Empowering the New Mobility Workforce

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By 2022, transportation employers will need to hire 4.6 million workers—1.2 times the current transportation workforce.¹

Transformational technologies are developing so quickly that current educational and training providers are struggling to keep pace.

¹ Transportation Learning Center (TLC) and Jobs for the Future (JFF) analysis based on EMSI 2014 Industry Report. Data retrieved from EMSI in June 2014.
New Mobility Workforce Challenges

Empowering the New Mobility Workforce
Educating, Training, and Inspiring Future Transportation Professionals

- More than half of current transportation workers are 45 years or older. The need to replace retiring workers creates significant workforce challenges.

- The new workforce needs to reflect the current U.S. demographic.

Empowering the New Mobility Workforce

A few highlights from the book...
LA Metro: changing the mobility game—inspiring and training a new workforce, filling leadership voids, and creating farm teams for the future

Phillip A. Washington
Chief Executive Officer, LA Metro

Joanne Peterson
Chief, Human Capital and Development, LA Metro
Farm Teams for the Future

- Introducing education opportunities to students aged 12 to 18, LA Metro initiated a Transportation School concept called E3: exposing, educating and employing youth in the transportation industry.

- In partnership with LA County, LA Metro has established a Transportation Academy boarding school which:
  - Targets and recruits at-risk youth
  - Fundraises to offer free tuition
  - Supports students’ life needs
  - Hopes to build a qualified workforce

Source: LA Metro
Inspiring the next generation mobility workforce through innovative industry-academia partnerships

Stephanie S. Ivey, PhD  
Associate Dean for Research  
Professor Herff College of Engineering
Inspiring the Next Generation

• Dream Big is the first giant-screen film to answer the call of the STEM (Science, Technology, Engineering, Math) initiative, which aims to inspire kids of diverse backgrounds to become the innovators who will improve the lives of people across our entire planet as we head into the 21st Century and beyond.

• It is imperative that these programs begin in K-12 and continue to inspire the next generation towards their career in transportation.
Inspiring the Next Generation

• While women account for 50% of the population and 46% of the total workforce in the United States, they make up only 4%-25% of the workforce in transportation-specific occupations.

• Women are underrepresented broadly at all levels in STEM – particularly in transportation – and the numbers get worse, the higher up the career ladder you look.

1 Elsevier. 2019
Creating Communities of Practice for the New Mobility Workforce: Lessons from the National Transportation Career Pathway Initiative

Thomas O’Brien, Ph.D.
Executive Director, Center for International Trade and Transportation

Scott Jakovich
Project Coordinator, National Transportation Career Pathways Initiative
• The Southwest Transportation Workforce Center (SWTWC), in partnership with the Los Angeles Trade Technical College (LATTC), formally launched “ARC 341” on February 24, 2018; a pilot class in metropolitan GIS planning systems with a transportation focus.

• The program aims to provide new technological competencies to students who are interested in transportation and urban planning professions.
Members of the National Network for the Transportation Workforce developed a national career pathway program to inspire, recruit, and prepare future professionals for transportation disciplines in planning, engineering, environment, safety, and operations.

Addressing Transformational Technology in the Classroom
Addressing Transformational Technology in the Classroom

ARC 342 Students and Virginia Tsu, Director of FHWA’s Center for Transportation Workforce Development, on the final day of the pilot course.
The Uniting Principle for the book:

This book is a network of communities of practice writ large.

- Leaders in education, industry, and government need to create workforce development ecosystems that facilitate learning and upskilling for emerging and incumbent transportation workers.
Communities of Practice Drive Innovation
Thank you!

https://www.elsevier.com/books/empowering-the-new-mobility-workforce/reeb/978-0-12-816088-6

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Empowering the New Mobility Workforce
A Historical Perspective on Technology and Work
May 21st, 2019
Key Question

• What can past technological transformations from other industries teach us?

• Selected figures from:

Historical perspectives on managing automation and other disruptions in transportation

Austin Brown, Hannah Safford, Daniel Sperling
Disruption is Already Here

![Graph showing total trips (billions) from 2000 to 2020 for different modes of transportation: Bus, Rail, Taxi, and TNC. The graph indicates a significant increase in TNC trips starting around 2015.]
Farm Labor Disrupted

Note: Data for 1930 are an average of 1920 and 1940 data because 1930 data were unavailable when this article was written.
Farm Productivity Increase
Food Prices Generally Declined

Long-term price index in food commodities, 1850-2015, World
Commodity price index in food items dating 1850-2015, measured relative to real prices in 1900 (i.e. 1900 = 100).

Source: Commodity Prices since 1850 - Jacks (2016)
Manufacturing
Other Examples

- Marine and intermodal shipping
- Private household service workers
Not all Disruption is Destructive
Hypothesis

- Labor intensity of transportation will go down
- Productivity of transportation will go up and costs will go down
- Employment in transportation will be disrupted (some destruction, some creation)
- Productivity overall will increase with significant net benefits to the economy overall
- Policy will be necessary to mitigate disruption but should not try to prevent the transition
Could We Be Wrong?

Of course we could

• This time could be faster
• This time could be different
Transportation Technology Usually Takes Decades
Information Technology Doesn’t

CONSUMPTION SPREADS FASTER TODAY

PERCENT OF U.S. HOUSEHOLDS

100%

80%

60%

40%

20%

0%


ELECTRICITY

TELEPHONE

AUTO

STOVE

REFRIGERATOR

CLOTHES WASHER

COLOR TV

CLOTHES DRYER

AIR CONDITIONING

MICROWAVE

DISH-WASHER

VCR

COMPUTER

CELLPHONE

INTERNET

SOURCE: MICHAEL FELTON, THE NEW YORK TIMES

HBR.ORG
Conclusions

• Work with the hypothesis of:
  • Concentrated disruption
  • Diffuse, large benefits
  • New jobs will become available

• Focus policy on:
  • Skills needed for new jobs (training and retraining)
  • Supporting the most disrupted jobs

• Be ready if:
  • The change is fast
  • This time is different