Preparing the Transportation Workforce for the Future

Karen A. Bobo
Director – Center for Transportation Workforce Development
The Challenge – from 2012 to 2022

- Transportation is projected to add 417,000 net jobs due to industry growth
- The average employment growth rate of 11% across transportation subsectors is similar to that of the entire economy (10.8%) and of the infrastructure industry (11%) which includes transportation, logistics, water, energy, telecommunications, and public works
- An additional 4.2 million transportation workers will need to be hired to fill vacancies created by separations
The Challenge

- Difficulty in recruiting women and minorities to the transportation workforce
- Initiatives around the country promoting transportation careers; but there seems to be little coordination
The Challenge

- Combining growth and separations…

  The transportation industry employers will need to hire approximately 4.6 million workers, an equivalent of 1.2 times the current transportation employment.

- Transit and ground passenger transportation have the highest percentage of total job openings at 133%.

- Developing a qualified and trained workforce will be a critical task.
### Bureau of Labor Statistics (BLS) Project Change in Demand for Skill Sets

<table>
<thead>
<tr>
<th>Occupation</th>
<th>2012</th>
<th>2022</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carpenters</td>
<td>1,095,195</td>
<td>729,263</td>
<td>+8.2%</td>
</tr>
<tr>
<td>Electricians</td>
<td>1,451,233</td>
<td>1,451,233</td>
<td>+0.0%</td>
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<tr>
<td>Mechanics</td>
<td>461,155</td>
<td>906,045</td>
<td>+28.6%</td>
</tr>
<tr>
<td>Equipment Operators</td>
<td>424,967</td>
<td>707,437</td>
<td>+28.0%</td>
</tr>
<tr>
<td>Ironworkers Welders</td>
<td>171,507</td>
<td>125,797</td>
<td>-21.5%</td>
</tr>
<tr>
<td>Pipers Plumbers</td>
<td>100,114</td>
<td>15,992</td>
<td>-82.6%</td>
</tr>
<tr>
<td>Construction Laborers</td>
<td>707,437</td>
<td>207,437</td>
<td>-72.1%</td>
</tr>
<tr>
<td>Painters</td>
<td>707,437</td>
<td>100,114</td>
<td>-86.8%</td>
</tr>
<tr>
<td>Cement Masons</td>
<td>707,437</td>
<td>100,114</td>
<td>-86.8%</td>
</tr>
</tbody>
</table>

# RoadsToYourFuture
Emerging Skills

- Identify of Emerging Skills
- Develop of the Capacity to Integrate Them into the Industry
- Develop Needed Training
- Implementation of Training
Future Technologies & Trends

- Autonomous Vehicles
- Next-Gen GPS Devices
- High-Speed Rail Networks
- Gyroscopic Vehicles
- Connected Vehicles & Smart Infrastructure
- Advanced Analytics and Machine Learning
- Unmanned Aircraft Systems (aka Drones)
- Additive Manufacturing (3D Printing)
Future Technologies & Trends (cont…)

- Hyperloop
- Weather-Response Strategies
- Radio Frequency Identification (RFID)
- Water-fueled Cars
- Commercial Space Flight
- Advanced Geotechnical Methods in Exploration
- Crowdsourcing for Operations
Partnerships

- Establish Working Partnerships
  - Transportation Industry (Private Industry)
  - Academia
  - Federal, State, and Local Government
Other Efforts

NCHRP

NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM

TRB

TRANSPORTATION RESEARCH BOARD OF THE NATIONAL ACADEMIES
Questions & Conclusion

Any Questions?
Contact Information

Karen A. Bobo
Director – Center for Transportation Workforce Development
Federal Highway Administration
(202) 366-1333
Karen.bobo@dot.gov