



JPMORGAN CHASE & CO.

CORPORATE RESPONSIBILITY

Human Capital and Long-Term Growth in Houston

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“Workforce development should be thought of as more than just a short-term treatment — it also can work as a long-term vaccine that makes workers more resilient to changing labor market conditions.”

Jeffrey M. Lacker, President and CEO
Federal Reserve Bank of Richmond

Today's Topics

Consequences of a Skills Gap

Houston's Skills Gap

JPMorgan Chase's Houston Skills Gap Report

Solutions Underway

Actions for the Future

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How Did We Get Here?

Changing skills

Demographics

Policies and Priorities

Culture

Field of study choice

The Economic Impact of Unfilled Jobs

	Annual openings	Annual # of graduates	Gap (includes estimated retirements)	Average salary (unskilled worker)	Average salary for machinist	Average salary (with experience)
Example: Machinists*	745	62	683	\$20,000	\$41,000	\$60,000

*Machinists set up and operate a variety of machine tools to produce precision parts and instruments.

By training **one** unskilled worker...

- **Increase** regional income by at least \$21,000 (\$41,000 - \$20,000)
- **Add** jobs (jobs multiplier adds 1.34 to 2 jobs in other industries)
- **Expand** of output of machinist-employing firms and other industries

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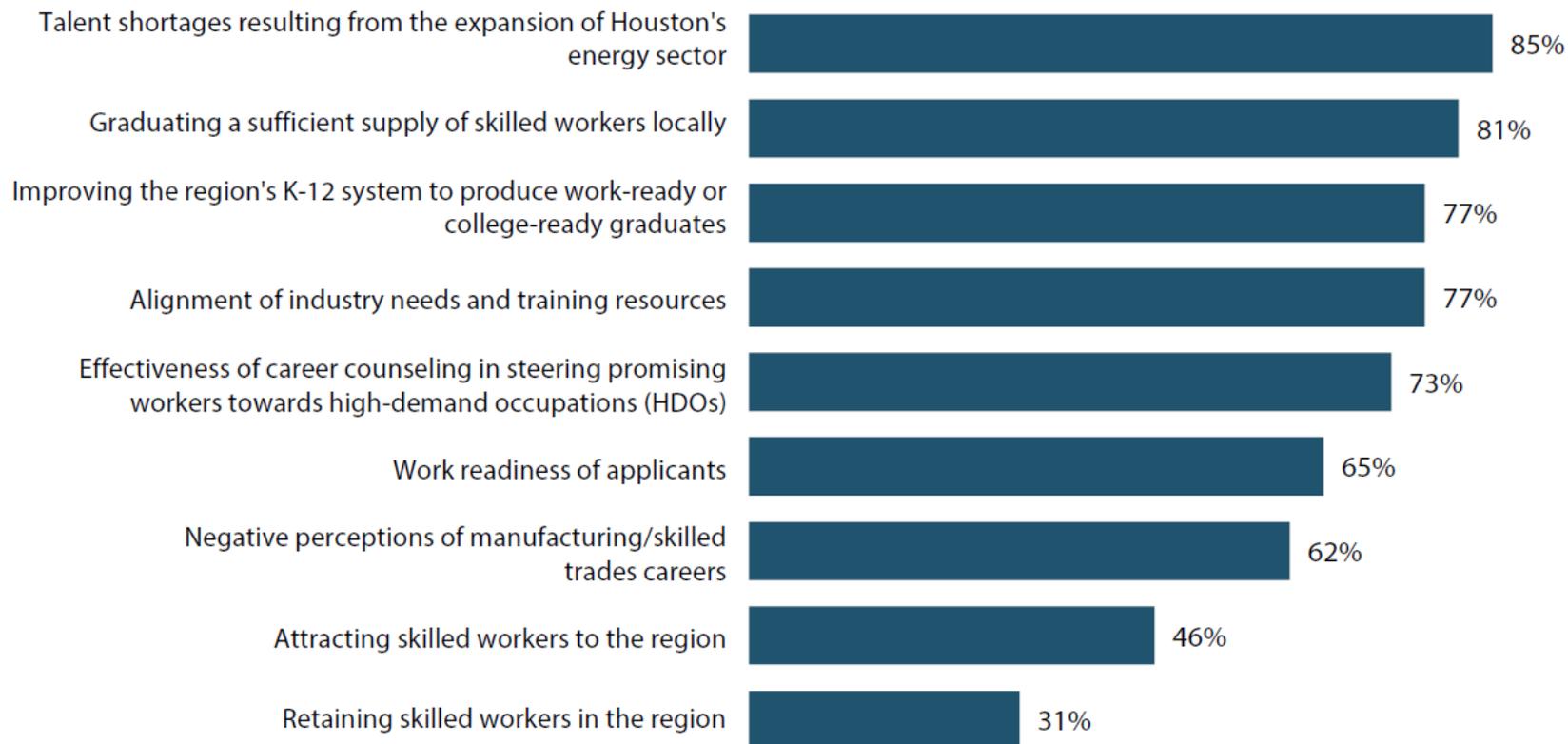
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Houston's Greatest Workforce Challenges

FIGURE 2: HOUSTON'S GREATEST WORKFORCE CHALLENGES
SHARE OF REGIONAL WORKFORCE DEVELOPMENT TASK FORCE MEMBERS WHO CITED ISSUE AS A CHALLENGE



Source: Survey of RWDTF members conducted by TIP Strategies in July 2013

Houston's Workforce System Gaps



Awareness of middle skills opportunities



Lack of basic skills & employability issues



Poor coordination among resources



Lack of reliable data on supply and demand

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JPMorgan Chase Responds

OUR COMMITMENT

Helping people gain the skills they need to compete for jobs can transform lives and strengthen economies.

Features

- Five year timeline
- \$250 million global initiative



Results to date

- Contributed \$50 million to nonprofits in more than 130 cities, counties, regions and countries across the globe
- Thousands of job seekers have completed training programs and now are working in good jobs, earning significantly better pay than they were making before.



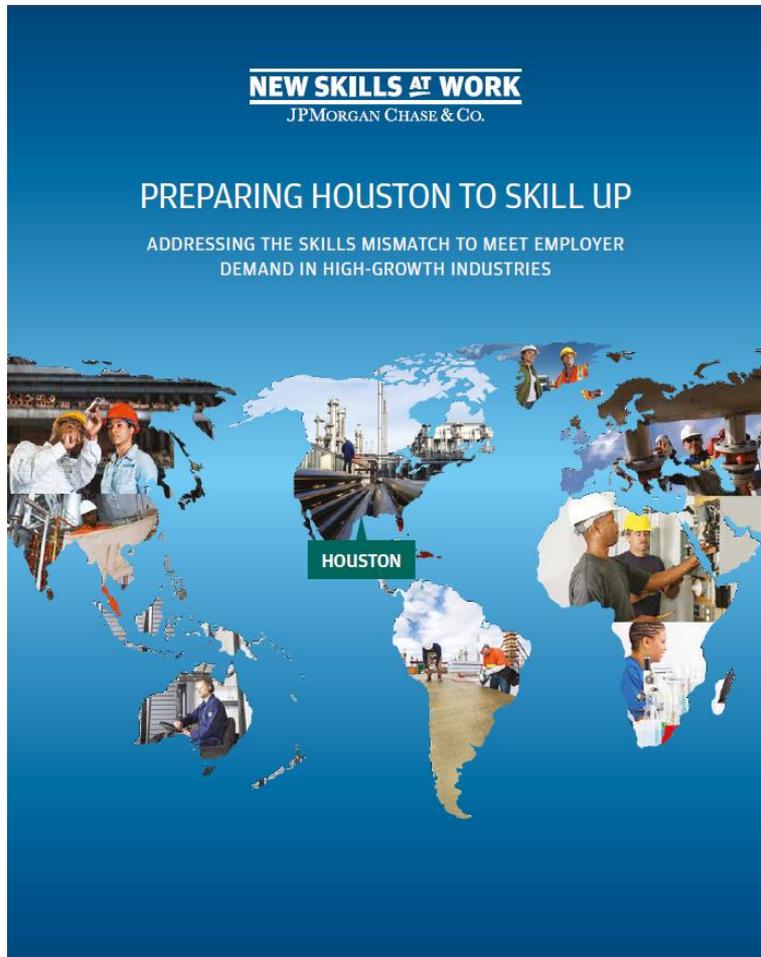
NEW SKILLS ^{AT} WORK

JPMORGAN CHASE & CO.

www.jpmorganchase.com/corporate/Corporate-Responsibility/new-skills-at-work

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Houston's Skills Gap Report



PETROCHEMICAL



COMMERCIAL AND INDUSTRIAL CONSTRUCTION



Petrochemical growth spurs growth in commercial and industrial construction.

PETROCHEMICAL



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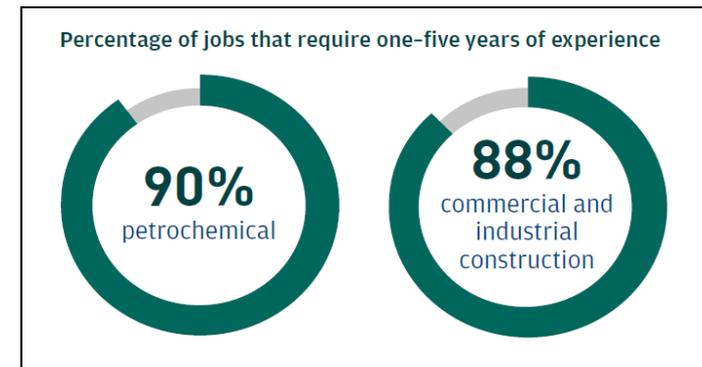
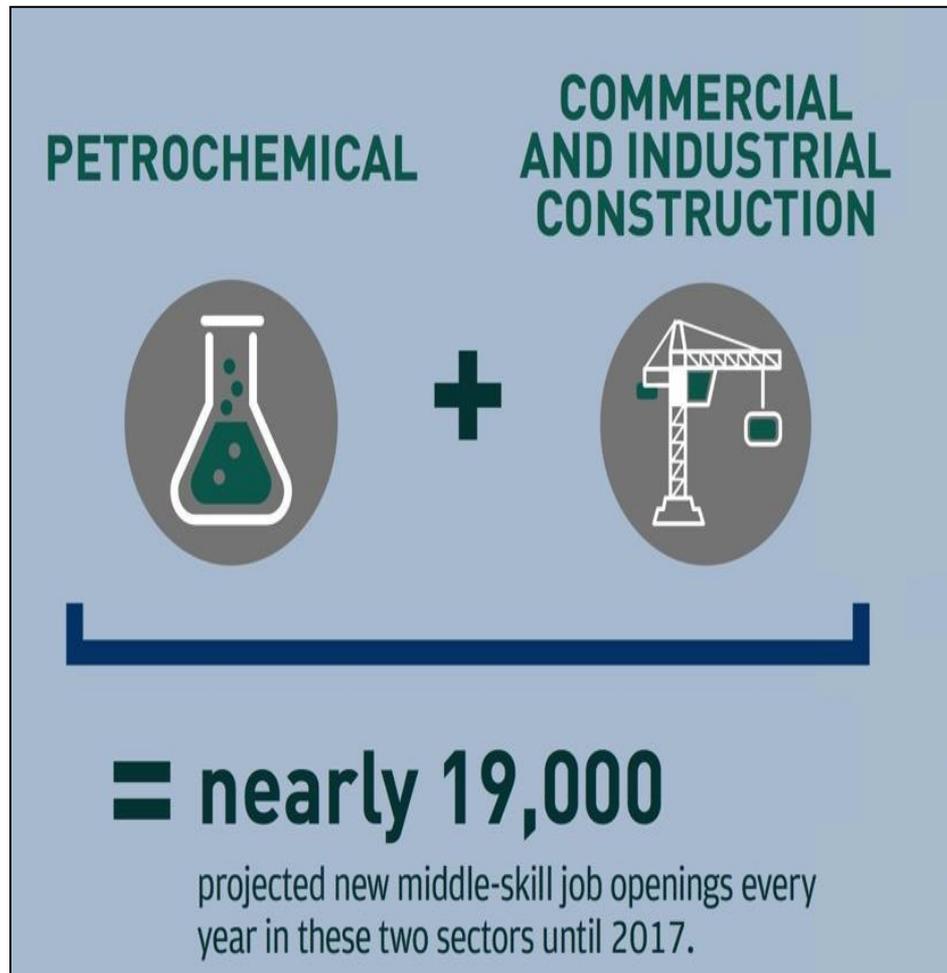
120
facilities and

\$80 billion
in total investments over
the next few years

(Source: TIP Strategies)

<http://www.jpmorganchase.com/corporate/Corporate-Responsibility/nsaw-houston-skills-gap-report.htm>

Houston's Skills Gap Report - DEMAND



Houston's Skills Gap Report - DEMAND

TABLE 1. EXAMPLES OF DEMAND IN MIDDLE-SKILL OCCUPATIONS IN PETROCHEMICAL AND COMMERCIAL AND INDUSTRIAL CONSTRUCTION SECTORS IN THE HOUSTON MSA, 2013

Middle-Skill Occupations	Projected Annual Openings (2012-2017)	Job Postings (2014)	Share of Current Workers 55 years and older
Maintenance and Repair Workers	1,152	5,248	24%
General and Operations Managers	1,571	3,646	23%
Heavy and Tractor-Trailer Truck Drivers	2,877	7,073	25%
First-Line Supervisors of Mechanics, Installers, and Repairers	537	1,530	25%

See Tables 1 and 2 in Appendix B for full list of high-demand occupations in these sectors and data sources.

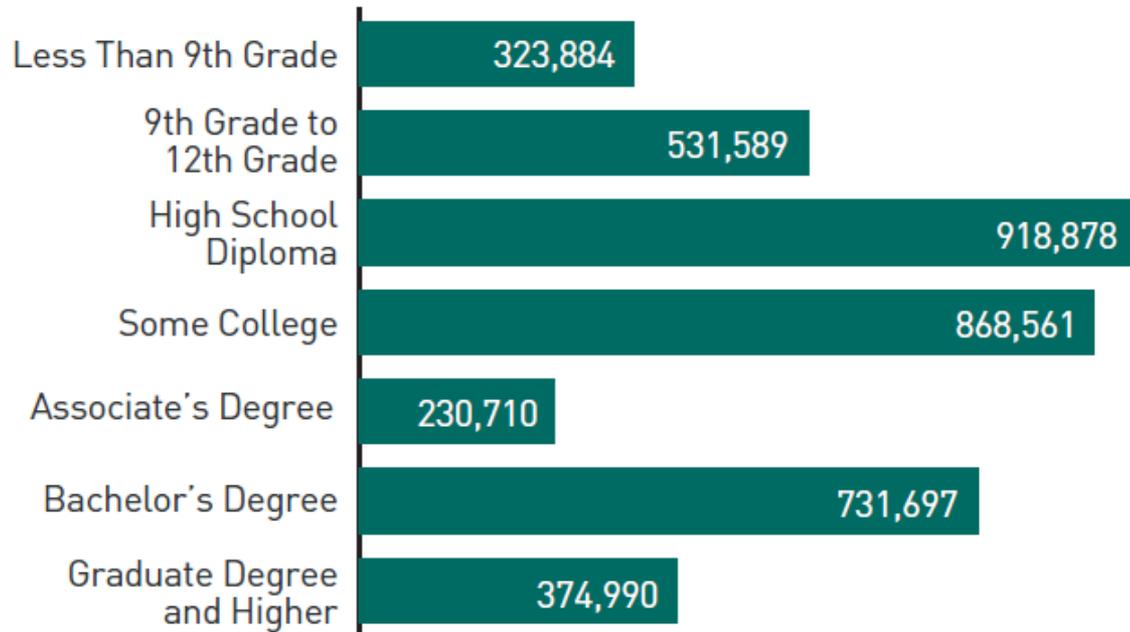
Houston's Skills Gap Report - DEMAND

TABLE 3. SELECTED MIDDLE-SKILL OCCUPATIONS IN PETROCHEMICAL AND COMMERCIAL AND INDUSTRIAL CONSTRUCTION SECTORS THAT PAY MIDDLE-INCOME WAGES IN THE HOUSTON MSA, 2013³⁴

Petrochemical Middle-Skill Occupations	Median Hourly Wage	Commercial and Industrial Construction Middle-Skill Occupations	Median Hourly Wage
Chemical Plant and Systems Operators	\$33.08	Electricians	\$20.80
First-Line Supervisors of Production & Operating Workers	\$30.61	Plumbers, Pipefitters, and Steamfitters	\$22.53
Industry Machinery Mechanics	\$23.14	First-Line Supervisors of Construction Trades and Extraction Workers	\$24.31
General and Operations Managers	\$46.78	Welders, Cutters, Solderers, and Brazers	\$18.24
Business Operations Specialists, All Other	\$35.71		
Purchasing Agents, Except Wholesale, Retail, and Farm Products	\$30.83		
First-Line Supervisors of Mechanics, Installers, and Repairers	\$29.23		
Petroleum Pump System Operators, Refinery Operators and Gaugers	\$32.07		

Houston's Skills Gap Report - SUPPLY

FIGURE 3. EDUCATIONAL ATTAINMENT IN HOUSTON MSA, 2013



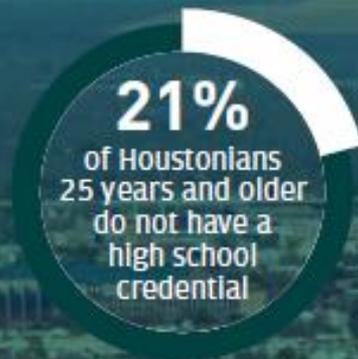
Source: EMSI

Houston's Skills Gap Report - SUPPLY

In 2013,

over 855,000

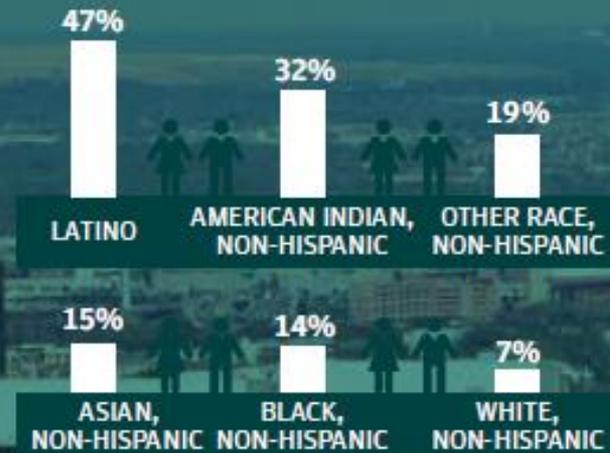
Houstonians aged 25 and older did not have the minimum credentials for middle-skill jobs.



(Source: EMSI)

Communities of color are the fastest-growing segments of the population, but have some of the lowest educational attainment rates.

Percent of each population age 25 years and older without a high school credential in 2013



(Source: EMSI)

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Houston's Business Community Leads the Way

UP **SKILL** HOUSTON

Success. Demands. Skills.

GOALS

- Raise awareness about middle skill opportunities
- Increase access to relevant education and training
- Improve coordination among stakeholders



FUEL
HOUSTON



BUILD
HOUSTON



SHIP
HOUSTON



HEAL
HOUSTON



POWER
HOUSTON



ENERGIZE
HOUSTON



CREATE
HOUSTON

<https://www.houston.org/upskillhouston/>

Community Colleges Offer Fast Track Training

Accelerate Lone Star

- **Featured programs of study**
 - Machining
 - Welding
 - HVAC Technician
 - Automotive Technician

- **Results**
 - 83% received certificates
 - 76% found jobs and/or continued education

- Accelerate is also offered at Brazosport, College of the Mainland, Galveston, Houston Community College, Lee College

- **Other Fast Track approaches are available at community colleges across the region.**



<http://www.lonestar.edu/acceleratelonestar.htm>

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A Workforce System that Promotes Long- Term Growth

- Goal: to build a demand-driven career pathways system that is responsive to the changing needs of the high-growth sectors that fuel Houston's economy.
 - **Career pathways** describe the education and training programs that offer a well-articulated sequence of courses and work experiences that lead to stackable credentials.
 - **Stackable credentials** allow students to have multiple clear entry/exit points as they progress towards an Associate's degree or the highest industry credential required.
- Apprenticeships, Work-Based Learning Opportunities and additional Sector Councils are needed.

Sources Referenced

- “Addressing Houston’s Middle Skills Jobs Challenge”, Greater Houston Partnership, April 2014
- “Investing in People as an Economic Growth Strategy”, Jeffrey Lacker, President of Federal Reserve of Richmond
- “Preparing Houston to Skill Up”, JPMorgan Chase and Co, 2014
- “The Skills Gap: A National Issue That Requires a Regional Focus”, EMSI

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