Human Development

2022 Congressional City Conference

In-Person

Sunday, March 13, 2022
1:00-4:00 p.m.
**Agenda: Human Development**

Congressional City Conference  
Sunday, March 13, 2022  
Room: Liberty Salons IJK  
1:00 – 4:00 p.m. eastern

### Sunday, March 13

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Title</th>
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<tbody>
<tr>
<td>1:00 p.m.</td>
<td>WELCOME, INTRODUCTIONS AND MEETING OVERVIEW</td>
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<tr>
<td></td>
<td>The Honorable Kacy Kostiuk, Chair</td>
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<td></td>
<td>Councilmember, Takoma Park, MD</td>
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<tr>
<td>1:20 p.m.</td>
<td>NLC OFFICER GREETING</td>
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<tr>
<td></td>
<td>The Honorable Victoria Woodards, First Vice President, National League of</td>
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<td></td>
<td>Cities</td>
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<td>Mayor, Tacoma, WA</td>
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<tr>
<td>1:30 p.m.</td>
<td>CONNECTING LOCAL WORKFORCE TO INFRASTRUCTURE JOBS</td>
</tr>
<tr>
<td></td>
<td>Brent Parton</td>
</tr>
<tr>
<td></td>
<td>Senior Policy Advisor, Employment &amp; Training Administration (ETA)</td>
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<tr>
<td></td>
<td>U.S. Department of Labor</td>
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<tr>
<td></td>
<td>Committee members will learn about the Department of Labor’s priorities with</td>
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<td></td>
<td>the American Rescue Plan Act (ARPA) and bipartisan infrastructure law</td>
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<td>implementation, including forthcoming competitive grant opportunities for</td>
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<td>cities, towns and villages. Members will also learn about the</td>
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<td>Administration’s ongoing workforce priorities with future congressional</td>
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<td></td>
<td>legislation. Come prepared to share how your city is planning to use ARPA</td>
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<td></td>
<td>funds towards workforce initiatives!</td>
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<tr>
<td>2:00 p.m.</td>
<td>WORKFORCE READINESS RESEARCH AGENDA</td>
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<tr>
<td></td>
<td>Erica Grabowski</td>
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<tr>
<td></td>
<td>Senior Program Specialist</td>
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<td></td>
<td>Center for City Solutions, NLC</td>
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<tr>
<td></td>
<td>NLC’s Center for City Solutions has an expanding portfolio of research</td>
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<td></td>
<td>focused on workforce development that can be leveraged in NLC’s advocacy</td>
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<tr>
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<td>efforts. Committee members will hear about the current and upcoming research</td>
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<td>that will focus on workers and how cities, towns and villages can work to</td>
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<td></td>
<td>match</td>
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<tr>
<td>2:15 p.m.</td>
<td>USING ARPA FUNDS TO SUPPORT EARLY LEARNING</td>
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<tr>
<td></td>
<td>Anna White</td>
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<td></td>
<td>Program Manager, Early Childhood Success</td>
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<td></td>
<td>Institute for Youth, Education and Families, NLC</td>
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<tr>
<td></td>
<td>Learn how cities are using their American Rescue Plan (ARPA) funds to</td>
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<td>support early learning. NLC’s Early Childhood Success team will share</td>
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</table>
innovations from case studies and findings from our database capturing how cities have utilized federal funding for programs/policies targeting young children.

<table>
<thead>
<tr>
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<th>Session</th>
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<tbody>
<tr>
<td>2:35 p.m.</td>
<td><strong>YOUTH EXCEL: CITIES ADVANCING EQUITABLE YOUTH ECONOMIC RECOVERY AND EMPOWERMENT</strong></td>
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<tr>
<td></td>
<td><strong>Michael Bartlett</strong>&lt;br&gt;Program Manager, Postsecondary and Workforce Success&lt;br&gt;Institute for Youth, Education, and Families, NLC</td>
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<tr>
<td>2:55 p.m.</td>
<td><strong>DEPARTMENT OF HOMELAND SECURITY UPDATES</strong></td>
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<td>• Update regarding Operation Allies Welcome&lt;br&gt;&lt;br&gt;<strong>Regina Garza</strong>&lt;br&gt;Director of Operations for Operation Allies Welcome</td>
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<td></td>
<td>• Update regarding Russia/Ukraine&lt;br&gt;&lt;br&gt;<strong>Brandon Wales</strong>&lt;br&gt;Senior Response Official (SRO) for the Domestic Preparedness &amp; Response Unified Coordination Group (UCG)</td>
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<tr>
<td>3:45 p.m.</td>
<td><strong>WRAP UP AND ADJOURNMENT</strong></td>
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**Attachments:**
- CCC Highlights for HD Committee Members
- NLC Policy Development and Advocacy Process
- REPORT: Hard-to-Fill Infrastructure Jobs: A Challenge to Building Our Future
- HD Committee Roster

**Next HD Committee Meeting:**
Tuesday, April 21, 2022
2:00 – 3:00 p.m. eastern via Zoom

**Upcoming 2022 Committee Meetings (all times are eastern and via Zoom, unless otherwise noted):**
- May 19, 2:00 – 3:00 p.m.
- Summer Board and Leadership Meeting: TBD
- July 7, 2:00 – 3:00 p.m.
- August 18, 2:00-3:00 p.m.
- September 15, 2:00 – 3:00 p.m.
- October 13, 2:00 – 3:00 p.m.
- City Summit: November 16-19, Kansas City, MO
**Congressional City Conference Highlights for HD Committee Members**

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<th>Time</th>
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<tr>
<td>Sunday, March 13</td>
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<tr>
<td>1:00 – 4:00 p.m.</td>
<td>Human Development Committee Meeting</td>
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<td>Monday, March 14</td>
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<tr>
<td>8:30 -10:00 a.m.</td>
<td>Opening General Session</td>
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<td>10:15 – 11:30 a.m.</td>
<td>Learning Lab: Building a Healthy, Supported, and Trained Workforce: How ARPA Can Help Your Community Invest in Worker Education and Training</td>
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<td>11:30-12:30 p.m.</td>
<td><strong>You are Invited:</strong> City Health Dashboard, a key NLC partner, invites you to join an exclusive discussion to inform a new Congressional District data dashboard with the goal of supporting city leaders in making the case for federal support and advocating for federal investments. Please join us to provide your expert input as part of this interactive focus on Monday, March 14 from 12:15-1:15 p.m. Sign up to join the focus group <a href="#">here</a>. Bring your boxed lunch and join this discussion.</td>
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<tr>
<td>11:30 – 1:05 p.m.</td>
<td>Council on Youth, Education &amp; Families Meeting</td>
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<td>1:45 – 3:15 p.m.</td>
<td>Afternoon General Session</td>
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<td>3:45 – 5:15 p.m.</td>
<td>Learning Lab: Legal Update: Court Cases Impacting Local Government</td>
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<td>Tuesday, March 15</td>
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<td>8:30-10:00 a.m.</td>
<td>Learning Lab: Equity and Economic Development: Charting the Course for an Equitable Recovery</td>
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<td>10:30 a.m.-12:00 p.m.</td>
<td>Learning Lab: ARPA Implementation in Your Community: Sharing Success and Challenges</td>
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<tr>
<td>12:15 – 1:45 p.m.</td>
<td>Luncheon and General Session</td>
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<tr>
<td>2:00 – 3:00 p.m.</td>
<td>CCC Hill Day Briefing</td>
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<td>7:30 – 9:30 p.m.</td>
<td>Evening Event/Closing Party</td>
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<tr>
<td>Wednesday, March 16</td>
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<tr>
<td>8:30-9:30 a.m.</td>
<td>Congressional Hill Day Kick-Off Breakfast</td>
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<tr>
<td>9:30 a.m. -12:30 p.m.</td>
<td>Hill Day Virtual Meetings</td>
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**By Preregistration Only (Monday and Tuesday):**

- White House Office Hours
- NLC Infrastructure Headquarters for Federal Administration Partners
As a resource and advocate for more than 19,000 cities, towns and villages, the National League of Cities (NLC) brings municipal officials together to influence federal policy affecting local governments. NLC adopts positions on federal actions, programs and proposals that directly impact municipalities and formalizes those positions in the National Municipal Policy (NMP), which guides NLC’s federal advocacy efforts.

NLC divides its advocacy efforts into seven subject areas:

- Community and Economic Development
- Energy, Environment and Natural Resources
- Finance, Administration and Intergovernmental Relations
- Human Development
- Information Technology and Communications
- Public Safety and Crime Prevention
- Transportation and Infrastructure Services

For each of the seven issue areas, a Federal Advocacy Committee advocates in support of NLC’s federal policy positions. Members of each Committee serve for one calendar year and are appointed by the NLC President.

Federal Advocacy Committees
Federal Advocacy Committee members are responsible for advocating on legislative priorities, providing input on legislative priorities, and reviewing and approving policy proposals and resolutions. Additionally, Committee members engage in networking and sharing of best practices.

Federal Advocacy Committees are comprised of local elected and appointed city and town officials from NLC member cities. NLC members must apply annually for membership to a Federal Advocacy Committee. The NLC President makes appointments for chair, vice chairs, and general membership. In addition to leading the Federal Advocacy Committees, those appointed as Committee chairs will also serve on NLC’s Board of Directors during their leadership year.

At the Congressional City Conference, Federal Advocacy Committee members are called upon to advocate for NLC’s legislative priorities on Capitol Hill, as well as develop the committee’s agenda and work plan for the year. Committee members meet throughout the year to further the plan, hear from guest presenters, discuss advocacy strategies and develop specific policy amendments and resolutions. At the City Summit, Committee members review and approve policy proposals and resolutions. These action items are then forwarded to NLC’s Resolutions Committee and are considered at the Annual Business Meeting, also held during the City Summit.

Advocacy
Throughout the year, Committee members participate in advocacy efforts to influence the federal decision-making process, focusing on actions concerning local governments and communities. During the Congressional City Conference, Committee members have an opportunity, and are encouraged, to meet with their congressional representatives on Capitol Hill. When NLC members are involved in the legislative process and share their expertise and experiences with Congress, municipalities have a stronger national voice, affecting the outcomes of federal policy debates that impact cities and towns.
HARD-TO-FILL INFRASTRUCTURE JOBS:
A Challenge to Building Our Future
About the National League of Cities
The National League of Cities (NLC) is the voice of America’s cities, towns and villages, representing more than 200 million people. NLC works to strengthen local leadership, influence Federal policy and drive innovative solutions.

Authors
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Federal Advocacy

Jacob Gottlieb
Research Specialist
Center for City Solutions

Michael Bartlett
Program Manager, Postsecondary
Success Basic Needs Initiative
Institute for Youth Education and Families

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For more than half a decade, the National League of Cities has called on Congress and the Administration to invest wholly in our nation’s infrastructure -- our roads, bridges, water systems, broadband networks and the local workers who will build and maintain these critical local assets. Now, as we sit on the cusp of a historic investment in our nation’s infrastructure through the bipartisan Infrastructure Investment and Jobs Act (IIJA), cities, towns and villages across the country are ready to address the critical, foundational needs of their communities and build towards the future.

But we know that we can’t build and maintain these assets without people. Even before the COVID-19 pandemic wreaked havoc on our local economies, our nation’s infrastructure businesses were challenged to find the skilled labor needed to fill their open positions.

Today, as millions of workers – particularly workers of color, young people, woman and immigrants – have lost jobs that aren’t coming back, an equitable recovery for these residents, for local businesses and for our communities would be best served by an investment in workforce training. These investments will help ensure that the jobs across infrastructure sectors that will be created by the historic federal infrastructure legislation will be filled and that shifting business demands in other sectors can be met.

As this report so clearly shows, infrastructure jobs are harder to fill than jobs in other industries, across all regions and all city sizes. As municipalities prepare to put infrastructure dollars to work, we must ensure that our worker supply meets business demand. Local leaders are already thinking creatively about how to scale-up infrastructure training programs – in Louisville, San Antonio, Camden, Milwaukee and beyond. We are working to ensure that the federal government comes to the plate to finish the job and invest at-scale in the workforce we need to build and maintain our nation’s critical infrastructure assets.

CLARENCE E. ANTHONY
CEO and Executive Director
National League of Cities
Our nation’s infrastructure is set to get a big, much needed boost from the Federal government’s American Rescue Plan Act and bipartisan Infrastructure Investment and Jobs Act. These new funding streams not only target expansion, maintenance, and remediation of a wide range of infrastructure systems and assets, from broadband and water systems to lead pipes and solar energy but will spur an unprecedented number of new infrastructure jobs.

These investments include both traditional brick-and-mortar spending along with new smart infrastructure like broadband, and have the potential to bring long-term economic returns, increasing Gross Domestic Product (GDP) by as much as $320 billion per year. Across our nation’s cities, towns and villages, this means a growing infrastructure workforce, improved resilience and a greater ability to meet the challenges of the future.

An infrastructure job is one in which the work required is related to the design, construction or maintenance of infrastructure. Despite the significant potential that infrastructure jobs hold for economic recovery and the immense anticipated demand for workers, little is known about how well our nation’s workforce is aligned, willing and ready to take on these new jobs. Based on a proprietary dataset of job postings in the U.S. from January - April 2021, this analysis examines the open and close date of all infrastructure jobs to determine those that take longest, and are hardest, to fill in our current pandemic/post-pandemic economy.

Key findings from this analysis indicate that:
- Infrastructure jobs are already a sizeable share of all job postings;
- Infrastructure jobs are harder to fill than jobs in other industries;
- Infrastructure jobs that take the longest to fill also pay the highest wages; and
- Infrastructure hiring challenges are relatively consistent across cities and regions with the starkest challenges in the Northeast.

Assessing the infrastructure labor market through the lens of hard-to-fill job postings provides new insights into our understanding of potential workforce challenges that may impede or delay the success of infrastructure funding priorities. Difficulty in filling certain jobs may be explained by anything from worker shortages to lack of on-ramps to career pathways and misalignment between workforce programs and industry demand. Given the range of factors potentially affecting employers’ ability to fill infrastructure jobs, this analysis suggests that policy makers and partners carefully consider why key jobs are hard-to-fill in their communities and regions and ensure that workforce strategies are part of their overall infrastructure planning.
Between January and April 2021, businesses in the U.S. posted over 6.2 million jobs. Nearly 650,000 or over 10% of them were infrastructure related (Figure 1).

An infrastructure job is one in which the work required is related to the design, construction or maintenance of infrastructure. Using this definition, this analysis classifies all U.S. Bureau of Labor Statistics (BLS) occupations as either infrastructure or non-infrastructure. This analysis classifies 291 occupations as infrastructure related.

Infrastructure job postings are sorted into 10 major groups (Figure 2).

Most infrastructure job postings this year belong to the Transportation and Material Moving; Installation, Maintenance and Repair; Architecture and Engineering; or Production occupation groups. Together, these four occupation groups account for more than three in four infrastructure job postings. The largest share of these infrastructure job postings is in the Transportation and Material Moving occupation group.

Figure 3 illustrates occupations and major groupings of occupations with the highest number of job openings.

**FIGURE 1**
Share of Job Postings

- 1M (10.4%) Infrastructure job openings
- 6M (89.6%) Non-Infrastructure job openings

**FIGURE 2**
Share of infrastructure job postings by occupation group

- Transportation and Material Moving: 22%
- Installation, Maintenance, and Repair: 19%
- Architecture and Engineering: 17%
- Production: 17%
- Management: 9%
- Construction and Extraction: 4%
- Life, Physical, and Social Science: 3%
- Office and Administrative Support: 3%
- Business and Financial Operations: 3%
- Computer and Mathematical: 2%

**FIGURE 3**
Infrastructure Jobs by Occupation Group

- Heavy and Tractor-Trailer Truck Drivers
- Light Truck Drivers
- Laborers and Freight, Stock, and Material Movers
- Industrial Truck and Tractor Operators
- Packers and Packagers
- First Line Supervisors of Production and Operating Workers
- Production Workers
- Inspectors, Testers, Sorters, Samplers and Weighers
- Assemblers and Fabricators
- Machinists
- Aircraft Mechanics and Service Technicians
- Automotive Service Technicians and Mechanics
- Avionics Technicians
- Bus and Truck Mechanics and Diesel Engine Specialists
- Industrial Engineers
- Mechanical Engineers
- Electrical Engineers
- Civil Engineers
- Industrial Engineering Technologists and Technicians
Infrastructure Jobs are Harder to Fill than Other Types of Jobs

To assess how difficult it is to fill an infrastructure job, we analyze two measures:

- the time between opening and closing of job postings and
- the share of jobs by occupational group that take longer than expected to fill (see methodology for more details).

These “time-to-fill” metrics are commonly used by human resources professionals to understand how well the labor market is suited to in-demand industries. When compared to non-infrastructure jobs, we find that infrastructure jobs are harder to fill. The median time-to-fill an infrastructure job is 23 days, compared with 19 days for a job not related to infrastructure (Figure 4). Additionally, 30% of infrastructure jobs are hard-to-fill, or take longer than expected to fill, whereas only 24% of all other jobs are hard-to-fill (Figure 5).
Infrastructure jobs in the Management occupation group take the longest to fill. These include jobs ranging from Computer and Information Systems Managers and Construction Managers to Quality Control Systems Managers and Industrial Production Managers. The median time-to-fill infrastructure-related Management positions was 29 days (figure 6). These positions also have the highest share of jobs that take longer than expected to fill, with 32% of these positions open for more than 45 days (figure 7). Similarly, Architecture and Engineering occupations have a median time-to-fill of 29 days, with one in four of those jobs taking longer than expected to fill (more than 56 days).

**32%**

Of infrastructure-related management positions are open for more than 45 days.

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**FIGURE 6**

Median Time-to-Fill and Median Hourly Wage for Infrastructure Jobs by Occupation group

<table>
<thead>
<tr>
<th>Occupation Group</th>
<th>Median Time-to-Fill (days)</th>
<th>Median Hourly Wage</th>
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</thead>
<tbody>
<tr>
<td>Architecture and Engineering</td>
<td>29.0</td>
<td>$39.98</td>
</tr>
<tr>
<td>Management</td>
<td>28.8</td>
<td>$52.77</td>
</tr>
<tr>
<td>Installation, Maintenance, and Repair</td>
<td>24.7</td>
<td>$23.44</td>
</tr>
<tr>
<td>Construction and Extraction</td>
<td>23.0</td>
<td>$23.37</td>
</tr>
<tr>
<td>Production</td>
<td>22.8</td>
<td>$18.62</td>
</tr>
<tr>
<td>Computer and Mathematical</td>
<td>22.4</td>
<td>$43.92</td>
</tr>
<tr>
<td>Life, Physical, and Social Science</td>
<td>22.0</td>
<td>$33.54</td>
</tr>
<tr>
<td>Business and Financial Operations</td>
<td>20.5</td>
<td>$34.73</td>
</tr>
<tr>
<td>Transportation and Material Moving</td>
<td>18.2</td>
<td>$16.38</td>
</tr>
<tr>
<td>Office and Administrative Support</td>
<td>17.0</td>
<td>$18.62</td>
</tr>
</tbody>
</table>

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According to a 2021 study by the Georgetown University Center on Education and the Workforce, occupations in these two groups tend to require a higher level of education. More than two in three Management occupations require a bachelor’s degree or higher; 60% of Architecture and Engineering occupations require a bachelor’s degree or higher. Additionally, occupations within the Management occupation group pay a median hourly wage of $53 and a median annual wage of $109,760 (nearly 200% of the median wage for all occupations). In the next hardest to fill occupation group, Architecture and Engineering, the median hourly wage is $40, and the median annual wage is $83,160. While these occupations are harder to fill and require more specialized education and training, they also pay higher than average wages, creating a pathway to stability and prosperity.
Infrastructure Hiring Challenges Evident Across Cities and Regions

Across all regions of the U.S., infrastructure jobs take longer to fill than non-infrastructure jobs. This difference is more pronounced in the Northeast and West, where infrastructure jobs take at least six days longer to fill on average than non-infrastructure jobs (Figure 8). In the Midwest and South, the difference in time-to-fill is closer to two or three days.

While it takes slightly longer to fill an infrastructure job in the Northeast (27 days) than it does in the West (25), Midwest (23), or South (22), the overall share of infrastructure job postings that are hard-to-fill is roughly one in four jobs across all regions. Similarly, when assessing time-to-fill and share of hard-to-fill infrastructure postings by city size, significant differences do not emerge (Figure 9).

<table>
<thead>
<tr>
<th>Region</th>
<th>Infrastructure time to fill</th>
<th>Non-infrastructure time to fill</th>
<th>Difference in time to fill</th>
<th>Percent of infrastructure jobs hard to fill</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northeast</td>
<td>26.7</td>
<td>20.4</td>
<td>6.3</td>
<td>27%</td>
</tr>
<tr>
<td>West</td>
<td>24.5</td>
<td>18.5</td>
<td>6.0</td>
<td>25%</td>
</tr>
<tr>
<td>Midwest</td>
<td>23.0</td>
<td>20.4</td>
<td>2.6</td>
<td>24%</td>
</tr>
<tr>
<td>South</td>
<td>22.1</td>
<td>19.0</td>
<td>2.1</td>
<td>25%</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>City Size</th>
<th>Infrastructure time to fill</th>
<th>Non-infrastructure time to fill</th>
<th>Difference in time to fill</th>
<th>Percent of infrastructure jobs hard to fill</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 10k</td>
<td>22.8</td>
<td>18.7</td>
<td>4.1</td>
<td>30%</td>
</tr>
<tr>
<td>10k - 50k</td>
<td>23.7</td>
<td>18.4</td>
<td>5.3</td>
<td>30%</td>
</tr>
<tr>
<td>50k - 100k</td>
<td>24.2</td>
<td>19.2</td>
<td>5.0</td>
<td>31%</td>
</tr>
<tr>
<td>100k - 300k</td>
<td>22.6</td>
<td>18.9</td>
<td>3.7</td>
<td>30%</td>
</tr>
<tr>
<td>300k +</td>
<td>24.1</td>
<td>20.6</td>
<td>3.5</td>
<td>30%</td>
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Hard-to-fill infrastructure jobs are the result of broader trends in the economy, as well as challenges specific to the infrastructure field. Overall, labor shortages and misalignment between workforce development and industry demand are creating friction between workers and available jobs. Additional factors such as insufficient access to career pathways and significant retirements of skilled and semi-skilled workers are affecting infrastructure jobs more acutely. Despite a record 9.2 million job openings in May 2021, there are still 7 million fewer people employed now than before the pandemic. This dynamic creates increased competition for workers resulting from:

- Continuing fears of infection as COVID-19 cases continue to rise across the country;
- Logistical barriers related to remote childcare and education;
- Increased retirements particularly concentrated in the infrastructure industry; and
- Changing norms and perspectives on work, to the extent that many infrastructure occupations do not always offer the same flexibilities as other high-demand occupations (such as the ability to telework).

Retirements of skilled and semi-skilled workers are likely to become a major challenge for the infrastructure field. At last estimate, over 2.7 million infrastructure workers have retired over the last decade. Manny Rodriguez, Executive Director of Revolution Workshop (a Chicago-based Construction and Manufacturing workforce development organization), stresses the importance of investing in education and upskilling in these sectors, especially for traditionally underserved groups, because “millions of skilled blue-collar workers—many of them older white men—are close to retirement.” While the overall labor force is expected to grow over the next decade, labor force participation is expected to continue to decline, largely due to the retirements of baby boomers and job growth in the country.

Further amplifying the recruitment challenge within the infrastructure sector is lack of access to on-ramps to these career pathways. Moving individuals into the infrastructure sector who have currently or historically been disconnected from those careers requires not only access to skills training, but also consideration of alternatives to credentials such as on-the-job training and apprenticeships. These opportunities offer experience and exposure to advanced positions within the field while providing a living wage. These alternatives also allow for career advancement and open-up more entry-level positions, which have lower barriers to entry. While career pathways within infrastructure jobs are not linear, there are significant opportunities to transfer skills and experience across the sector for advancement.

To replace retired skilled and semi-skilled infrastructure workers, communities can either upskill their existing talent pool to meet their needs or attract talent from outside the community. Over the last few decades, people in the United States have become increasingly less likely to migrate within the country due to desires to stay closer to family and pre-existing social structures. Fewer people are moving across the country for new employment opportunities, making it very hard to attract outside talent. This makes talent shortages in highly specialized fields, like environmental engineering, much more acute—especially in areas where educational attainment and workforce skills are lagging.

While most infrastructure jobs do require education and training beyond high school, 60 percent of the needed infrastructure jobs require only six months of training or less. Most Construction jobs only require a high school diploma and on-the-job training; however, there is currently a Construction worker shortage of about one million workers in the United States.
60%
Of infrastructure jobs require only 6 months of training or less.
—Georgetown University, Center on Education and the Workforce

Over time, there has been disinvestment in training the workforce for these skills and in primary education of the benefits of a career in skilled trades, manufacturing or many of the sectors within the infrastructure space. This has coincided with a lack of attention to, and declining investments in, career and technical education at the middle & high school levels from the federal government, with an increased focus on academic preparation alone.11

Further, employers (who generally provide most short-term training opportunities) have also been investing less in workforce preparation. As a result, the nation’s capacity to rapidly re-train workers for in-demand industries is incredibly low. At the same time, by some estimates, there are millions of Americans without a college degree who have the skills to succeed in higher-wage work, but without the means to easily convey what skills they have to employers.12

Specifically, leveraging their roles as conveners and trusted stakeholders who often sit at the intersection of workforce and economic development, city leaders can:

- **Convene employers and education and training partners** to align existing and create new short-term training offerings targeted toward individuals who have currently or historically been disconnected from education and training opportunities that lead to high quality careers, including internships, apprenticeships, and city-sponsored summer youth employment programs that provide a pathway into careers.

- **Leverage real-time labor market information** to prioritize in-demand occupations, particularly in the infrastructure sector, and map skills adjacency between declining industries and growing industries to help residents and local businesses understand how skills can be transferable.

- **Identify and address any structural labor market barriers** that prevent certain populations from accessing education and training opportunities that lead to high quality careers, such as educational attainment, equitable wages, and hiring practices, as well as childcare, transportation, housing, food, and other basic needs that can prevent workers from accessing in-demand jobs.

- **Empower your local workforce development board** or related entity to set goals, coordinate partners, and lead change in this area.

Addressing infrastructure workforce challenges will require policy makers at all levels to encourage workforce boards, schools, colleges and universities to proactively engage their local employers to design programs that meet local labor market needs. It will also require employers to be active co-investors in designing solutions for their talent shortages, and to look to non-traditional sources of talent.
Conclusion

According to early estimates, an infrastructure investment at the scale of the bipartisan Infrastructure Investment and Jobs Act, which includes $550 billion in new Federal investment in America’s infrastructure, would create or save 15 million jobs over the next decade. However, the legislation does not contain a proportional investment in skills training to ensure a pipeline of workers are ready to build and maintain these critical assets. With Federal funding for workforce development having been cut by nearly 40% over the last two decades, the U.S. invests just .1 percent of GDP on active labor market policies, less than any other industrialized country except for Mexico.

Our analysis demonstrates that within this context, infrastructure jobs are already harder to fill than those in other fields. Of over six million job postings in early 2021, nearly 12% are related to infrastructure and take about four days longer to fill than others. This finding holds true across regions and across city sizes. As such, the federally funded workforce system and the broader workforce community will be faced with mobilizing an under-resourced system to meet the employer demands that will come as a result of a federal investment in our national infrastructure systems.
2019 marked the seventh consecutive year where more than 500,000 people moved to Texas. Expecting one million new residents by 2040, the City of San Antonio is one of the major cities in Texas that has recently experienced a surge in population growth. The development of adequate infrastructure in response to a growing population became one of San Antonio’s main goals of the city’s comprehensive development plan, SA Tomorrow. The plan includes maintaining and updating existing transportation and sewage systems, as well as upgrading existing stormwater infrastructure with green stormwater management solutions.

Despite plans to significantly overhaul the city’s infrastructure, semi-skilled and skilled labor shortages in Construction and Manufacturing limit San Antonio’s capacity to carry out these plans on budget and time. Despite these challenges, the city has a history of sector-focused workforce investments. Among the most prominent of these investments is Project QUEST, a collaborative effort between the San Antonio government, the county government, and local and county-level economic development organizations.

Project QUEST is a nationally recognized multi-sector, employer-driven model with a 29-year history of successfully planning and implementing training programs for over 7,000 residents in high-demand, high-paying jobs that enhance the economic competitiveness of San Antonio. Occupational training programs are one to two years in length across three key sectors: Manufacturing and Trades, Healthcare and Information Technology. All training and placement efforts are linked to specific employment sectors with promising wage advancement potential. The programs offered are college-based studies and most are directed toward associate degrees from one of the area community colleges or professional training institutes. Some courses of study are based on certificate programs approved by the State of Texas and various licensing boards and, in some cases, may be offered through regional, state-certified private training facilities. Project QUEST has achieved large, statistically significant earnings impacts that have been sustained, demonstrating the potential long-term rewards of making substantial skills investments in low-income individuals.
CAMDEN, NJ IS A COMMUNITY THAT has been marred by high poverty, poor environmental quality and vulnerable water infrastructure. Camden has a combined sewer system—a system that shares underground piping networks that direct both sewage and stormwater to a central treatment system before being discharged into a waterway. Camden’s combined sewer systems often overflow when the city experiences significant snowmelt or heavy rainfall. These overflows are a major contributor to excess brownfields (developed land that is unused due to waste contamination) found in Camden.

In response to these challenges, local leaders are pioneering collaborative solutions focused on green infrastructure. The Camden County Municipal Utilities Authority (CCMUA), the region’s primary wastewater utility, has partnered with a variety of groups to develop projects and initiatives that improve existing water services while promoting green infrastructure development. Some of these initiatives, like PowerCorps Camden, help local residents access new jobs, offering workforce opportunities to underserved citizens of Camden.

Camden’s Center for Family Services, in partnership with the state and local governments, launched the PowerCorps Camden program in December 2015, with the goals to improve outcomes for opportunity youth, 16-24-year-olds who are not working and are not in school, and to improve green infrastructure in Camden City. PowerCorps Camden is a three-year AmeriCorps program that provides 60 young adults per year with job training and career readiness opportunities. The program’s members partner with the city and other groups to work on projects focused on Camden’s green infrastructure network, like stormwater and park management and remediation for contaminated lots. Since 2015, PowerCorps Camden participants have treated over 440 acres of contaminated land each year.
MILWAUKEE HAS A LONG HISTORY AS an industrial manufacturing community. With the current growth in Manufacturing, combined with an aging workforce and diversification of the regional economy, the city experiences broad skills shortages across key infrastructure sectors. This skills shortage not only impacts the private sector but also the public sector. For example, the city’s water utility, the Milwaukee Water Works, is expected to see workforce retirements and turnover of roughly 40% in the next five years.27

The city, under the leadership of Mayor Tom Barrett, has made strong investments in enhanced skills training and education to ensure that residents can connect to the infrastructure jobs available in the community. These investments include:

- The Mayor’s Manufacturing Partnership is a collaboration between the city, Employ Milwaukee, Wisconsin Regional Training Partnership /BIG STEP, technical colleges and economic development groups aimed at eliminating the manufacturing skills gap by training Milwaukee job seekers with the skills needed to achieve a career pathway in Manufacturing.28 More than 800 participants have been served through this program.

- The Cream City YouthBuild program works with students who have dropped-out of high school to attain their diploma while receiving occupational-skills training in the construction sector.29 The program prepares these young people for career and employment in Construction.

- The City of Milwaukee utilizes local hire provisions through its Residents Preference Program to help underemployed and unemployed residents gain access to employment opportunities in city-funded construction and private development contracts.30

27 National League of Cities

26 National League of Cities

CITY PROFILE
Milwaukee, WI
CITY PROFILE
Louisville, KY

LOUISVILLE’S CENTRAL GEOGRAPHIC location within the United States provides a strategically strong position for moving products and people across the country and beyond via its airport, ports, railways and interconnected highway system. Ensuring maintenance and support of these systems is critical to maintaining the economic competitiveness of the city.

The City, under the leadership of Mayor Greg Fischer, in addition to ensuring that there is a steady supply of workers to meet employer demands across these infrastructure sectors, is also looking deeply at equity in employment and business contracts within the infrastructure sector.

- The Equity in Contracting and Procurement Task Force is working to implement measures to ensure that the approximately $5 billion in public and private capital infrastructure investments anticipated over the next five years is fairly distributed among local Black-owned and other minority-owned businesses.
- Kentuckiana Builds, a partnership between KentuckianaWorks, the local workforce development board, and the Louisville Urban League along with the Education and Workforce Development Cabinet of the Commonwealth of Kentucky delivers sector-based training, job placement, connections to apprenticeships and advanced training, and work incentives to increase diversity within the Construction sector.
- In the first five years of the program they trained and placed almost 300 people – mostly people of color and a strong number of women – into Construction jobs.
- The KY Manufacturing Career Center, a sector-based, federally funded workforce training center, works to connect local residents to the growing Manufacturing and Logistics industries in Louisville including Certified Forklift Technician training in collaboration with the Jefferson Community and Technical College.
## Data and Methodology

### Data

NLC sourced current data on job postings from LinkUp. LinkUp collects data on job postings directly from company websites. The location of the job posting, creation date, delete date, job description, and company information are documented in their dataset. LinkUp also connects every job posting to an Occupational Information Network (O*NET) classification code. O*NET codes classify occupations based on the knowledge, skills, activities, and context of the work.

### Defining infrastructure jobs

We classify all 1,016 O*NET codes as either infrastructure related or not. Using the bipartisan infrastructure spending framework as a guide to the definition of infrastructure, the occupations were assessed on whether they are related to infrastructure design, construction or maintenance. Using this methodology, 291 O*NET codes are categorized as infrastructure related. Using those categories, 10.4% of all job postings are infrastructure related and 89.6% are not. Infrastructure job postings are then organized according to the 23 major groups of occupations classified by the U.S. Bureau of Labor Statistics. Ten of these major groups contain at least 1% of the infrastructure occupations. See the appendix for totals of infrastructure job postings by job family and occupation.

O*NET codes are preferable to NAICS or other sector classifications because they are directly related to the content of the work as opposed to the sector of the company. Sector classifications often include large swaths of both infrastructure and non-infrastructure related jobs. For any given company, sector classifications may classify too many or too few job postings as infrastructure-related. For example, in the company sector, a Marketing Specialist for a construction company would be included while an Industrial Engineering Technologist in the real estate sector would not be. Therefore, this analysis focuses specifically on jobs related to infrastructure as opposed to all jobs in infrastructure related sectors.

### Measuring hard-to-fill

The median time-to-fill is used as the metric of analysis along with a share of hard-to-fill metric. A job is hard-to-fill if its posting duration is longer than the third quartile marker for time-to-fill of all occupations within its occupation group, or job family. For example, a job posting for occupation within Architecture and Engineering is considered hard-to-fill if it takes longer than 56.3 days to fill, and a job posting for an occupation within Building and Grounds Cleaning and Maintenance is hard-to-fill if it takes longer than 36.2 days to fill (figure 10).

#### FIGURE 10

**Summary of Time-to-Fill (in days) by Occupation Group**

<table>
<thead>
<tr>
<th>Occupation</th>
<th>min</th>
<th>Q1</th>
<th>median</th>
<th>Q3</th>
<th>max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture and Engineering</td>
<td>0.0</td>
<td>12.2</td>
<td>28.8</td>
<td>56.3</td>
<td>176.0</td>
</tr>
<tr>
<td>Business and Financial Operations</td>
<td>0.0</td>
<td>8.2</td>
<td>20.8</td>
<td>44.7</td>
<td>179.4</td>
</tr>
<tr>
<td>Computer and Mathematical</td>
<td>0.0</td>
<td>10.8</td>
<td>28.5</td>
<td>55.3</td>
<td>180.1</td>
</tr>
<tr>
<td>Construction and Extraction</td>
<td>0.1</td>
<td>10.4</td>
<td>22.8</td>
<td>46.6</td>
<td>174.6</td>
</tr>
<tr>
<td>Installation, Maintenance, and Repair</td>
<td>0.0</td>
<td>11.8</td>
<td>26.7</td>
<td>50.4</td>
<td>179.3</td>
</tr>
<tr>
<td>Life, Physical, and Social Science</td>
<td>0.0</td>
<td>8.1</td>
<td>21.3</td>
<td>46.9</td>
<td>175.9</td>
</tr>
<tr>
<td>Management</td>
<td>0.0</td>
<td>7.2</td>
<td>21.0</td>
<td>45.0</td>
<td>179.5</td>
</tr>
<tr>
<td>Office and Administrative Support</td>
<td>0.0</td>
<td>8.0</td>
<td>18.6</td>
<td>36.9</td>
<td>180.3</td>
</tr>
<tr>
<td>Production</td>
<td>0.0</td>
<td>8.1</td>
<td>20.6</td>
<td>42.5</td>
<td>178.9</td>
</tr>
<tr>
<td>Transportation and Material Moving</td>
<td>0.0</td>
<td>6.2</td>
<td>15.3</td>
<td>35.1</td>
<td>180.5</td>
</tr>
</tbody>
</table>
### Number of Infrastructure Job Postings by Occupation and Occupation Group

**Architecture and Engineering**

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial Engineers</td>
<td>32,809</td>
</tr>
<tr>
<td>Mechanical Engineers</td>
<td>12,973</td>
</tr>
<tr>
<td>Electrical Engineers</td>
<td>10,900</td>
</tr>
<tr>
<td>Civil Engineers</td>
<td>10,642</td>
</tr>
<tr>
<td>Industrial Engineering Technologists and Technicians</td>
<td>9,389</td>
</tr>
<tr>
<td>Aerospace Engineers</td>
<td>8,704</td>
</tr>
<tr>
<td>Electronics Engineers, Except Computer</td>
<td>6,673</td>
</tr>
<tr>
<td>Environmental Engineers</td>
<td>3,879</td>
</tr>
<tr>
<td>Civil Engineering Technologists and Technicians</td>
<td>2,961</td>
</tr>
<tr>
<td>Computer Hardware Engineers</td>
<td>2,801</td>
</tr>
<tr>
<td>Mechanical Engineering Technologists and Technicians</td>
<td>1,200</td>
</tr>
<tr>
<td>Architects, Except Landscape and Naval</td>
<td>1,039</td>
</tr>
<tr>
<td>Materials Engineers</td>
<td>898</td>
</tr>
<tr>
<td>Chemical Engineers</td>
<td>892</td>
</tr>
<tr>
<td>Biomedical Engineers</td>
<td>689</td>
</tr>
<tr>
<td>Energy Engineers, Except Wind and Solar</td>
<td>686</td>
</tr>
<tr>
<td>Mechanical Drafters</td>
<td>584</td>
</tr>
<tr>
<td>Surveyors</td>
<td>581</td>
</tr>
<tr>
<td>Electo-Mechanical and Mechatronics Technologists and Technicians</td>
<td>561</td>
</tr>
<tr>
<td>Nuclear Engineers</td>
<td>533</td>
</tr>
<tr>
<td>Non-Destructive Testing Specialists</td>
<td>520</td>
</tr>
<tr>
<td>Fire-Prevention and Protection Engineers</td>
<td>519</td>
</tr>
<tr>
<td>Environmental Engineering Technologists and Technicians</td>
<td>516</td>
</tr>
<tr>
<td>Petroleum Engineers</td>
<td>507</td>
</tr>
<tr>
<td>Transportation Engineers</td>
<td>272</td>
</tr>
<tr>
<td>Mining and Geological Engineers, Including Mining Safety Engineers</td>
<td>228</td>
</tr>
<tr>
<td>Engineering Technologists and Technicians, Except Drafters, All Other</td>
<td>185</td>
</tr>
<tr>
<td>Mechatronics Engineers</td>
<td>182</td>
</tr>
<tr>
<td>Cartographers and Photogrammetrists</td>
<td>155</td>
</tr>
<tr>
<td>Aerospace Engineering and Operations Technologists and Technicians</td>
<td>106</td>
</tr>
<tr>
<td>Engineers, All Other</td>
<td>58</td>
</tr>
<tr>
<td>Photonics Engineers</td>
<td>51</td>
</tr>
</tbody>
</table>

**Solar Energy Systems Engineers** 49
**Fuel Cell Engineers** 28
**Robotics Technicians** 26
**Photonics Technicians** 23
**Health and Safety Engineers, Except Mining Safety Engineers and Inspectors** 6
**Microsystems Engineers** 6
**Robotics Engineers** 6
**Wind Energy Engineers** 6
**Electrical and Electronic Engineering Technologists and Technicians** 4
**Automotive Engineers** 3
**Marine Engineers and Naval Architects** 3
**Surveying and Mapping Technicians** 2
**Architectural and Civil Drafters** 1
**Automotive Engineering Technicians** 1

**Business and Financial Operations**

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logisticians</td>
<td>10,409</td>
</tr>
<tr>
<td>Cost Estimators</td>
<td>2,052</td>
</tr>
<tr>
<td>Logistics Analysts</td>
<td>1,996</td>
</tr>
<tr>
<td>Sustainability Specialists</td>
<td>2,811</td>
</tr>
<tr>
<td>Mathematical Science Occupations, All Other</td>
<td>1</td>
</tr>
</tbody>
</table>

**Computer and Mathematical**

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operations Research Analysts</td>
<td>13,047</td>
</tr>
<tr>
<td>Biostatisticians</td>
<td>36</td>
</tr>
<tr>
<td>Mathematicians</td>
<td>23</td>
</tr>
<tr>
<td>Mathematical Science Occupations, All Other</td>
<td>1</td>
</tr>
</tbody>
</table>
### Installation, Maintenance, and Repair

<table>
<thead>
<tr>
<th>Occupation</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintenance and Repair Workers, General</td>
<td>57,020</td>
</tr>
<tr>
<td>First-Line Supervisors of Mechanics, installers, and Repairers</td>
<td>26,009</td>
</tr>
<tr>
<td>Bus and Truck Mechanics and Diesel Engine Specialists</td>
<td>11,879</td>
</tr>
<tr>
<td>Industrial Machinery Mechanics</td>
<td>11,647</td>
</tr>
<tr>
<td>Telecommunications Equipment Installers and Repairers, Except Line Installers</td>
<td>7,528</td>
</tr>
<tr>
<td>Security and Fire Alarm Systems Installers</td>
<td>2,990</td>
</tr>
<tr>
<td>Aircraft Mechanics and Service Technicians</td>
<td>2,192</td>
</tr>
<tr>
<td>Electrical Power-Line Installers and Repairers</td>
<td>1,384</td>
</tr>
<tr>
<td>Mobile Heavy Equipment Mechanics, Except Engines</td>
<td>1,351</td>
</tr>
<tr>
<td>Electrical and Electronics Repairers, Commercial and Industrial Equipment</td>
<td>1,150</td>
</tr>
<tr>
<td>Audiovisual Equipment Installers and Repairers</td>
<td>1,016</td>
</tr>
<tr>
<td>Installation, Maintenance, and Repair Workers, All Other</td>
<td>715</td>
</tr>
<tr>
<td>Automotive Service Technicians and Mechanics</td>
<td>700</td>
</tr>
<tr>
<td>Helpers--Installation, Maintenance, and Repair Workers</td>
<td>650</td>
</tr>
<tr>
<td>Wind Turbine Service Technicians</td>
<td>579</td>
</tr>
<tr>
<td>Telecommunications Line Installers and Repairers</td>
<td>540</td>
</tr>
<tr>
<td>Avionics Technicians</td>
<td>474</td>
</tr>
<tr>
<td>Electronic Equipment Installers and Repairers, Motor Vehicles</td>
<td>381</td>
</tr>
<tr>
<td>Outdoor Power Equipment and Other Small Engine Mechanics</td>
<td>327</td>
</tr>
<tr>
<td>Control and Valve Installers and Repairers, Except Mechanical Door</td>
<td>133</td>
</tr>
<tr>
<td>Motorboat Mechanics and Service Technicians</td>
<td>123</td>
</tr>
<tr>
<td>Rail Car Repairers</td>
<td>114</td>
</tr>
<tr>
<td>Heating, Air Conditioning, and Refrigeration Mechanics and Installers</td>
<td>111</td>
</tr>
<tr>
<td>Mechanical Door Repairers</td>
<td>89</td>
</tr>
<tr>
<td>Millwrights</td>
<td>61</td>
</tr>
<tr>
<td>Electric Motor, Power Tool, and Related Repairers</td>
<td>59</td>
</tr>
<tr>
<td>Maintenance Workers, Machinery</td>
<td>45</td>
</tr>
<tr>
<td>Commercial Divers</td>
<td>44</td>
</tr>
<tr>
<td>Riggers</td>
<td>43</td>
</tr>
<tr>
<td>Electrical and Electronics Repairers, Powerhouse, Substation, and Relay</td>
<td>29</td>
</tr>
<tr>
<td>Precision Instrument and Equipment Repairers, All Other</td>
<td>29</td>
</tr>
<tr>
<td>Signal and Track Switch Repairers</td>
<td>29</td>
</tr>
<tr>
<td>Electrical and Electronics Installers and Repairers, Transportation Equipment</td>
<td>16</td>
</tr>
<tr>
<td>Manufactured Building and Mobile Home Installers</td>
<td>3</td>
</tr>
<tr>
<td>Refractory Materials Repairers, Except Brickmasons</td>
<td>3</td>
</tr>
<tr>
<td>Geothermal Technicians</td>
<td>1</td>
</tr>
</tbody>
</table>

### Construction and Extraction

<table>
<thead>
<tr>
<th>Occupation</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>First-Line Supervisors of Construction Trades and Extraction Workers</td>
<td>8,613</td>
</tr>
<tr>
<td>Electricians</td>
<td>5,211</td>
</tr>
<tr>
<td>Construction Laborers</td>
<td>3,415</td>
</tr>
<tr>
<td>Construction and Building Inspectors</td>
<td>2,406</td>
</tr>
<tr>
<td>Operating Engineers and Other Construction Equipment Operators</td>
<td>2,047</td>
</tr>
<tr>
<td>Highway Maintenance Workers</td>
<td>1,350</td>
</tr>
<tr>
<td>Service Unit Operators, Oil and Gas</td>
<td>736</td>
</tr>
<tr>
<td>Painters, Construction and Maintenance</td>
<td>569</td>
</tr>
<tr>
<td>Solar Photovoltaic Installers</td>
<td>564</td>
</tr>
<tr>
<td>Sheet Metal Workers</td>
<td>557</td>
</tr>
<tr>
<td>Paving, Surfacing, and Tamping Equipment Operators</td>
<td>455</td>
</tr>
<tr>
<td>Rail-Track Laying and Maintenance Equipment Operators</td>
<td>342</td>
</tr>
<tr>
<td>Roustabouts, Oil and Gas</td>
<td>266</td>
</tr>
<tr>
<td>Insulation Workers, Floor, Ceiling, and Wall</td>
<td>167</td>
</tr>
<tr>
<td>Helpers--Electricians</td>
<td>144</td>
</tr>
<tr>
<td>Rotary Unit Operators, Oil and Gas</td>
<td>126</td>
</tr>
<tr>
<td>Helpers--Pipelayers, Plumbers, Pipefitters, and Steamfitters</td>
<td>122</td>
</tr>
<tr>
<td>Helpers--Extraction Workers</td>
<td>109</td>
</tr>
<tr>
<td>Structural Iron and Steel Workers</td>
<td>94</td>
</tr>
<tr>
<td>Helpers--Brickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters</td>
<td>76</td>
</tr>
<tr>
<td>Cement Masons and Concrete Finishers</td>
<td>73</td>
</tr>
<tr>
<td>Insulation Workers, Mechanical</td>
<td>57</td>
</tr>
<tr>
<td>Boilermakers</td>
<td>56</td>
</tr>
<tr>
<td>Extraction Workers, All Other</td>
<td>54</td>
</tr>
<tr>
<td>Septic Tank Servicers and Sewer Pipe Cleaners</td>
<td>54</td>
</tr>
<tr>
<td>Roofers</td>
<td>52</td>
</tr>
<tr>
<td>Pipelayers</td>
<td>51</td>
</tr>
<tr>
<td>Stokers</td>
<td>43</td>
</tr>
<tr>
<td>Solar Energy Installation Managers</td>
<td>42</td>
</tr>
<tr>
<td>Construction and Related Workers, All Other</td>
<td>36</td>
</tr>
<tr>
<td>Helpers--Painters, Paperhangers, Plasterers, and Stucco Masons</td>
<td>30</td>
</tr>
<tr>
<td>Helpers, Construction Trades, All Other</td>
<td>27</td>
</tr>
<tr>
<td>Weatherization Installers and Technicians</td>
<td>24</td>
</tr>
<tr>
<td>Brickmasons and Blockmasons</td>
<td>15</td>
</tr>
<tr>
<td>Reinforcing Iron and Rebar Workers</td>
<td>14</td>
</tr>
<tr>
<td>Drywall and Ceiling Tile Installers</td>
<td>13</td>
</tr>
<tr>
<td>Helpers--Carpenters</td>
<td>12</td>
</tr>
<tr>
<td>Tapers</td>
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<tr>
<td>Plumbers, Pipefitters, and Steamfitters</td>
<td>10</td>
</tr>
<tr>
<td>Elevator and Escalator Installers and Repairers</td>
<td>7</td>
</tr>
<tr>
<td>Derrick Operators, Oil and Gas</td>
<td>6</td>
</tr>
<tr>
<td>Pipe Driver Operators</td>
<td>5</td>
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<tr>
<td>Plasterers and Stucco Masons</td>
<td>5</td>
</tr>
<tr>
<td>Fence Erectors</td>
<td>3</td>
</tr>
<tr>
<td>Floor Layers, except Carpet, Wood, and Hard Ties</td>
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</tr>
<tr>
<td>Segmental Pavers</td>
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</tr>
<tr>
<td>Stonemasons</td>
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</tr>
<tr>
<td>Tile and Stone Setters</td>
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</tr>
<tr>
<td>Helpers--Roofers</td>
<td>2</td>
</tr>
<tr>
<td>Underground Mining Machine Operators, All Other</td>
<td>2</td>
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<tr>
<td>Rock Splitters, Quarry</td>
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</tbody>
</table>
### Life, Physical, and Social Science

<table>
<thead>
<tr>
<th>Position</th>
<th>Number</th>
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</thead>
<tbody>
<tr>
<td>Chemists</td>
<td>4,399</td>
</tr>
<tr>
<td>Environmental Scientists and Specialists, Including Health</td>
<td>4,344</td>
</tr>
<tr>
<td>Quality Control Analysts</td>
<td>2,555</td>
</tr>
<tr>
<td>Chemical Technicians</td>
<td>1,806</td>
</tr>
<tr>
<td>Biochemists and Biophysicists</td>
<td>1,275</td>
</tr>
<tr>
<td>Urban and Regional Planners</td>
<td>1,263</td>
</tr>
<tr>
<td>Atmospheric and Space Scientists</td>
<td>1,125</td>
</tr>
<tr>
<td>Materials Scientists</td>
<td>582</td>
</tr>
<tr>
<td>Microbiologists</td>
<td>471</td>
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<tr>
<td>Geoscientists, Except Hydrologists and Geographers</td>
<td>386</td>
</tr>
<tr>
<td>Physicists</td>
<td>312</td>
</tr>
<tr>
<td>Industrial-Organizational Psychologists</td>
<td>189</td>
</tr>
<tr>
<td>Hydrologists</td>
<td>182</td>
</tr>
<tr>
<td>Nuclear Monitoring Technicians</td>
<td>115</td>
</tr>
<tr>
<td>Climate Change Policy Analysts</td>
<td>25</td>
</tr>
<tr>
<td>Remote Sensing Scientists and Technologists</td>
<td>22</td>
</tr>
<tr>
<td>Life, Physical, and Social Science Technicians, All Other</td>
<td>16</td>
</tr>
<tr>
<td>Transportation Planners</td>
<td>15</td>
</tr>
<tr>
<td>Environmental Restoration Planners</td>
<td>14</td>
</tr>
<tr>
<td>Genetics</td>
<td>12</td>
</tr>
<tr>
<td>Remote Sensing Technicians</td>
<td>12</td>
</tr>
<tr>
<td>Molecular and Cellular Biologists</td>
<td>11</td>
</tr>
<tr>
<td>Life Scientists, All Other</td>
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<tr>
<td>Physical Scientists, All Other</td>
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</table>

### Management

<table>
<thead>
<tr>
<th>Position</th>
<th>Number</th>
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</thead>
<tbody>
<tr>
<td>Computer and Information Systems Managers</td>
<td>24,733</td>
</tr>
<tr>
<td>Architectural and Engineering Managers</td>
<td>9,122</td>
</tr>
<tr>
<td>Construction Managers</td>
<td>9,118</td>
</tr>
<tr>
<td>Purchasing Managers</td>
<td>7,199</td>
</tr>
<tr>
<td>Industrial Production Managers</td>
<td>4,925</td>
</tr>
<tr>
<td>Quality Control Systems Managers</td>
<td>4,374</td>
</tr>
<tr>
<td>Natural Sciences Managers</td>
<td>2,342</td>
</tr>
<tr>
<td>Transportation, Storage, and Distribution Managers</td>
<td>44</td>
</tr>
<tr>
<td>Water Resource Specialists</td>
<td>17</td>
</tr>
<tr>
<td>Biofuels Production Managers</td>
<td>4</td>
</tr>
<tr>
<td>Hydroelectric Production Managers</td>
<td>1</td>
</tr>
<tr>
<td>Biofuels/Biodiesel Technology and Product Development Managers</td>
<td>1</td>
</tr>
<tr>
<td>Geothermal Production Managers</td>
<td>1</td>
</tr>
</tbody>
</table>

### Office and Administrative Support

<table>
<thead>
<tr>
<th>Position</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office and Administrative Support</td>
<td></td>
</tr>
<tr>
<td>Shipping, Receiving, and Inventory Clerks</td>
<td>10,666</td>
</tr>
<tr>
<td>Production, Planning, and Expediting Clerks</td>
<td>7,524</td>
</tr>
<tr>
<td>Cargo and Freight Agents</td>
<td>1,345</td>
</tr>
<tr>
<td>Procurement Clerks</td>
<td>201</td>
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<tr>
<td>Meter Readers, Utilities</td>
<td>184</td>
</tr>
<tr>
<td>Desktop Publishers</td>
<td>19</td>
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<tr>
<td>Communications Equipment Operators, All Other</td>
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</tbody>
</table>

### Production

<table>
<thead>
<tr>
<th>Position</th>
<th>Number</th>
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</thead>
<tbody>
<tr>
<td>Production</td>
<td></td>
</tr>
<tr>
<td>First-Line Supervisors of Production and Operating Workers</td>
<td>41,998</td>
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<tr>
<td>Production Workers, All Other</td>
<td>26,199</td>
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<tr>
<td>Inspectors, Testers, Sorters, Samplers, and Weighers</td>
<td>8,300</td>
</tr>
<tr>
<td>Assemblers and Fabricators, All Other</td>
<td>7,463</td>
</tr>
<tr>
<td>Helpers—Production Workers</td>
<td>4,091</td>
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<tr>
<td>Machinists</td>
<td>3,678</td>
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<tr>
<td>Packaging and Filling Machine Operators and Tenders</td>
<td>3,627</td>
</tr>
<tr>
<td>Painting, Coating, and Decorating Workers</td>
<td>3,273</td>
</tr>
<tr>
<td>Electrical and Electronic Equipment Assemblers</td>
<td>2,590</td>
</tr>
<tr>
<td>Water and Wastewater Treatment Plant and System Operators</td>
<td>1,290</td>
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<tr>
<td>Team Assemblers</td>
<td>1,186</td>
</tr>
<tr>
<td>Mixing and Blending Machine Setters, Operators, and Tenders</td>
<td>782</td>
</tr>
<tr>
<td>Ophthalmic Laboratory Technicians</td>
<td>661</td>
</tr>
<tr>
<td>Cutting, Punching, and Press Machine Setters, Operators, and Tenders</td>
<td>566</td>
</tr>
<tr>
<td>Stationary Enginers and Boiler Operators</td>
<td>507</td>
</tr>
<tr>
<td>Chemical Plant and System Operators</td>
<td>442</td>
</tr>
<tr>
<td>Electromechanical Equipment Assemblers</td>
<td>480</td>
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<tr>
<td>Power Plant Operators</td>
<td>354</td>
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<tr>
<td>Chemical Plant and System Operators</td>
<td>335</td>
</tr>
<tr>
<td>Extruding and Drawing Machine Setters, Operators, and Tenders</td>
<td>285</td>
</tr>
<tr>
<td>Cutting and Slicing Machine Setters, Operators, and Tenders</td>
<td>180</td>
</tr>
<tr>
<td>Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders</td>
<td>157</td>
</tr>
<tr>
<td>Rolling Machine Setters, Operators, and Tenders</td>
<td>154</td>
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<tr>
<td>Heat Treating Equipment Setters, Operators, and Tenders</td>
<td>122</td>
</tr>
<tr>
<td>Chemical Equipment Operators and Tenders</td>
<td>100</td>
</tr>
<tr>
<td>Gas Plant Operators</td>
<td>98</td>
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<tr>
<td>Power Distributors and Dispatchers</td>
<td>94</td>
</tr>
<tr>
<td>Aircraft Structure, Surfaces, Rigging, and Systems Assemblers</td>
<td>91</td>
</tr>
<tr>
<td>Transportation and Material Moving</td>
<td>Workers</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Heavy and Tractor-Trailer Truck Drivers</td>
<td>45,171</td>
</tr>
<tr>
<td>Light Truck Drivers</td>
<td>44,787</td>
</tr>
<tr>
<td>Laborers and Freight, Stock, and Material Movers, Hand</td>
<td>32,610</td>
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<tr>
<td>Industrial Truck and Tractor Operators</td>
<td>14,982</td>
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<tr>
<td>Packers and Packagers, Hand</td>
<td>2,756</td>
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<tr>
<td>Motor Vehicle Operators, All Other</td>
<td>668</td>
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<tr>
<td>Commercial Pilots</td>
<td>584</td>
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<tr>
<td>Railroad Conductors and Yardmasters</td>
<td>533</td>
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<tr>
<td>Air Traffic Controllers</td>
<td>583</td>
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<tr>
<td>Traffic Technicians</td>
<td>571</td>
</tr>
<tr>
<td>Aviation Inspectors</td>
<td>348</td>
</tr>
<tr>
<td>Airline Pilots, Copilots, and Flight Engineers</td>
<td>293</td>
</tr>
<tr>
<td>Material Moving Workers, All Other</td>
<td>279</td>
</tr>
<tr>
<td>Crane and Tower Operators</td>
<td>293</td>
</tr>
<tr>
<td>Machine Feeders and Offbearers</td>
<td>241</td>
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<tr>
<td>Sailors and Marine Oilers</td>
<td>148</td>
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<tr>
<td>Ship Engineers</td>
<td>76</td>
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<tr>
<td>Airfield Operations Specialists</td>
<td>66</td>
</tr>
<tr>
<td>Bridge and Lock Tenders</td>
<td>57</td>
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<tr>
<td>Conveyor Operators and Tenders</td>
<td>53</td>
</tr>
<tr>
<td>Locomotive Engineers</td>
<td>27</td>
</tr>
<tr>
<td>U dredge Operators</td>
<td>12</td>
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<tr>
<td>Gas Compressor and Gas Pumping Station Operators</td>
<td>11</td>
</tr>
<tr>
<td>Motorboat Operators</td>
<td>11</td>
</tr>
<tr>
<td>Hoist and Winch Operators</td>
<td>5</td>
</tr>
<tr>
<td>Pump Operators, Except Wellhead Pumpers</td>
<td>3</td>
</tr>
<tr>
<td>Captains, Mates, and Pilots of Water Vessels</td>
<td>2</td>
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<tr>
<td>Rail Transportation Workers, All Other</td>
<td>1</td>
</tr>
<tr>
<td>Tank Car, Truck, and Ship Loaders</td>
<td>1</td>
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<tr>
<td>Transportation Inspectors</td>
<td>1</td>
</tr>
</tbody>
</table>


2022 Human Development (HD) Committee Roster

Leadership

- Chair Kacy Kostiuk, Councilmember, City of Takoma Park, MD
- Vice Chair Denise Adams, Mayor Pro Tempore, City of Winston-Salem, NC
- Vice Chair Adriana Rocha Garcia, Councilmember, City of San Antonio, TX

Members

- Chris Callender, Council Person, Village of Oakwood (Cuyahoga County), OH
- Wally Campbell, Councilmember, City of Goodyear, AZ
- Sonja Coleman, Councilmember, City of Forest Hill, TX
- Mark Conway, Councilmember, City of Baltimore, MD
- Sona Cooper, Alderwoman, Town of Spring Lake, NC
- Rosa Ferraro-Santana, Alder, City of New Haven, CT
- Elaine Gaither, Council At Large, Village of Oakwood, OH
- Doreen Garlid, Councilmember, City of Tempe, AZ
- Denise Grant, Commissioner, City of Lauderhill, FL
- Susan Gutowsky, Councilmember, City of Fort Collins, CO
- Laney Harris, Board Member, City of Texarkana, AR
- Francisco Heredia, Councilmember, City of Mesa, AZ
- Lioneld Jordan, Mayor, City of Fayetteville, AR
- NanDrycka King Albert, Councilmember, City of Midway, FL
- Detric Leggett, Alderman, City of Savannah, GA
- Mike Lockhart, Mayor, City of Muscle Shoals, AL
• KaShamba Miller-Anderson, Councilmember, City of Riviera Beach, FL
• Corina Pfeil, Councilmember, City of Kenmore, WA
• Cristal Retana, Mayor Pro Tem, City of Farmers Branch, TX
• Karl Skala, Councilmember, City of Columbia, MO
• Cynthia Toles, Council President, City of Gadsden, AL
• Laura Weinberg, Mayor, City of Golden, CO
• Melissa Youssef, City Councilor, City of Durango, CO
• Margaret Desjarlais, Community Development Program Manager, City of Tuscaloosa, AL
• Gale Brewer, Councilmember, New York City, NY
• Yolanda Trout, Councilmember, City of Auburn, WA
• Heather Hill, Associate Director, City of Tuscaloosa, AL