Understanding Greater Houston’s Regional Workforce: An interactive session to understand the region’s workforce and labor market trends

Afternoon Breakout Session
Presented by: TEConomy Partners, LLC
**Typical Entry-Level Education**

- **No formal education**
- **High school diploma or equivalent**
- **Some college, no degree**
- **Post-secondary nondegree award**
- **Associate's degree**
- **Bachelor's degree**
- **Master's degree**
- **Doctoral or Professional degree**

**Low Skills Workforce**
- Varied levels of work experience required
- Essential skills: time management and communications

**Emerging Middle Skills Workforce**
- < 5 years work experience + no OJT
- No work exp. + short-term OJT
- Essential skills: problem solving and collaboration

**Entry Middle Skills Workforce**
- Moderate to long-term OJT
- Apprenticeships
- Essential skills: adaptability and active learning

**Advanced Middle Skills Workforce**
- Varied levels of education, skills, and work experience required
- Essential skills: critical thinking and persuasion

**High Skills Workforce**
- Varied levels of education, skills, and work experience required
- Essential skills: decision-making and creativity

Source: TEConomy Partners, LLC.
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)

Source: TEConomy’s analysis of EMSI 2019.2 occupational employment data.
Current Employment Footprint of Houston Area High Demand Middle Skill Occupations by Segment

- 369,000 regional MS jobs identified as high-demand, represents 40% of MS employment; approximately 30% of all MS occupational categories

- Vast majority are in “Entry” MS segment

Source: TEconomy’s analysis of EMSI 2019.2 occupational employment data.
Regional “High-demand” analysis conducted considering employment concentration, wages, and projected openings finds 4 major middle skill areas stand out with especially strong demand:

1. Technicians & 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.
• Discussion topics:
  – Do these “high-demand” occupations and groupings resonate with your experience or what you know about Greater Houston?
  – Are there surprises here? Things you expected to see but didn’t?
  – Outsized share of high-demand MS occupations are found in the “Entry” segment. Presents opportunities for career focus, upskilling initiatives for those with a High School Diploma and needing moderate to longer-term OJT or even Apprenticeships to move from lower skills or “Emerging” segments into middle skills core.
Industry Clusters an Additional Important Lens on Regional Middle Skills Demand

• Project team considered industry clusters/focus areas of: “Houston Next”; 2014 UpSkill Houston Strategy; and Workforce Solutions

• 10 Clusters identified:
  – Biomedical
  – Construction
  – Corporate HQ’s
  – Digital Transformation
  – Education
  – Energy
  – Manufacturing
  – Petrochemicals
  – Real Estate
  – Transportation & Logistics

• 11th area considered for investigation (not a cluster): Employment Services
Occupational Skill Level Composition of Major Houston Industry Clusters, 2018

Source: TEConomy’s analysis of EMSI 2019.2 industry staffing patterns data.
*Note: Education cluster includes both private and public employees.
For Discussion:
Is the UpSkill initiative focused in the right industrial areas with its employer-led partnerships? Are the right industries represented at the table? Answer appears to be largely “yes”.

Thoughts?
Focus on Middle Skills Occupational Demand Within Major Industry Clusters

<table>
<thead>
<tr>
<th>Industry Cluster</th>
<th>Community Services &amp; Arts</th>
<th>Construction</th>
<th>Education</th>
<th>Extraction</th>
<th>Farming, Fishing &amp; Forestry</th>
<th>Food Services</th>
<th>Healthcare Professionals &amp; Technicians</th>
<th>Healthcare Support</th>
<th>Installation, Maintenance, &amp; Repair</th>
<th>IT &amp; Computer-related</th>
<th>Management &amp; Professional</th>
<th>Production</th>
<th>Protective Services</th>
<th>Sales &amp; Office Support</th>
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Source: TEConomy’s analysis of EMSI 2019.2 industry staffing patterns data.
Implications for Discussion: Potential focus areas for interventions have different contexts for regional demand

- Some high-demand occupational areas have intensive, primary role across just 1 or 2 industry clusters – e.g. Construction; Extraction
- Others play an important role in numerous industry areas – e.g. Transportation; Technicians & Drafters
- Other areas have sheer high volume requirements for future needs and play a big role in numerous industry clusters – e.g. Sales & Office Support; Installation/Maintenance/Repair
Considering the future of work and implications of increasing digital skills and automation

– A variety of emerging and ongoing trends are expected to impact middle skills workforce outlook
  • Global markets and supply chains
  • Changing demographics and business models
  • Integration of new technologies into work environments
  • Changing skills requirements

– Two trends in particular have potential for significant near-term impact for middle skills workforce alignment and preparation - risk of job displacement due to adoption of automation technologies by business and increasing digitization of work requirements across all types of jobs as companies integrate digital operations models
Houston’s current middle skills workforce makeup faces a **bimodal automation risk outlook** - middle skills occupations in services and healthcare have more secure outlook, while large employment segments in construction, production, repair, and transportation occupations face significant risk.

Source: TEConomy’s analysis of EMSI 2019.2 automation index.
High demand middle skills occupations over next 5 years focused in services-oriented as well as labor/production oriented occupations - very different automation risk profiles may necessitate a diverse set of strategies.

Source: TEConomy’s analysis of EMSI 2019.2 automation index.
Digital skills are becoming an increasingly necessary requirement for workers regardless of industry or education level

- Assessing gaps in digital skills can reveal places for targeted intervention

Can measure the digital skills profile of different occupations using O*Net data on required computer knowledge and interactivity in each middle skills occupation

- Maximum possible digital skills requirement score of 100, mean across all middle skills occupations is 49.5

Source: TEConomy’s analysis of O*Net and Brookings Institution methodology.
Houston’s middle skills jobs with higher concentrations of digital skills requirements are focused in healthcare, technician, professional, sales, and protective services segments with the largest employment segment requiring digital skills in sales and office support.

Construction and production segments with high employment footprints in Houston have low digital skills profiles – potential to increase skill sets to build adaptability for new dynamics in the workplace.

Source: TEconomy’s analysis of O*Net and Brookings Institution methodology.
• Discussion topics:
  – What experiences have you had that highlight some of the transitions that middle skills workers will face in these areas? Have these challenges been more around implications of technological change or shifts in workforce requirements?
  – Are there initiatives and interventions you have seen or heard about that have been effective at helping mitigate these risks and would they be effective in Houston?
  – Are there are other key challenges facing middle skills workers that intersect with these trends?
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