2019 UpSkill Works

Opportunity for All: Accelerating UpSkill Houston's impact and scale

JUNE 25, 2019
What we will share today

Setting the context: Houston NEXT and Opportunity for All

UpSkill's role and successes

Houston's labor market for middle-skill jobs

Key trends shaping the middle-skill workforce of the future

Looking ahead: Accelerating impact for UpSkill
Houston positioned for fastest population growth among top 5 US cities

5 Largest MSAs in the US

<table>
<thead>
<tr>
<th>City</th>
<th>2018 Population (M)</th>
<th>2030 Population (M)</th>
<th>Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>New York</td>
<td>20</td>
<td>20</td>
<td>+3%</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>13</td>
<td>14</td>
<td>+5%</td>
</tr>
<tr>
<td>Chicago</td>
<td>10</td>
<td>10</td>
<td>+2%</td>
</tr>
<tr>
<td>Dallas - Fort Worth</td>
<td>8</td>
<td>9</td>
<td>+15%</td>
</tr>
<tr>
<td>Houston</td>
<td>7</td>
<td>8</td>
<td>+17%</td>
</tr>
</tbody>
</table>

Source: American Fact Finder—US Census Bureau, Urban Institute “Mapping America’s Future”
As Houston's population expands, demographics are rapidly shifting

- **Houston 2005**
  - Other: 6%
  - Asian: 16%
  - African American: 32%
  - Hispanic/Latino: 45%

- **Houston 2017**
  - Other: 7%
  - Asian: 17%
  - African American: 37%
  - Hispanic/Latino: 37%

- **US 2017**
  - Other: 5%
  - Asian: 12%
  - African American: 18%
  - Hispanic/Latino: 62%

70% of Houstonians aged <20 are people of color

Source: U.S. Census Bureau, 2013 – 2017; American Community Survey 5-Year Estimates, American Community Survey, Local Area Unemployment Statistics
Also benefit from industry diversity — no single sector dominates employment.

Houston Metro region employment by Industry (2018)

1. Includes Management, Engineering, IT, & Law
2. Includes Medicine & Pharmaceuticals
3. Includes Oil & Gas Extraction
4. Includes Refining & Petrochemical Ops

With population growth & industry diversity, Houston continues to lead the nation in job growth

<table>
<thead>
<tr>
<th>20 most populous metro areas</th>
<th>Employment growth, percent change, Oct’17 to Oct’18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Houston, TX</td>
<td>3.9%</td>
</tr>
<tr>
<td>Phoenix, AZ</td>
<td></td>
</tr>
<tr>
<td>Seattle, WA</td>
<td></td>
</tr>
<tr>
<td>Dallas, TX</td>
<td></td>
</tr>
<tr>
<td>Denver, CO</td>
<td></td>
</tr>
<tr>
<td>Riverside, CA</td>
<td></td>
</tr>
<tr>
<td>Miami, FL</td>
<td></td>
</tr>
<tr>
<td>Atlanta, GA</td>
<td></td>
</tr>
<tr>
<td>Tampa, FL</td>
<td></td>
</tr>
<tr>
<td>Boston, MA</td>
<td></td>
</tr>
<tr>
<td>Washington, DC</td>
<td></td>
</tr>
<tr>
<td>Baltimore, MD</td>
<td></td>
</tr>
<tr>
<td>San Diego, CA</td>
<td></td>
</tr>
<tr>
<td>San Francisco, CA</td>
<td></td>
</tr>
<tr>
<td>Minneapolis, MN</td>
<td></td>
</tr>
<tr>
<td>Philadelphia, PA</td>
<td></td>
</tr>
<tr>
<td>Los Angeles, CA</td>
<td></td>
</tr>
<tr>
<td>New York, NY</td>
<td></td>
</tr>
<tr>
<td>Detroit, MI</td>
<td></td>
</tr>
<tr>
<td>Chicago, IL</td>
<td></td>
</tr>
</tbody>
</table>

To support this growth, Houston has a balanced labor economy – that provides multiple entry points into the workforce

**Typical entry-level education and essential skills**

<table>
<thead>
<tr>
<th>Low skills workforce</th>
<th>Emerging middle skills workforce</th>
<th>Advanced middle skills workforce</th>
<th>High skills workforce</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varied levels of work experience</td>
<td>&lt;5 years work experience + no OJT + essential skills</td>
<td>Varied levels of education and work experience required</td>
<td>Varied levels of education, skills, and work experience required</td>
</tr>
<tr>
<td>Essential skills: communications and time management</td>
<td>No work experience + short-term OJT + skills</td>
<td>Essential skills: critical thinking and persuasion</td>
<td>Essential skills: decision making and creativity</td>
</tr>
</tbody>
</table>

**Table:**

<table>
<thead>
<tr>
<th>Education Level</th>
<th>OJT Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>No formal education</td>
<td>None</td>
</tr>
<tr>
<td>High school diploma or equivalent</td>
<td>Short term on the job</td>
</tr>
<tr>
<td>Some college, no degree</td>
<td>Moderate on the job</td>
</tr>
<tr>
<td>Post-secondary nondegree award</td>
<td>Long term on the job</td>
</tr>
<tr>
<td>Associate's degree</td>
<td>Apprenticeship</td>
</tr>
<tr>
<td>Bachelor's degree</td>
<td>Internship/residency</td>
</tr>
<tr>
<td>Master's degree</td>
<td>Doctoral or professional degree</td>
</tr>
</tbody>
</table>

Source: Greater Houston Regional Workforce Study, TEConomy 2019
'Houston NEXT' aims to position Houston as a top global city and ensure residents can share in region's economic prosperity.
UpSkill is a part of Houston NEXT's "Opportunity for All", playing a key role in middle skills for Houston.
UpSkill helps develop both the 'flow' and 'stock' of middle-skill workers

- **PUBLIC EDUCATION (PRE-K – 12)**
- **HIGHER EDUCATION**
- **WORKFORCE DEVELOPMENT**

Incoming workforce i.e. 'Flow'

Existing workforce i.e. 'Stock'
Increasing eligibility for middle-skill jobs enables a 30% – 55% increase in median income

% Houston's working population >25 yrs

1. Associates degrees constitute 1/4th of the 28%, i.e. 7% of total
Source: U.S. Census Bureau (2005), 2013 - 2017 American Community Survey 5-year estimates
Middle skills jobs provide "Opportunity for All" through desirable career entry and transition pathways

**Petrochemical**
- $74K for Industrial Production Manager
- $38K for Engineering Technicians
- $29K for Production Workers

**Construction**
- $85K for Construction Managers
- $44K for Heating, A/C Mechanics & Installers
- $30K for Maintenance and Installation Helpers

**Healthcare**
- $70K for Registered Nurse
- $43K for licensed vocational nurse
- $30K for Medical Assistant

1. Salary shown is for a Registered Nurse position not requiring a Bachelor's degree
Source: BurningGlass job and median wages data for middle-skills occupations in Houston, 2019
Advanced middle skills requiring 2-year technical degrees provide additional income opportunities

**Petrochemical**
- $129K for Plant Supervisor
- $76K for Front Line Supervisor
- $65K for Process Technician

**Healthcare**
- $79K for Radiation Therapist
- $60K for MRI Technologist
- $49K for Radiation Technician

Source: 1. PetrochemWorks.com; 2. BurningGlass job and median wages data for middle-skills occupations in Houston, 2019
Yet, ~40% of the existing workforce ('stock') does not possess the education/ skills necessary to fill middle-skill jobs.

- **17%** of adults in Houston lack a high school diploma (compared to 12% nationwide)
- **23%** of adults in Houston have a high school diploma but no post-secondary credentials

Source: American Community Survey (Houston MSA, 2017, Adults >18)
And, even more concerning, ~75% of the incoming workforce ('flow') may not possess the education/skills necessary to fill middle-skill jobs.

1. Includes dropout and continuing students, for which outcomes were not tracked.
Source: Transitioning to College and Work, Brian Holzman, Rice Houston Education Research Consortium (2016); study includes 26,738 HISD students.
Education disparity more pronounced among people of color; with Hispanic population least likely to finish high school

<table>
<thead>
<tr>
<th></th>
<th>Less than HS</th>
<th>HS Diploma or GED</th>
<th>Some College or Associate's Degree</th>
<th>Bachelor's Degree</th>
<th>Graduate Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hispanic/Latino</td>
<td>25%</td>
<td>40%</td>
<td>19%</td>
<td>12%</td>
<td>10%</td>
</tr>
<tr>
<td>African American</td>
<td>25%</td>
<td>40%</td>
<td>19%</td>
<td>12%</td>
<td>10%</td>
</tr>
<tr>
<td>White</td>
<td>19%</td>
<td>32%</td>
<td>29%</td>
<td>18%</td>
<td>12%</td>
</tr>
<tr>
<td>Asian</td>
<td>9%</td>
<td>33%</td>
<td>33%</td>
<td>18%</td>
<td>12%</td>
</tr>
</tbody>
</table>

Founding objectives of UpSkill

**Attract** Houston residents to middle-skill positions by raising awareness and changing perceptions

**Train** individuals in skills necessary for success based on industry demand and transferability

**Place** workers in middle skill jobs, reward those who continue to upgrade skills, and mentor those who need support
UpSkill brings Houston stakeholders together to achieve these objectives
Number of entities participating in UpSkill has almost tripled since 2014

Total UpSkill participation

- 2014: 72 entities
- 2019: 195 entities
- Increase: +171%

Breakdown by entity type

- Business:
  - 2014: 44 entities
  - 2019: 130 entities
  - Increase: +195%
- Education:
  - 2014: 14 entities
  - 2019: 33 entities
  - Increase: +136%
- Community:
  - 2014: 11 entities
  - 2019: 25 entities
  - Increase: +127%
- Public:
  - 2014: 3 entities
  - 2019: 7 entities
  - Increase: +133%

Number of entities participating in UpSkill has almost tripled since 2014.
Since its founding, UpSkill has laid a strong foundation by bringing key leaders in the Houston area together

- Bringing key business, education and community leaders together
- Facilitating and maintaining momentum of industry collaboratives
- Inspiring collective action and impact by aligning efforts
- Increasing awareness and appreciation of middle-skill careers
- Garnering national media recognition in addressing skills gap
Women in Industry Conference: Increasing awareness of middle-skill careers
My Life As video series: Increasing appreciation of middle-skill careers
PetrochemWorks: partnership to engage community members through digital platforms
Hire Houston Youth:
Community platform to connect Houston youth to resources and paid summer jobs.
Train and Place

Trio Electric Company apprenticeships:

Partnership with Spring Branch ISD and Houston Community College to help further career opportunities for students
S&B Engineers and Constructors' Hire and Learn Program:

Workforce development program geared to enable "earning while learning" for craft professionals
Secretary of Commerce Pritzker at LyondellBasell training facility opening:
Recognizing community efforts
Industry and Education Engagement:
Bringing business, education, and community leaders together
UpSkill Works Conference 2018: Bringing business, education, and community leaders together.
We believe UpSkill can build on positive momentum and further accelerate impact in the region by...

... helping place students/workers in jobs that offer highest possibility for career progression

... helping employers find the right skills and reduce lead time to fill positions and retain employees

... more fundamentally changing perceptions about middle-skill jobs
Labor market for middle-skill jobs in Houston
Greater Houston middle-skill jobs witnessed double digit growth from 2010 to 2018

For Greater Houston, Middle Skill Jobs Matter

Region’s 921,000 Core Middle Skills Jobs (Entry + Advanced):

✓ Account for a slightly larger share of regional jobs than the national average (30% vs. 28%)
✓ Have outpaced the nation in growth during the current expansion (16% vs. 12%)
✓ Are expected to continue to grow faster over next 5 years (5% vs. 4%)

Source: TEConomy’s analysis of EMSI 2019.2 occupational employment data.
What is unique about Houston’s middle skills mix?
Region stands out with “specialized” relative employment concentrations (Location Quotients) in several occupational areas:

- Extraction occupations (LQ is 1.72)
- Technicians & Drafters (LQ is 1.61)
- Construction (LQ is 1.32)
- Transportation, Material Moving (LQ is 1.23)
- Sales & Office Support (LQ is 1.16)

Sales, production, maintenance and repairs occupations account for half of the middle-skill jobs in Houston

Source: TEConomy’s analysis of EMSI 2019.2 occupational employment data.
Four major areas stand out with especially strong middle-skill demand in Houston

- Regional “High-demand” analysis conducted considering employment concentration, wages, and projected openings finds following major middle skill areas:
  1. Technicians and Drafters
  2. Extraction
  3. Transport/Material Moving
  4. Construction

- But when considering sheer volume of projected openings; high-demand index; and importance across regional industry clusters, a range of detailed occupations emerge:
  1. Electricians
  2. First-Line Supervisors of Construction Trades and Extraction Workers
  3. Operating Engineers and Other Construction Equipment Operators
  4. Plumbers, Pipefitters, and Steamfitters
  5. Industrial Machinery Mechanics
  6. Chemical Equipment Operators and Tenders
  7. Inspectors, Testers, Sorters, Samplers, and Weighers
  8. Welders, Cutters, Solderers, and Brazers
  9. Medical Secretaries
  10. Real Estate Sales Agents
  11. Sales Representatives, Services, All Other
  12. Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products

- All of these are in the "Entry" level middle skills group

Source: Greater Houston Regional Workforce Study: Assessing the Demand for Middle Skills Jobs, TEConomy, 2019
A breadth of high-volume demand in **Advanced Middle Skills** occupations have implications for Houston’s postsecondary schools/institutions.

**Advanced Middle Skills Occupations with at Least 500 Projected Annual Openings, 2019-2024**

<table>
<thead>
<tr>
<th>Occupational Description</th>
<th>Occupational Cluster</th>
<th>Annual Openings, 2019-2024</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heavy and Tractor-Trailer Truck Drivers</td>
<td>Transportation &amp; Material Moving</td>
<td>5,051</td>
</tr>
<tr>
<td>Bookkeeping, Accounting, and Auditing Clerks</td>
<td>Sales &amp; Office Support</td>
<td>3,865</td>
</tr>
<tr>
<td>Teacher Assistants</td>
<td>Education</td>
<td>2,944</td>
</tr>
<tr>
<td>Nursing Assistants</td>
<td>Healthcare Support</td>
<td>2,700</td>
</tr>
<tr>
<td>Medical Assistants</td>
<td>Healthcare Support</td>
<td>2,148</td>
</tr>
<tr>
<td>Preschool Teachers, Except Special Education</td>
<td>Education</td>
<td>1,537</td>
</tr>
<tr>
<td>Licensed Practical and Licensed Vocational Nurses</td>
<td>Healthcare Professionals &amp; Technicians</td>
<td>1,372</td>
</tr>
<tr>
<td>Computer User Support Specialists</td>
<td>IT &amp; Computer-related</td>
<td>1,240</td>
</tr>
<tr>
<td>Automotive Service Technicians and Mechanics</td>
<td>Installation, Maintenance, &amp; Repair</td>
<td>1,193</td>
</tr>
<tr>
<td>Dental Assistants</td>
<td>Healthcare Support</td>
<td>1,088</td>
</tr>
<tr>
<td>HVAC and Refrigeration Mechanics and Installers</td>
<td>Installation, Maintenance, &amp; Repair</td>
<td>827</td>
</tr>
<tr>
<td>Paralegals and Legal Assistants</td>
<td>Managerial &amp; Professional</td>
<td>797</td>
</tr>
<tr>
<td>Hairdressers, Hairstylists, and Cosmetologists</td>
<td>Facilities &amp; Personal Services</td>
<td>785</td>
</tr>
<tr>
<td>Clinical Laboratory Technologists and Technicians</td>
<td>Healthcare Professionals &amp; Technicians</td>
<td>581</td>
</tr>
<tr>
<td>Telecommunications Equipment Installers and Repairers</td>
<td>Installation, Maintenance, &amp; Repair</td>
<td>538</td>
</tr>
<tr>
<td>Firefighters</td>
<td>Protective Services</td>
<td>528</td>
</tr>
</tbody>
</table>

Source: TEConomy’s analysis of EMSI 2019.2 occupational employment data. Highlight denotes occupation predicted to have high demand levels based on calculated regional High-Demand Index.
Key trends shaping the middle-skill workforce of the future
What we have heard today: Houston faces a unique combination of growing middle-skills demand with a challenged supply pipeline

**Demand**
- ~1M middle-skill jobs in Houston
- Expected to continue to grow over next 5 years
- 65% jobs in TX in 2020 will require more than a High School Diploma

**Supply**
- ~40% of the 'existing workforce' has not completed education beyond high school
- Up to ~75% of 'incoming workforce' may lack required skills/education
- Evolving demographics likely to increase education gap

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1. Georgetown Public Policy Institute, Recovery: Job Growth and Education Requirements through 2020
Demand | Increase in level of skills and education required is the #1 force U.S. business leaders see as significantly impacting their organizations

The skills needed on the job are changing so rapidly that recruiting candidates with the right skills and learning mindset is a huge hurdle

 Possession of an Associate's Degree does not translate into a new candidate's ability to actually do the job

 Educational and credentialing institutions seem to have a hard time understanding and keeping up with the requirements of the industry

 Our job postings often go unfilled or have huge lead times due to lack of relevant skills in the existing workforce

Source: "Future Positive: How Companies Can Tap Into Employee Optimism To Navigate Tomorrow’s Workplace" (BCG, HBS), Stakeholder interviews with Houston industry leaders (2019)
Supply | Support and resources required to ensure sufficient upskilling

Top three obstacles workers perceive as preventing them from taking action on upskilling themselves:

1. Unaffordable immediate costs
2. Negative effect on wages
3. No time to invest
Which middle-skill supply issues are most critical for Houston to solve?

1. Attracting middle-skilled workers to the region
2. Retaining middle-skilled workers in the region
3. Negative perceptions of "middle-skill" careers
4. Effectiveness of career counseling towards high-demand occupations
5. Alignment of industry needs and training resources
6. K-12 system's ability to produce work-ready graduates
7. Lack of credentialing programs to produce work-ready applicants
8. HR practices that are not fully in sync with middle-skill job needs

Cast your vote now

Join at Slido.com
#UPSK
A strategy for the future also requires understanding the 'moving target' of middle skills.
Skills becoming obsolete more quickly, requiring regular training to maintain competency.

Current half-life of a technical skill is 2.5–5 yrs

Source: IEEE skills prediction, BCG analysis
Digitization to profoundly shape all jobs

82% of all middle skill job postings require digital skills\(^1\)

Jobs affected by digitization\(^2\)

- New occupations due to new technologies
- Augmented by AI/digital (shift to more non-routine)
- Routine jobs under the risk of being automated

<table>
<thead>
<tr>
<th>Year</th>
<th>2025</th>
<th>2035</th>
</tr>
</thead>
<tbody>
<tr>
<td>10%</td>
<td>58%</td>
<td></td>
</tr>
<tr>
<td>86%</td>
<td>12%</td>
<td></td>
</tr>
</tbody>
</table>

1. Digital skills includes both baseline (e.g. word processing) and advanced (e.g. coding) skills
In addition to basic digital skills, significant number of middle-skill jobs requiring soft skills

<table>
<thead>
<tr>
<th>Skill</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication Skills</td>
<td>40</td>
</tr>
<tr>
<td>Physical Abilities</td>
<td>24</td>
</tr>
<tr>
<td>Organizational Skills</td>
<td>21</td>
</tr>
<tr>
<td>Computer Literacy</td>
<td>20</td>
</tr>
<tr>
<td>Microsoft Office</td>
<td>17</td>
</tr>
<tr>
<td>English</td>
<td>16</td>
</tr>
<tr>
<td>Teamwork / Collaboration</td>
<td>16</td>
</tr>
<tr>
<td>Detail-Oriented</td>
<td>15</td>
</tr>
<tr>
<td>Problem Solving</td>
<td>14</td>
</tr>
<tr>
<td>Writing</td>
<td>12</td>
</tr>
<tr>
<td>Multi-Tasking</td>
<td>11</td>
</tr>
<tr>
<td>Building Effective Relationships</td>
<td>10</td>
</tr>
</tbody>
</table>

Source: Burning Glass, Houston (2018)
Pace of change and economic uncertainty make it difficult to predict talent requirements.

Note: Report showcases 'all skills' gaps, and not just 'middle skills'
Source: "Different Skills, Different Gaps" – Burning Glass Technologies and US Chamber of Commerce Foundation March 2018
Incoming workforce has different expectations of the work experience and atmosphere.

- **59%**: Of the workforce will be made up of millennials and gen Z by 2020.
- **76%**: Prioritize profession development elements of company culture.
- **72%**: Would like to be their own boss.
- **74%**: Want a more flexible work schedule.

To meet middle-skills gap, Houston has heavily invested in Associates degrees
...but 57% of the Associate's Degree completions are in Liberal Arts/Humanities causing credentials mismatch relative to demand

### Associate's Degree Completions by Program (Houston MSA, 2017)

<table>
<thead>
<tr>
<th>Program</th>
<th>Completions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liberal Arts and Sciences General Studies and Humanities</td>
<td>12,795</td>
</tr>
<tr>
<td>Health Professions and Related Programs</td>
<td>2,736</td>
</tr>
<tr>
<td>Business Management Marketing and Related Support Services</td>
<td>1,661</td>
</tr>
<tr>
<td>Engineering Technologies and Engineering-related Fields</td>
<td>895</td>
</tr>
<tr>
<td>Science Technologies/Technicians</td>
<td>746</td>
</tr>
<tr>
<td>Personal and Culinary Services</td>
<td>520</td>
</tr>
<tr>
<td>Multi/Interdisciplinary Studies</td>
<td>501</td>
</tr>
<tr>
<td>Education</td>
<td>438</td>
</tr>
<tr>
<td>Computer and Information Sciences and Support Services</td>
<td>309</td>
</tr>
<tr>
<td>Homeland Security Law Enforcement Firefighting and Related Protective Service</td>
<td>233</td>
</tr>
</tbody>
</table>

Note: Only top 10 programs shown (comprises 95% of degree completions); Breakdown of degree completions has been stable from 2015-2017 (<2% change for any program)

Source: IPEDS Data (2017)
Houston middle skilled jobs often come with elevated degree requirements, making positions harder to fill.

Note: Credentials gap exists when employers list bachelor’s degree requirement for a wide range of jobs, for occupations which could be undertaken by workers without a college degree. Source: Burning Glass (2018)
Which of these trends pose the greatest challenge to your organization or business today?

1. Skills becoming obsolete more quickly
2. Increasing requirement for digital skills
3. Requirement for soft skills/non-cognitive skills
4. Uncertainty in forward-looking business needs / talent demands
5. Changing expectations of younger incoming workforce
6. Mismatch between job demands and credentialing programs
7. Elevated degree requirements in job postings
Looking ahead: How are cities/organizations responding to the growing challenges of middle-skills development?
Middle-skills challenges not unique to Houston, various organizations making progress, but opportunity to do more
Growing network of organizations in Houston driving middle skill workforce development

### ATTRACT

- Career awareness
  - UpSkillMyLife.org
  - UpSkillHouston.org
  - Boys and Girls Clubs
  - Alief ISD
  - Region 4 ESC
  - Project GRAD
  - Goose Creek ISD
  - Houston ISD
  - Aldine ISD
  - Pasadena ISD
  - Fort Bend ISD
  - Dream It Do It
  - Women In Industry
- Career exploration
  - PetrochemWorks
  - LISC
  - BakerRipley
  - Workforce Solutions
  - SER
  - Wesley Community Center
  - Bridge Year
  - Women In Industry
  - United Way THRIVE
  - Capital IDEA
  - Dream It Do It
  - Lift & Move

### TRAIN

- Career preparation
  - ISD CTE programs
  - ISD TEKS
  - CEMF High School program
  - BakerRipley
  - Workforce Solutions
  - SER
  - Wesley Community Center
  - Capital IDEA
  - United Way THRIVE
  - LISC
  - Tri Electric PAP
  - ASE Education Foundation
- Pre-employment training
  - Jacobs Jumpstart (Lee College, WrkSolutions)
  - Fluor/Zachary skills development
  - BakerRipley
  - Trio Electric PAP
  - Community Colleges
  - CCPI
  - Lone Star College (CDL prog)
  - CEMF High School program
  - Workforce Solutions
  - SER
  - Wesley Community Center
  - Capital IDEA
  - ASE Education Foundation

### PLACE

- Onboarding
  - PetrochemWorks
  - S&B Women In Construction
  - Dow Apprenticeship Program
  - INEOS Apprenticeship Program
  - ExxonMobil onboarding program
  - Trio Electric Apprenticeship program
  - Construction Career Collab.
  - United Way THRIVE
  - Wesley Community Center
  - SER
  - Capital IDEA
  - LISC
- Full productivity
  - PetrochemWorks
  - S&B Women In Construction
  - Dow Apprenticeship Program
  - INEOS Apprenticeship Program
  - ExxonMobil onboarding program
  - Trio Electric Apprenticeship program
  - Construction Career Collab.
  - United Way THRIVE
  - Wesley Community Center
  - SER
  - Capital IDEA
  - LISC
- Retention
  - PetrochemWorks
  - Workforce Solutions

Note: Framework is from Talent Pipeline Management (TPM), developed by the U.S. Chamber of Commerce; Not all players in ecosystem shown
Yet, multiple efforts unable to meet all student, worker, and employer needs ... how can UpSkill accelerate their impact?
What role can UpSkill play in the future to "accelerate" impact?

1. Bringing various stakeholders from the Houston community together
2. Building awareness of careers that do not require four year degrees
3. Facilitating transparency of data on efforts to reskill/upskill in the region, and demand-supply gaps
4. Helping create work-based learning opportunities through industry collaboratives
5. Helping steer educators towards employers' needs
6. Improving the employability of applicants through basic skills & training
7. Influencing businesses, educators, and community organizations to work towards common workforce development goals

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