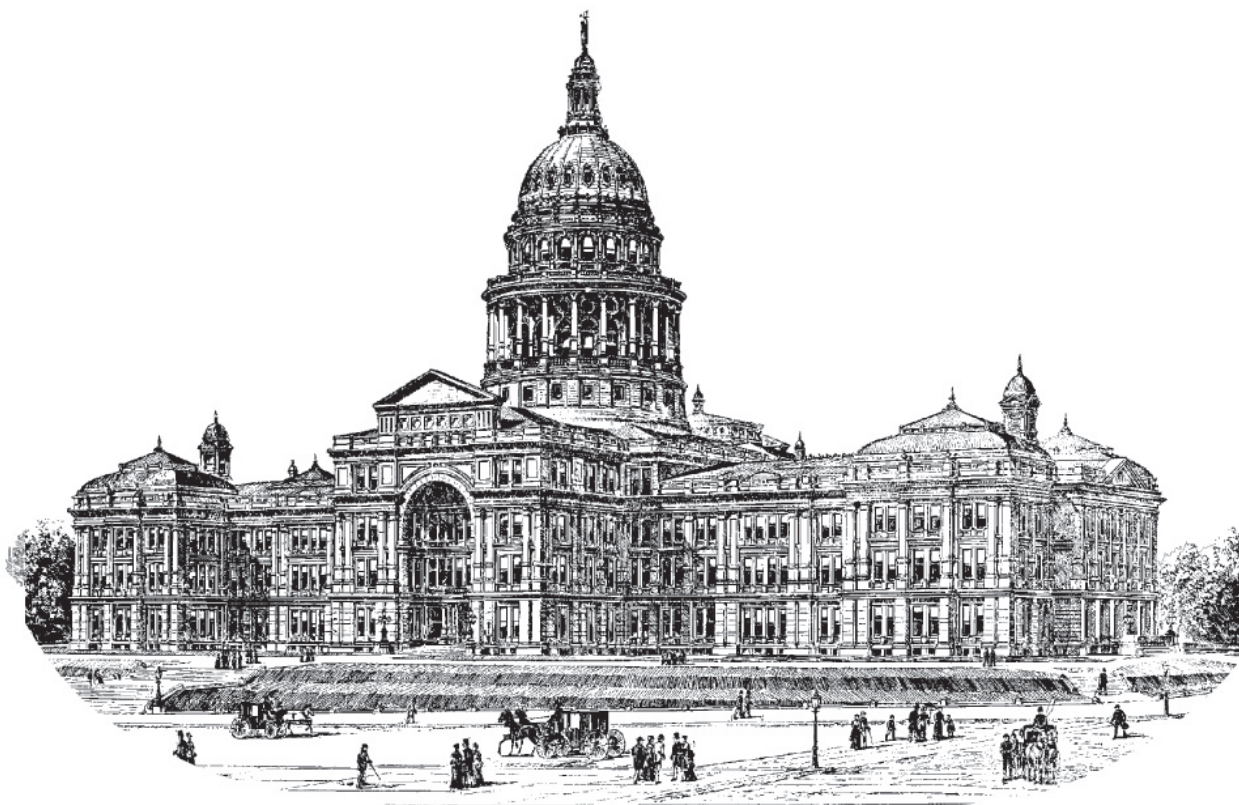


# INTERIM REPORT

## TO THE 83RD TEXAS LEGISLATURE

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HOUSE COMMITTEE ON  
**MANUFACTURING**  
JANUARY 2013

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**HOUSE COMMITTEE ON MANUFACTURING  
TEXAS HOUSE OF REPRESENTATIVES  
INTERIM REPORT 2012**

**A REPORT TO THE  
HOUSE OF REPRESENTATIVES  
83RD TEXAS LEGISLATURE**

**JIM MURPHY  
CHAIRMAN**

**COMMITTEE CLERK  
MOLLY QUIRK**

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Committee On  
Manufacturing

January 4, 2013

Jim Murphy  
Chairman

P.O. Box 2910  
Austin, Texas 78768-2910

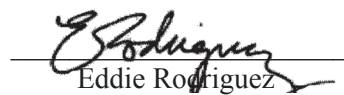
The Honorable Joe Straus  
Speaker, Texas House of Representatives  
Members of the Texas House of Representatives  
Texas State Capitol, Rm. 2W.13  
Austin, Texas 78701

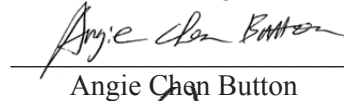
Dear Mr. Speaker and Fellow Members:

The Committee on Manufacturing of the Eighty-second Legislature hereby submits its interim report including recommendations and drafted legislation for consideration by the Eighty-third Legislature.

Respectfully submitted,

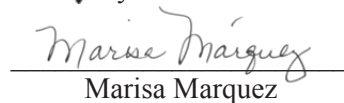
  
Jim Murphy

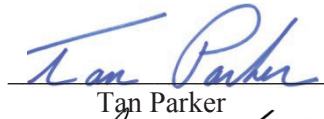
  
Eddie Rodriguez

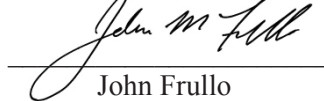
  
Angie Chen Button

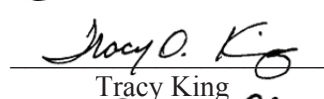
  
Eric Johnson

  
Lyle Larson

  
Marisa Marquez

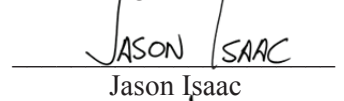
  
Tan Parker

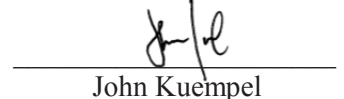
  
John Frullo

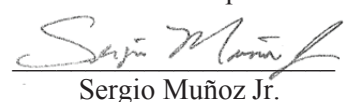
  
Tracy King

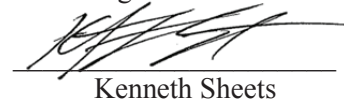
  
Carol Alvarado

  
George Lavender

  
Jason Isaac

  
John Kuempel

  
Sergio Muñoz Jr.

  
Kenneth Sheets

[Eddie Rodriguez]  
Vice-Chairman

Members: [Tan Parker, George Lavender, Angie Chen Button, John Frullo, Jason Isaac, Eric Johnson, Tracy King, John Kuempel, Lyle Larson, Carol Alvarado, Sergio Muñoz Jr., Marisa Marquez, Kenneth Sheets]

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## TABLE OF CONTENTS

CHAIRMAN'S PREFACE .....	5
INTERIM STUDY CHARGES AND SUBCOMMITTEE ASSIGNMENTS.....	6
EXECUTIVE SUMMARY .....	7
CHAPTER 1 .....	8
FINANCE AND REGULATIONS.....	8
Taxes and Incentives:.....	8
Property Taxes: .....	8
Franchise Taxes: .....	9
Direct Economic Incentives:.....	9
Research and Development Tax Credit: .....	9
Emerging Technology:.....	10
Fair Treatment of Inventory:.....	10
Academic/Industry Partnerships: .....	10
REGULATIONS.....	11
Permitting Process: .....	11
Cost Benefit Analysis: .....	11
CHAPTER 2 .....	12
EDUCATION AND WORKFORCE .....	12
Secondary Education: .....	12
Skills Development Fund:.....	12
Community College Partnerships: .....	13
Results Based Methodology: .....	13
Adult and Veteran Education:.....	13
CHAPTER 3 .....	15
INFRASTRUCTURE .....	15
Electricity:.....	15
Water:.....	15
Oil and Gas: .....	16
Transportation: .....	17
Highways: .....	17
Ports and Inland Waterways: .....	17
CHAPTER 4 .....	19
RECOMMENDATIONS.....	19
Finance and Incentives.....	19

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Workforce .....	19
Transportation and Infrastructure .....	20
INTERIM CHARGES RELATED TO MANUFACTURING.....	21
APPENDIX.....	24
PUBLIC TESTIMONY .....	24

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## **CHAIRMAN'S PREFACE**

There is much good news with respect to manufacturing in Texas. We rank first or second in every index and Texas is adding more manufacturing jobs than any other state. We enjoy abundant resources and raw materials as well as lower energy and labor costs, each of which is a distinct and valuable advantage. We confirmed these facts through our hearings.

We also noted through the same hearings -- and our own research -- growing concerns regarding the sustainability of Texas' strong position. Our infrastructure system is stretched thin and struggling for additional funding. The financial and regulatory climate is a factor not just in affecting profits but also in the competitive position of communities, states, and nations. And the final area of concern we identified relates to the labor pool. A perfect storm is brewing as baby boomers in technical fields are approaching retirement with no large group of qualified workers to replace them. At the same time, our educational system has adopted a "college or bust" philosophy that exacerbates this situation as fewer students move into career and technical fields that require less than a four year degree. And the third factor is the tremendous growth in fields that require more than a high school degree -- usually a two year degree and/or certificate or professional designation. This workforce issue was brought up at every hearing, every tour, and every conversation with leaders in manufacturing.

Our mission as a committee was not to address each of the threats or concerns regarding manufacturing but instead to initiate a process through which solutions and strategies can be explored and collaboratively implemented. This report marks a step in the process. There is much work ahead and what we have done here is to set a path forward. Now we turn to our manufacturers, related businesses, and public sector partners to work together on these initiatives to ensure a bright and prosperous future for people of Texas.



Chair, House Interim Committee on Manufacturing

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## HOUSE COMMITTEE ON MANUFACTURING

### INTERIM STUDY CHARGES AND SUBCOMMITTEE ASSIGNMENTS

On October 22, 2012, the Honorable Joe Straus, Speaker of the Texas House of Representatives, created the House Interim Committee on Manufacturing (the Committee).

Fifteen members were appointed to the Committee: Jim Murphy, Chairman, Eddie Rodriguez, Vice Chairman, Carol Alvarado, Angie Chen Button, John Frullo, Jason Isaac, Eric Johnson, Tracy King, John Kuempel, Lyle Larson, George Lavender, Marisa Marquez, Sergio Muñoz Jr., Tan Parker, and Kenneth Sheets.

Speaker Straus charged the Committee with:

- compiling and summarizing committee findings on how to improve manufacturing in Texas;
- making recommendations about how to encourage manufacturing in the state;
- and determining how those recommendations interplay with other committees' work on business growth and retention in Texas.

Chairman Murphy created three subcommittees:

- Taxes, Incentives, and Regulations- Tan Parker, Chairman, Angie Chen Button, John Frullo, Eric Johnson
- Workforce- Eddie Rodriguez, Chairman, Tracy King, John Kuempel, Sergio Muñoz Jr., Kenneth Sheets
- Infrastructure- George Lavender, Chairman, Carol Alvarado, Jason Isaac, Lyle Larson, Marisa Marquez

Public outreach was a primary objective of the Committee. This was achieved both in terms of geography and the broad array of interested parties who were invited to participate in the hearings. The Committee met in three public hearings in three different cities in one week. The first hearing was held in the Fincher Building on SMU campus in Dallas, TX on November 12, 2012. The second hearing was held at the Port of San Antonio Headquarters in San Antonio, TX on November 13, 2012. The third hearing was held at the Greater Houston Partnership building on November 14, 2012. The fourth and final hearing was held at the state Capitol in Austin, TX on December 18, 2012. The Committee heard invited testimony and public testimony and also considered submitted written testimony. Each day the Committee toured a local manufacturing facility for a first-hand experience. The Committee would like to thank Texas Instruments, Toyota, and the Port of Houston for hosting the Committee.

The Committee would also like to thank all of the staff of the Members of the Committee, especially the staff of the subcommittee Chairs who helped draft this report.

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## EXECUTIVE SUMMARY

By definition, manufacturing seems straight forward. In its simplest form, one company produces a tangible product to sell to another company or consumer. In reality, it is quite complex. It is considered the cornerstone of business in Texas. It includes both large and small businesses who employ anywhere from 10-10,000 Texas citizens. The world of manufacturing is no longer just about widgets and autos; these companies are building tiny memory boards and making use of electrical, chemical, and even ultrasonic processes to manufacture a product. Manufacturing is small business and large corporations. Without one, you cannot have the other. In the last several decades we have seen manufacturing companies and jobs leave our state and our nation because of lower wages, lack of a skilled workforce and increasing logistic costs. As Bob Dylan wrote, "the times they are a-changing."

However, recent news coverage points out that manufacturing is moving back to the United States from overseas. Factors cited include the low cost of energy, access to raw materials and consumer markets, available capital, and a stable political environment. The Sunday before our hearings, 60 Minutes aired a story on the "skills gap" ([Three million open jobs in U.S., but who's qualified?](#)). A major concern of the manufacturing industry is that the baby boomers are near retirement age and there is a lack of skilled workers to fill their positions. The Committee heard from businesses just like the ones featured in the news stories who are taking the initiative and partnering with local colleges and high schools to help train their workforce. In December, Apple announced a plan to move some of their manufacturing to the United States ([Apple CEO Tim Cook announces plans to manufacture Mac computers in USA](#)). On November 29th, Atlantic Wire published a piece [How America Can Steal Manufacturing Back from Foxconn \(Really\)](#). In this piece the reporter, Rebecca Greenwood, stated "If China continues to modernize, at some point soon things will get more expensive and harder to make there, which will bring factories back here." If this is the case, our country (*and especially Texas*) must be prepared to close the skills gap to have a well trained workforce, provide a sound economic environment and strong infrastructure to attract these businesses to our state. We want to encourage these companies to make their home in Texas and the testimony from panelists gave the Committee an idea of how to accomplish this.

The Committee was tasked with the mission of finding ways to increase manufacturing capability in Texas. We visited different cities around the state to hear from members of the manufacturing business about how Texas can spur growth and improve the climate for manufacturing in Texas. Each hearing was broken down by topic and the invited testimony focused on the topic of the day. It is difficult not to discuss all of the topics designated for other days as they are all intertwined. Workforce, the skills gap and training were discussed at all three hearings. The hearing in Dallas focused on taxes, incentives and regulations. Each panel presented issues manufacturers face as they operate their businesses as it related to the tax and regulatory structure in Texas. There was mention of simplifying the franchise tax, extending Chapter 313 abatements, tax credits for research and development, and the need for a multi-skilled labor force. In San Antonio we examined the workforce needs for manufacturers and discussed how important an educated workforce is to the industry. We heard from representatives from community colleges, Texas Workforce Commission, Texas Veterans Commission, The Higher Coordinating Board and business owners from across the state.

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We were told that there are jobs to be filled, but that we lack the properly trained skilled labor to fill the positions. The hearing in Houston was dedicated to infrastructure. Water, transportation and energy are each issues that we hear about for a multitude of reasons. For manufacturers, these three components are vital resources, without which they cannot operate efficiently. The next section of this report will go in depth on each of the topics addressed at the hearings. At the end of the report we will present our recommendations to the Texas House on how to improve manufacturing capability in Texas as well as a list of interim charges related to manufacturing assigned by Speaker Straus to standing committees.

## **CHAPTER 1**

### **FINANCE AND REGULATIONS**

#### **Taxes and Incentives:**

While Texas ranks 46th nationally for taxes on individuals, Texas ranks 18th nationally for taxes on business. The Texas taxing environment has had a varied impact on the manufacturing industry. According to Texas Taxpayer and Research Association (TTARA) testimony, manufacturing comprises 10% of jobs in Texas but 20% of total taxes paid by businesses. Property tax, sales tax, and franchise tax were all addressed by panelists.

#### **Property Taxes:**

Texas has a high property tax rate that also taxes tangible, personal property and business inventory (one of only nine states to do so) and businesses are often left to make up the revenue shortfall through other means. Panelists representing small businesses and large businesses alike informed the committee that taxing equipment as property can be difficult on manufacturers because the tax does not account for machines which are operational, machines that may be temporarily out of operation, or if machines are profitable or not, thus not allowing this form of property taxes to adjust for down economic times. Panelists mentioned the lack of appraisal standards across the state and a need for uniformity.

While certain property tax abatements for businesses are in place, some (Chapter 313 agreements) are set to soon expire in Texas. Chapter 313 of the state tax code allows school districts to offer temporary tax abatement on the property value of new investment for qualified projects: those related to manufacturing, research and development, electricity generation using low emissions technologies, and nuclear energy. The project must also meet a job creation threshold. Under Chapter 313, a local school district may eliminate school M&O taxes for eight years before a new project goes onto tax rolls at the full appraised value. School districts who do participate in Chapter 313 agreements realize an increase in I&S tax collections from the new property.

To offset Texas' lack of a personal income tax, base property and sales tax are higher than the national averages. Chapter 313 has proven to be exceptionally valuable in attracting new investment to Texas. Proponents of Chapter 313 say that with new direct investment comes job growth from indirect investment and investment in the surrounding communities.

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### **Franchise Taxes:**

Manufacturers stated the compliance cost to the margins tax in Texas can be very high. In addition, the tax is on receipts, not net-income, which leads to payers having tax liabilities that can exceed their profits. The floor of \$1,000,000 in gross receipts (small business exemption) leaves a smaller pool of payers, negatively impacting those who fall outside of the exemption. For these reasons many industry partners think that the franchise tax should be repealed or amended and the revenue replaced by greater sales tax collections: 1) the margins tax applies to business regardless of they see a profit or not, 2) compliance costs are extremely high, 3) it is not generating the revenue first envisioned and 4) there are too many loopholes and inconsistencies that leave businesses who comply carrying a disproportionate share of the burden.

Economic incentives for businesses coming to Texas have proven to be effective in bringing new investment to the state. Toyota, Caterpillar, and Lockheed Martin are just a few examples of businesses that have brought their production into the state. However, there is still a reported need for better coordination between state economic development programs and their local counterparts. A lack of coordination between the state and local level can result in delayed benefits and projects not being completed as well as businesses missing application deadlines because of an uncertainty regarding their eligibility for incentives.

### **Direct Economic Incentives:**

The Texas Emerging Technology Fund has invested \$169.3 million in 133 high-tech companies and holds more than \$173.9 million in those companies- over \$4.5 million than what was originally invested. Fund investments have attracted over \$590 million in private dollars to supplement projects which the State has invested in and has bolstered research across institutes of higher learning in Texas. The Texas Enterprise Fund has helped create thousands of jobs in Texas and millions of dollars in investments all over the state. According to statistics posted by the Governor's Economic Development Division, awards from the Enterprise Fund have helped create 63,910 direct jobs. Of those jobs, 13,330 were created in the manufacturing industry. As more states develop similar programs to these, and compete with Texas, it is critical that our state has adequate resources to encourage relocations and expansions in Texas.

### **Research and Development Tax Credit:**

Currently, Texas is one of only 10 states who do not offer some form of a research and development tax credit. This tax credit was eliminated in the adoption of the revised margins tax in 2006. According to testimony from panel members, an ideal research and development incentive would be two fold, with an R&D tax credit component to the franchise tax and an exemption to sales taxes for purchases of a research and development nature. These incentives are key steps towards proving to businesses that Texas is interested in long term growth and development.

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### **Emerging Technology:**

As noted in the introduction, manufacturing has evolved from the traditional assembly line products and widgets of yesteryear. Private industry partners have asked the Committee to consider data, software, and services in how they define manufacturing in order to allow businesses to explore new partnerships as well as qualify for state-level incentives which would not be accessible otherwise.

Specifically, the Committee received written testimony regarding the consideration of stand-alone data centers and their ability to qualify for Chapter 313 partnerships and sales tax exemptions. While these facilities do not produce tangible products, they house equipment which plays an integral part in data storage, research development, and software production processes.

The Committee also received written testimony from Space Exploration Technologies Corp. (SpaceX), a space transportation company, has a large rocket development facility in McGregor, Texas and a commercial crew office in Houston. SpaceX conducts research and development testing at their McGregor facility and have staff in Houston to work in conjunction with NASA at the Johnson Space Center where they have the ability to monitor their Dragon spacecraft, the first privately-developed vehicle to successfully attach to the International Space Station. These businesses benefit their local communities by bringing in new investment and jobs but are being aggressively pursued by other states who can offer a talented workforce and economic incentives. The Committee was asked by stakeholders in the Texas business community to reassess traditional definitions of manufacturing in order to bring these businesses into the fold and continue bringing these new industries into Texas.

### **Fair Treatment of Inventory:**

Panelists suggested that Texas should reconsider how it taxes (as property) the inventory held by a manufacturing company. The Freeport exemption allows for certain goods, wares, ores, and merchandise other than oil, gas, and petroleum products, as well as aircraft and aircraft repair parts used by a certified air carrier to be tax exempt for 175 days after the date they are brought into or acquired in Texas. Some industry members feel that 175 days is not an adequate timeframe for certain products (aerospace, for example) based on market variables. Other states also offer the same type of exemption at different and often longer lengths of time, and some states choose not to tax business inventories at all.

### **Academic/Industry Partnerships:**

A mutually beneficial relationship exists in the space where industry and academia do not overlap. Industry is concerned with creating a skilled labor force that is highly trained and capable. Institutions of higher education (IHE's) are interested in graduating educated students

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who can go directly into the workforce and producing high quality research. So why is there a gap between the two? There are a few cases of where these sorts of partnerships exist, and some are more involved than others, but by and large these types of partnerships are rare. Institutions of higher learning are often looking for ways to expand their funding base and investments from private companies are a way to fill that need. In some cases, these companies are receiving tax breaks for investing their dollars into research ventures when partnered with IHE's. The state of California has a successful program in this area.

On the results side of these partnerships, IHE's could make use of resources from private companies outside of their invested funds. These companies have real world problems and experiences from outside of the classroom or research laboratory which can help to expand the scope of research. Developing partnerships with industry provides a familiarity to both students and HR departments that can help in the job marketplace and on campus by giving students an understanding of the "real world" and of certain companies.

## **REGULATIONS**

The regulatory burden on business is threefold; businesses must contend with federal, state and local regulations which are often confusing or contradictory. Business regulations are particularly costly to small businesses, as their compliance costs can be higher than their larger counterparts once you consider time, staff, and resources that must be dedicated to ensuring compliance.

### **Permitting Process:**

Texas' permitting process is cumbersome, lengthy and often leads to projects instead locating to neighboring Louisiana or being held up for upwards of 2 years. According to Chad Burke of the Houston Port Region Economic Alliance, there is currently \$60 billion in petrochemical projects along the coastal region that are awaiting permits in Texas.

### **Cost Benefit Analysis:**

Before enacting new regulations and periodically to ensure that the return on investment is positive for both the state and businesses receiving incentives, it was suggested to the Committee that the state periodically review incentive programs, state tax structure, and the regulatory process. As things change, both the State and businesses should be in a position to adjust incentives as necessary in order to ensure maximized benefits.

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## CHAPTER 2

### EDUCATION AND WORKFORCE

The greatest asset to continued success for Texas in manufacturing is a skilled and educated workforce. As the population of Texas continues to grow, government, the educational system and industry must work together to ensure that the labor force continues to keep up with evolving technology and production demands. In order to ensure that Texas remains competitive in attracting business and stimulating business growth and expansion, the state must support efforts to create a highly skilled workforce that bridges the current skills gap and ensures stability for years to come.

#### **Secondary Education:**

Re-examining and revising the 4x4 requirements (4 years of Math, Science, Social Studies and English Language Arts) was a topic presented by panelists when testifying about workforce education in Texas. However, this same topic was discussed by panelists at each of the hearings. Common concerns from panelists were that the 4x4 model does not do enough to produce high school graduates with skills which would allow them to directly enter the manufacturing workforce. The general consensus is recent efforts by the state to reform education at the high school level have focused on those students who plan to enroll in a 4 year university. While it is a laudable goal to have every student progress to a 4 year university, we need to recognize the reality that not every student wants to attend college. Many want to immediately start their career and enter the workforce.

Written testimony from Texas Workforce Commissioner Tom Pauken suggested that allowing students to choose a pathway upon entering high school (STEM, humanities/fine arts, CATE) would create an environment in the public education system where every student received a standard academic foundation while also having the ability to "specialize" in areas of individual interest. At a time when many skilled workers are nearing retirement age, this skills gap has proven to be particularly concerning to those in the manufacturing industry.

The Committee also learned of the desire of the secondary schools and industry to offer alternatives to the courses required as part of the 4X4 curriculum, particularly for the 3rd and 4th year Math and Science courses, which could count for high school graduation and a certificate or professional certification. Approval for these alternate courses was described as difficult and inconsistent among the TEA, ISDs and THECB.

#### **Skills Development Fund:**

Texas Workforce Commission (TWC) is the administrator of the Skills Development Fund, a program which provides money for training Texas workers through collaboration among

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businesses and community or technical colleges. The money pays for training of workers while the colleges administer the training with the help of TWOC at no charge. Dr. Federico Zaragoza, Vice Chancellor of Alamo Colleges, informed the committee that Alamo Colleges have been awarded a total of \$12 million to support training of approximately 5,200 Toyota and Caterpillar employees, or \$2,307.70 per employee. TWC Chairman Andres Alcantar spoke on the importance of the fund, confirming its importance in reducing the workforce skills gap.

### **Community College Partnerships:**

The Committee heard about community college partnerships of all types. In San Antonio, Alamo Colleges has partnered with seventeen area school districts to provide dual enrollment classes which train students specifically for manufacturing jobs in an effort to address industry concerns with a skills gap in the workforce. Alamo Colleges has also partnered with the San Antonio Manufacturers Association, Toyota, Caterpillar, and other local aerospace companies to develop specific, needs-based curriculum, certification programs, and degree plans- for example, over 560 engineering technicians have graduated from Alamo Colleges in the past two years. Alamo Colleges also works with four year institutions to ensure that students who graduate with an associate degree in applied sciences can transfer up to 60 credit hours into their bachelor of applied sciences programs.

South Texas College is the fiscal agent of the North American Advanced Manufacturing Research and Education Initiative (NAAMREI). The network is comprised of 60 public and private partners and is devoted to developing an advanced manufacturing industry in south Texas. Carlos Margo, the Executive Director of NAAMREI, testified that South Texas College has received over \$5.7 million in skilled workforce grants from NAAMREI and offers 250 customized skills development courses which are tailored to meet specific demands in the workforce.

### **Results Based Methodology:**

Beginning next year, the Texas State Technical College (TSTC) funding formula will be based wholly on successful placement in jobs instead of the amount of time in school. TSTC will be the first college in the nation with 100% results based outcome funding. This allows TSTC to be more responsive to the industry and move students from classroom to workforce in the fastest manner possible.

### **Adult and Veteran Education:**

For most workforce needs, the infrastructure and programs are in place but improvements could be made. What Texas lacks today is a balanced throughput. In addition to the shortage of college graduates overall, students are graduating with degrees that are not relevant to manufacturing. This has caused a shortfall in the skilled workforce that is expected to worsen if not addressed soon.

According to written testimony from Texas State Technical College's Mike Reeser, a compounding problem is that the incumbent workforce is "graying" while the numbers of new

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entry workers is falling. Moreover, an increasing number of students who are already in the workforce supply chain are opting for non-technical degrees and foregoing studies in technical fields that are crucial to manufacturing and other core industries.

The main goal of education must continue to be preparing Texans for high-value employment in our economy. According to the Bureau of Labor Statistics, ratios of graduates in high-value technical fields have dropped in the last 20 years. At a time when the skills gap is growing and the workforce continues to age, Texas has the opportunity to lead the way by creating a new wave of young and capable skilled workers.

Employing veterans in the manufacturing workforce is essential to the Texas workforce. Veterans, with their unique set of skills and experience, are key to filling gaps in the workforce. According to Thomas Palladino of the Texas Veterans Commission, Texas ranks number one in the nation in employing veterans, accounting for eighteen percent of all veterans employed in the United States. The Hazlewood Act and GI Bill are useful tools in assisting veterans in receiving post-secondary education, but there is currently no way to translate veteran's skills or military service experience into workforce certification credits.

Adult and veteran recruitment and education can prove to be a substantial bridge across in the skills gap which currently exists in Texas. By taking advantage of uniquely skilled labor pools with existing professional experience, Texas can quickly and efficiently provide high-value employees to employers and improve the workforce.

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## CHAPTER 3

### INFRASTRUCTURE

Manufacturing uses significant amounts of both water and electricity. The transportation system of highways, railroad, ships and barges functions to both bring in raw materials and component parts as well as to move the finished products to market.

#### **Electricity:**

Since the competitive market opened in 2002, competition is providing choice. There are over 50 companies that provide retail electric choice in the ERCOT market offering well over 100 products of electricity. Electricity is unique in that it is manufactured and consumed simultaneously. The electricity producers of Texas trying to develop bulk storage of power which would allow them to supplement intermittent sources of power with reliable sources of power. Electric companies must continue to build new generation, transmission and distribution, invest in environmental control equipment and modernize the grid and retail products so that they can serve our customers more efficiently.

There has been a lot of discussion on generation capacity. The latest projections by ERCOT show that reserve power is increasing but there is still room for improvement to ensure adequate supply during peak usage and emergencies. According to John W, Fainter, Jr. of AECT, desired reserve electricity margin is about 13.75% but is currently around 13%. To meet increases in electric load in Texas, additional power, transmission, and distribution will all be required. Additional generation will be required to achieve these goals, but must be done with the goal of keeping costs down and encouraging new investment in Texas.

#### **Water:**

The Texas Water Development Board (TWDB) works with the Texas Commission on Environmental Quality (TCEQ), the Department of Agriculture, the Department of Parks and Wildlife as well as the sixteen regional water planning groups to come up with the water demand predictions for the state.

Texas has 174 counties that have manufacturing water demands. There are sixteen regional water planning groups seeking how to meet the state's water supply needs which are comprised in the State Water Plan. The first step in the process is to quantify population and water demand. Large scale industrial facilities that use a large amount of water are included in the manufacturing, mining, and steam electric categories of the water plan.

Manufacturing is one of five non-municipal demand categories considered in regional water planning. Manufacturing water demands consist of the future water necessary for large industrial

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facilities such as food processors, paper mills, electronics manufacturers, aircraft assemblers, and petrochemical refineries. The 2012 State Water Plan projects that manufacturing water demands in 174 counties will grow 67 percent over the planning horizon, from 1.7 million acre-feet in 2010 to 2.9 million acre-feet in 2060. By 2060, however, only about 2.6 million acre-feet of water supplies are expected to be available. To meet these needs, regional water planning groups recommended conservation, reuse, new groundwater supplies, and other surface water strategies. The total capital costs of implementing strategies to meet manufacturing needs would be \$3.4 billion. However, the cost of not implementing these strategies would be far greater: Testimony to the Committee by Carolyn Brittin of the TWDB is as follows: in the current decade, not meeting manufacturing water needs during a repeat of the drought of record would result in \$6.3 billion in lost income, \$472,000 in lost state and local business taxes, and 72,000 lost jobs. By 2060, it would result in \$68.2 billion in lost income, \$4.1 billion in lost state and local business taxes, and 685,000 lost jobs.

### **Oil and Gas:**

Texas is not only the largest gas producing state; it is also by far the largest gas consuming, according to James Mann of the Texas Pipeline Association. Mr. Mann also testified before the Committee that 80% of the gas is consumed by the industrial and power plant sector, 10% is used in the oil patch and 10% is used for residential and small commercial owners.

Over the last three years, Texas has drilled over 30,000 new oil and gas wells. Oil production has increased over 80 million barrels a year in the last three years and that number is still rising. Estimates range from 2017 to 2020 when the U.S. will be a larger oil producer than Saudi Arabia. Last year our oil imports dropped to the lowest point in twenty years.

Eagle Ford Production in South Texas helps Texas lead the nation in oil production along with the new massive fields being produced in the Permian Basin and North Texas. Texas has the most refineries in the U.S. and gulf coast refineries agree that in the near future they will be using 90 to 100% domestic crude; some of the south Texas refineries already use 100% Texas crude. There is now enough natural gas to last us at least 100 years in the U.S. Texas has the largest gas and oil fields in the U.S. For the first time there has been an expansion of the chemical industry in the state thanks to the increase in Natural Gas Liquids (NGLs). Ultimately, pipelines are needed to connect all of these things. The Texas Pipeline Association has projected \$11 billion in expansion plans.

Additionally, the huge increase in NGLs that will be refined in the major chemical and refining plants now underway creates an even greater opportunity for Texas. These chemicals, plastics and resins will be the raw materials for a new wave of manufacturing with Texas at the epicenter. This boom is only a few years away and Texas will either rise to the challenge and use these materials or see them shipped out of state to other manufacturers who can then ship their products back to Texans.

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## **Transportation:**

The economic activity associated with manufacturing and energy-development activities throughout the state provides a substantial benefit in new dollars generated as businesses and people move to Texas. According to TxDOT this poses a challenge to the state, counties and other local governments that work to ensure that roads, highways and other transportation infrastructure in those areas are well-maintained and safe.

TxDOT's Legislative Appropriation's Request includes requests for funding to support infrastructure in communities statewide which have been affected by this new development. Panelists testified before the committee that the lack of resources devoted to maintaining and development of new infrastructure across the state is a roadblock for attracting more manufacturers to our state.

## **Highways:**

Dr. Bill Stockton of the Texas Transportation Institute informed the committee that he believes that Texas is a hub for national and international trade corridors with arguably the best highway system in the world. Texas has the most extensive railroad network in the U.S. with three class one railroads and forty short line railroads.

Increased population and congestion makes it a challenge to move people and cargo. Freight has its own unique concerns. Solving urban congestion does not necessarily solve the need of freight movement. However, in establishing freight rail corridors, there is a mutually beneficial aspect as new grade separations are developed.

Freight needs reliability and speed and real-time evaluation and measurement of value of freight moved. Real-time information and real-time routing capabilities would help in regards to reliability and speed. Measurements of value of freight moved combined with measures of congestion would help with prioritizing transportation resources.

The Committee heard about the importance of funding in regards to infrastructure. The costs which are associated with implementing parts of the State Water Plan, constructing new roads, and maintenance on existing infrastructure are daunting. However, some of the most pointed commentary was in regards to the cost of non-implementation. It was suggested that the Legislature find a way to secure adequate and reliable funding in order to ensure that the needs of Texas citizens and Texas businesses are being met.

## **Ports and Inland Waterways:**

Harris County alone has 5 of the top 15 most congested highways in the U.S. and 4 of the 10 largest seaports. The Port of Houston is ranked second in gross tonnages in the U.S. Half a billion tons move in and out of Texas ports every year. Texas is number one in tonnage of freight moved through ports. Three of the six top tonnage ports are in Texas: Houston, Beaumont and Corpus Christi. Our sixteen ports generate 1 million jobs.

Houston's port sends \$130 million in taxes to the federal government yet only receives \$20 to

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\$60 million in return. The Inland Waterways Trust Fund, partially funded by inland waterway operators through a tax on fuel, provides direct funding for projects in 38 states which often go over time and over budget. More efficient management of projects would provide more opportunity for funding inland waterway projects in Texas.

There are 426 miles of intercostal waterway from Brownsville to Beaumont. The ditch, a 125 foot wide 12 foot deep dredged channel along the intercostal waterway, handled 40 to 50 thousand tows last year.

Texas moves over \$10 billion worth of cargo through inland waterways. Water is the most cost effective way to move freight compared to road and rail transportation. A standard tow can move 1 ton of freight 576 miles on 1 gallon of gas. According to Tom Marion of the Buffalo Marine Service, it is vital that Texas ensure that the Intercostal Waterway is dredged to the correct depth of 12 feet in order to adequately handle the amount of traffic the intercostal waterway receives. As manufacturing continues to grow in Texas, maintenance of these waterways will be critical to ensure that imports and exports of products manufactured in our state are modal. Improper maintenance and development of waterways poses a threat to industry as businesses could seek to relocate to states where infrastructure is adequate to meet their demands.

TxDOT is the non-federal sponsor of the Gulf Intercostal Waterway and works closely with the US Army Corps of Engineers to maintain the waterway at its current width and depth and prevent encroachment by on-shore development.

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## CHAPTER 4

### RECOMMENDATIONS

#### Finance and Incentives

- Modify the Chapter 313 program to
  - Make the program ongoing without the need for legislative renewal but still subject to termination
  - Simplify the application process to ensure all qualified applicants are approved in a timely fashion
  - Reduce the administrative burden of the reporting requirements.
- Provide a tax credit from the margins tax for research and development. Consider definitions, thresholds, scale, and other limits to ensure that the positive economic impact far exceeds the value of the credit
- Make necessary changes to the Emerging Technology Fund and Enterprise Fund to ensure these programs are effective, transparent, predictable, and adequately funded.
- Conduct an ‘exit interview’ with major manufacturing firms who have chosen locations outside of Texas after considering location within our state over the past three years. Provide these results, along with the analysis, to the legislature before April 1.
- Consider changes in the definitions and use of the Freeport Exemption to bring it more in line with current industry practices.
- Consider amending the permit process to ensure that businesses do not relocate to other states or pass on Texas locations due to the state's lengthy permitting timeline.

#### Workforce

- Provide an alternative pathway of study for students wanting to enter the workforce after high school graduation. This option should be rigorous and allow for early exposure to career choices and options which would result in the both a high school diploma and a professional certification or license.
  - Create a process whereby courses with industry, professional, or trade organization guidelines can be substituted for current classes required under the 4x4 curriculum standard.
  - Encourage Community Colleges to partner with the private sector and school districts to develop the 3/4/5 programs to utilize internships that would result in certificates or licenses upon graduation.
  - Identify current and potential job shortages by class and develop additional training capacity for the most undersupplied classes of jobs.
  - Develop a tax credit program for industry to conduct its basic research in conjunction
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with our institutions of higher education. (California Model)

- Work with THECB, TWC and TEA to provide for expanded training/educational credits to former military personnel and get them into the workforce sooner.
- Provide additional training and support for high school counselors to allow them to better address career options and appropriate educational plans especially in terms of the opportunities in technical careers including industrial and manufacturing.
  
- Require community colleges to conduct assessments of the effectiveness of workforce training programs and to report the results.

## **Transportation and Infrastructure**

### *Roadways*

- Develop an adequate and reliable source of funding for developing added capacity for Texas Highways as well as new construction in the range of an additional \$1 billion per year.
- Revise requirements for designating Heavy Haul Corridors to accelerate approval. Encourage the private sector to work with TXDOT to ensure that there are a sufficient number of these and that there is connectivity in the system.
- Revise rules and regulations allowing local governments to conduct commercial truck traffic safety inspections to eliminate multiple inspections on a single day.

### *Rail*

- Designate freight corridors (i.e. grade separated) and establish plan to fund these and other necessary improvements.
- Identify key bottlenecks to freight movement and encourage shippers, railroads and local communities to develop solutions.

### *Ports and Maritime*

- Identify gaps in multi-modal connectivity and work with port operators to develop additional facilities.
- Work with Federal and State agencies to expedite approval of permits for dredging existing waterways.
- Work with members of Congress and Federal and State agencies to return a larger share of funds deposited to the Inland Waterways Trust Fund intended for dredging.

### *Water resources*

- Encourage water conservation at all levels of use.
- Develop policies and process to facilitate greater re-use of water.
- Work with the private sector to encourage investment in public facilities, especially water reservoirs.
- Provide additional state funds and/or expanded underwriting for development of new water resources in partnership with local governments
- Encourage regionalism in development of water resources.

### *Electricity*

- Develop policies to flatten the electricity use curve and minimize peak demand.
  - Support development of additional reserve power.
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- Support measures to ensure there are sufficient, cost-effective resources to meet growing demand.

## **INTERIM CHARGES RELATED TO MANUFACTURING**

In addition to the work of this committee, a number of standing committees were assigned interim charges related to manufacturing. Their reports and recommendations will help complete the assessment of this key industry today and point to ways that we can ensure it continues to undergird a prosperous economy in Texas.

### **Charges to be studied by all Substantive House Committees**

Study and make recommendations for significantly improving the state's manufacturing capability.

### **House Committee on Border & Intergovernmental Affairs**

Examine the impact of the state's various economic development programs and evaluate their impact on communities along the Texas-Mexico border. Identify any changes to these programs that would improve economic development activity in those communities.

### **House Committee on Defense & Veterans' Affairs**

Study the current role of all Texas state military forces. Identify changes that would enhance the accountability and effectiveness of the state guard, air guard, and national guard and all other components of our state military forces.

### **House Committee on Economic & Small Business Development**

Examine previous Emerging Technology Fund (ETF) grants awarded for cancer-related research. Determine whether future awards for similar projects are appropriate for the ETF program or whether they should be considered by the Cancer Prevention and Research Institute of Texas.

Examine the impact of research at state universities on the state economy. Identify ways to increase the partnership opportunities between private business and research institutions to enhance the commercialization of newly discovered technology. (Joint with the House Committee on Higher Education)

Examine the state's efforts to encourage new business growth and retain existing businesses in order to strengthen our state's economy. Determine whether a consolidated approach to statewide economic development would be more effective.

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Examine the economic impact of the automobile industry in Texas and the state's ability to compete with other states for future automotive manufacturing facilities. Identify policies, regulations, and current statutes that either hinder or facilitate job growth and investment by the automotive industry. Review opportunities available to partner manufacturers' research and development with Texas colleges and universities, including technology enhancements in safety or alternative fuel systems.

Examine Texas' industry cluster initiatives in an effort to remain competitive in today's economic development arena. Review the implementation of recommendations made by the Governor's Competitiveness Council and consider new recommendations for Texas to remain an economic development leader.

Examine current economic development programs available in urban areas in Texas and other states. Report on successful programs and make legislative recommendations for innovative economic development programs. (Joint with the House Committee on Urban Affairs)  
Monitor the agencies and programs under the committee's jurisdiction and the implementation of relevant legislation passed by the 82nd Legislature, with specific attention to the implementation of HB 2457 (82R), regarding the oversight of the Emerging Technology Fund.

### **House Committee on Energy Resources**

Review current state and federal laws and regulations and make recommendations to encourage additional energy production in Texas. Focus on the impact energy production has on our state's economy.

In addition to monitoring the implementation of HB 3328 (82R), continue to study the implications of hydraulic fracturing for the state's energy needs, environmental policy, economic development, and other related priorities. Examine ways to ensure appropriate state and local regulation of hydraulic fracturing that matches the needs and conditions of Texas. Coordinate with the House Committee on Natural Resources' charge regarding water quantity and quality issues in oil and gas production, and with other committees, as necessary.

### **House Committee on Environmental Regulation**

Examine new and proposed Environmental Protection Agency rules that may impact permits for Texas facilities. Make recommendations, if needed, for changes in state regulatory programs or potential incentives to comply with federal mandates.

### **House Committee on Higher Education**

Review the various research funding programs available to institutions of higher education. Analyze the effectiveness of each program and recommend whether state funding should be continued. Consider whether the investments made in these programs are attracting research projects to Texas and whether more emphasis should be placed on policies that attract outside research funding to Texas. Consider whether maintaining multiple programs dilutes the state's efforts to attract groundbreaking research to Texas.

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Examine the impact of research at state universities on the state economy. Identify ways to increase the partnership opportunities between private business and research institutions to enhance the commercialization of newly discovered technology. (Joint with the House Committee on Economic & Small Business Development)

### **House Committee on Licensing & Administrative Procedures**

Study the feasibility of streamlining the process to obtain an occupational license. Consider consolidating all occupational licenses under one state agency and whether such a move would increase efficiency and effectiveness. Analyze the process being used in other states.

### **House Committee on Natural Resources**

Monitor the ongoing statewide drought and the performance of state, regional, and local entities in addressing it. Examine the impact of the drought on the state water plan, including an evaluation of how well the state's existing water resources can meet demand, the need for additional funding sources to implement the plan, and the effectiveness of current drought planning and drought management policies. Identify short-term and long-term strategies to help the state better cope with drought and assess any obstacles, including state and federal regulations, to implementation of these strategies.

Examine the interplay of water and energy resources and needs in the state. Study the economic, environmental, and social impacts of water use in energy production and exploration, including the impacts of this use on regional and state water planning. Determine the current and likely future water needs of power generation and energy production, and evaluate options to develop new or alternative supplies. Include an evaluation of current issues involving water use for oil and gas production and related water quality issues.

### **House Committee on Technology**

Examine ways to create incentives for technology companies to come to Texas, including the feasibility of public-private partnerships. The study should include the economic impact of the high-tech industry in Texas and the state's ability to compete with other states for high-tech jobs. Examine the state's current areas of differentiated technology research and development and recommend strategies to capitalize on that intellectual property and commercialization. Include strategies to attract Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) funding to Texas.

Examine human resource policies of state agencies that would integrate the implementation of social media to strengthen the state's workforce.

### **House Committee on Transportation**

Review the state of our current transportation infrastructure, including studying roadway, bridge,

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and waterway quality and long-range plans by the Texas Department of Transportation for maintaining these assets. Explore future needs of our infrastructure for the next decade and make recommendations to ensure long-range sufficiency.

### **House Committee on Urban Affairs**

Examine current economic development programs available in urban areas in Texas and other states. Report on successful programs and make legislative recommendations for innovative economic development programs. (Joint with the House Committee on Economic & Small Business Development)

### **House Committee on Ways & Means**

Evaluate the state's tax structure and determine its impact on the competitiveness of the Texas business climate. Specifically, determine the impact of the state's major taxes, including the sales tax and franchise tax, as well as tax exemptions, exclusions, and credits on economic growth, capital investment, and job creation in Texas. As part of this review, evaluate the franchise (margins) tax and determine whether the tax structure should continue to exist in its current form or in a revised form, or whether the existing tax structure should be repealed and replaced with a different business tax.

## **APPENDIX**

### **PUBLIC TESTIMONY**

Alcantar, Andres (Texas Workforce Commission)  
Arnold, Joe (Texas Association of Manufacturers)  
Austin III, Jeff (Texas Transportation Commission)  
Bartlett, Michael (Vital Art and Science Incorporated)  
Beskid, Craig (East Harris County Manufacturers Association)  
Brittin, Carolyn (Texas Water Development Board)  
Burke, Chad (Economic Alliance Houston Port Region)  
Chen, Frank (University of TX - San Antonio)  
Craymer, Dale (Texas Taxpayer and Research Association)  
Dewey, John (San Antonio Manufacturing Association)  
Dreyer, Lauren (SpaceX)  
Ellard, Andy (NFIB Texas, Manda Machine Co. Inc.)  
Esquivel, Eva (Workforce Solutions Alamo)  
Fainter Jr., John W (Association of Electric Companies of Texas, Inc.)  
Garcia, Jerry (Texas Association of Builders)  
Garver, Mike (Self)  
Hammond, Bill (Texas Association of Business)  
Hernandez, Mario (San Antonio Eco. Dev. Found.)

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Lara, Rene (Texas AFL-CIO)  
Marian, Thomas (Buffalo Marine Services, Inc.)  
Margo, Carlos (South Texas College)  
Mann, James (Texas Pipeline Association)  
Mayer, Paul (Garland Economic Development Partnership, Dallas County Manufacturers Association)  
Midgley, Mike (Austin Community College)  
Oldham, Phillip (Texas Association of Manufacturers)  
Palladino, Thomas (Texas Veterans Commission)  
Pauken, Tom (Texas Workforce Commission)  
Reeser, Mike (Texas State Technical College)  
Salinas, Gilberto (Brownsville Economic Development Council)  
Shipp, Earl (The Dow Chemical Company)  
Stewart, Michael (Freight Shuttle International)  
Stockton, Bill (Texas A&M Transportation Institute)  
Paredes, Raymund (Texas Higher Education Coordinating Board)  
Riley, Pete (Bell Helicopter)  
Russell, James (Texarkana College)  
Ward, Leslie (AT&T)  
Zaragoza, Frederico (Alamo Colleges)

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