



MINNESOTA LTAP
UNIVERSITY OF MINNESOTA

Expanding the Transportation Workforce

Minnesota County Engineers Conference
Tuesday, January 18, 2022

Today's Agenda

LRRB Projects

- Expanding the Transportation Workforce
- Workforce Planning and Human Resource Development Strategies for Minnesota's Public Transportation Agencies

Additional Workforce-related Activities

- Local Agency Transportation Internship Program
- New: Civil Tech Certificate Program

Other Opportunities

- NEW trainings
- Technical instructors



ETW: Purpose

Help local agencies fill open positions!

Recruit, retrain, and retain in the short-term

Promote career opportunities in the long-term

ETW: Products

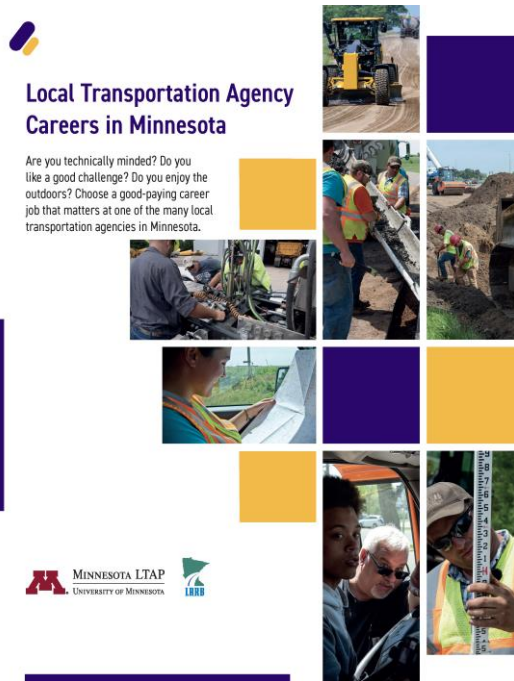
Career Brochure

Community Outreach and Communication Guide

Recruitment Toolkit

Training Roadmap for Civil Techs

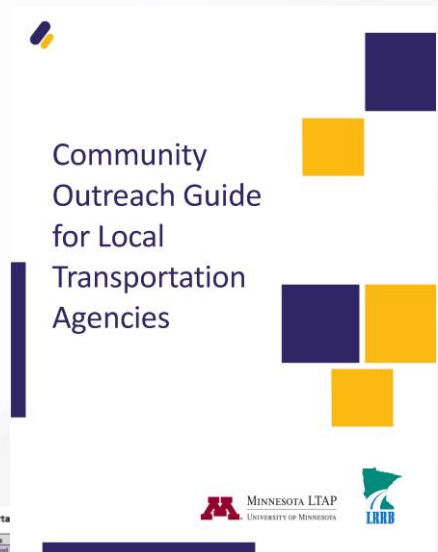
ETW: Career Brochure



- Build awareness
- Specific to transportation careers in local agencies
- Benefits of working for a local agency
- Profile different types of careers

ETW: Community Outreach Guide

- Support local agencies in community outreach around transportation careers
- Tools, tips, strategies
- Spreadsheet with LOTS of activity ideas



Activities to Build Awareness of Careers in Local Transporta

Activity Title	Activity Description	Engineering Area	Grade Level	Duration	Materials	Other
Flood!	Construct a model of a river system with levees. Build your own submarine and make it neutrally buoyant in a diving tank.	Hydraulic, Hydrology, and Water Resources	9-12	NOVA	45 min.	Molding clay
Underwater Dream Machine	How to decrease the carbon footprint of your city's public transportation system through the use of various new technologies and/or alternative fuels?	Hydraulic, Hydrology, and Water Resources	9-12	NOVA	45 min.	Dishwashing liquid
Car of the Future	This module provides students with an opportunity to learn about careers in a number of local, state and national agencies involved in the transportation, distribution and logistics industry.	Transportation	Traffic Emissions	9-12	NOVA	Four class periods
Department of Transportation	Students will explore construction and maintenance within the transportation industry. They will use geospatial technologies to make predictions about how seasonal weather events can affect construction practices.	Transportation	Career Exploration	9-12	Northwest Transportation Resource Center	Multiple sessions
Exploring Transportation Maintenance	Build an arch that supports itself with no mortar.	Transportation	Career Exploration	9-12	Northwest Transportation Resource Center	Multiple sessions
Tasty Arch	The Bridge UP! curriculum provides free classroom resources for teachers using bridge design and construction principles as the foundation for learning. Engineer the tallest tower you can build that can support the weight of a golf ball for 2 minutes, using just straws, pipe cleaners, and paperclips.	Structural and Construction	Arches	9-12	NOVA	45 min.
Bridge UP!	Engineer the tallest tower you can build that can support the weight of a golf ball for 2 minutes, using just straws, pipe cleaners, and paperclips.	Structural and Construction	Bridges	12-16	MDOT	Multiple sessions
Tall Tower Challenge		Structural and Construction	Towers	9-12	Try Engineering	1 hour

Expanded [Become a Civil Engineer](#) website

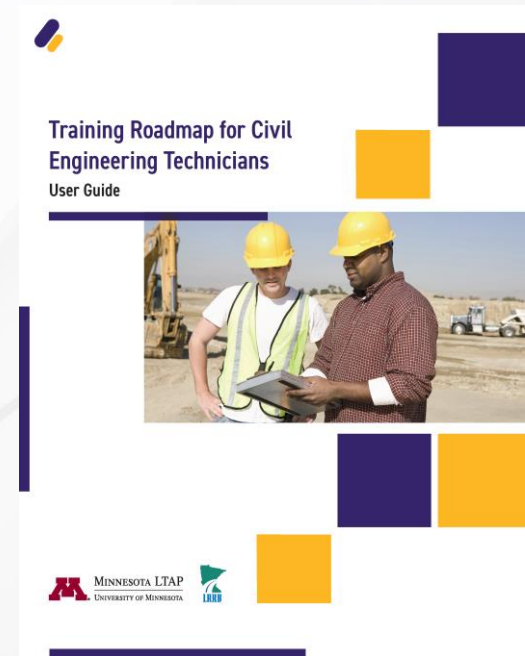
ETW: Recruitment Toolkit

- Broaden the reach and impact of job postings
- Sample job descriptions
- Tips for marketing through social media
- Resources to connect with new audiences



ETW: Training Roadmap for Civil Technicians

- Help Supervisors/employees identify and plan training needs
- Customizable spreadsheet
- Companion User Guide
 - Tips for supervisor/employees
 - OJT success factors
 - Local agency case studies



All materials are FREE

mnlta.umn.edu/workforce

Research Project: Workforce Planning for Public Agencies

- Explored causes for workforce shortage in MN public transportation industry
- Proposed human resource strategies



Workforce Planning and Human Resource Development Strategies for Minnesota's Public Transportation Agencies

Kenneth Bartlett, Principal Investigator
Department of Organization Leadership, Policy, and Development
University of Minnesota

MARCH 2021

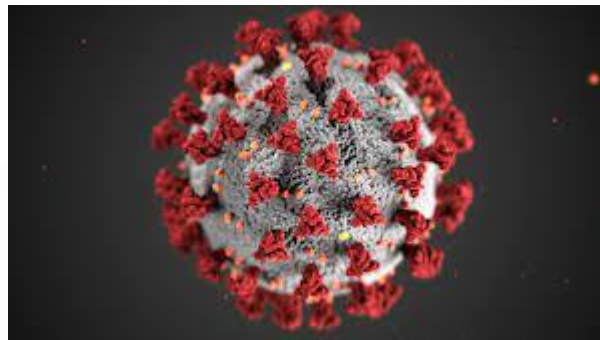
Research Project
Final Report 2021-06



Office of Research & Innovation • mndot.gov/research

Recruitment Challenges

Aging labor force, retirements, competition between public and private sector, different labor market patterns in rural and urban regions, talent shortages, negative perception of the public transportation industry

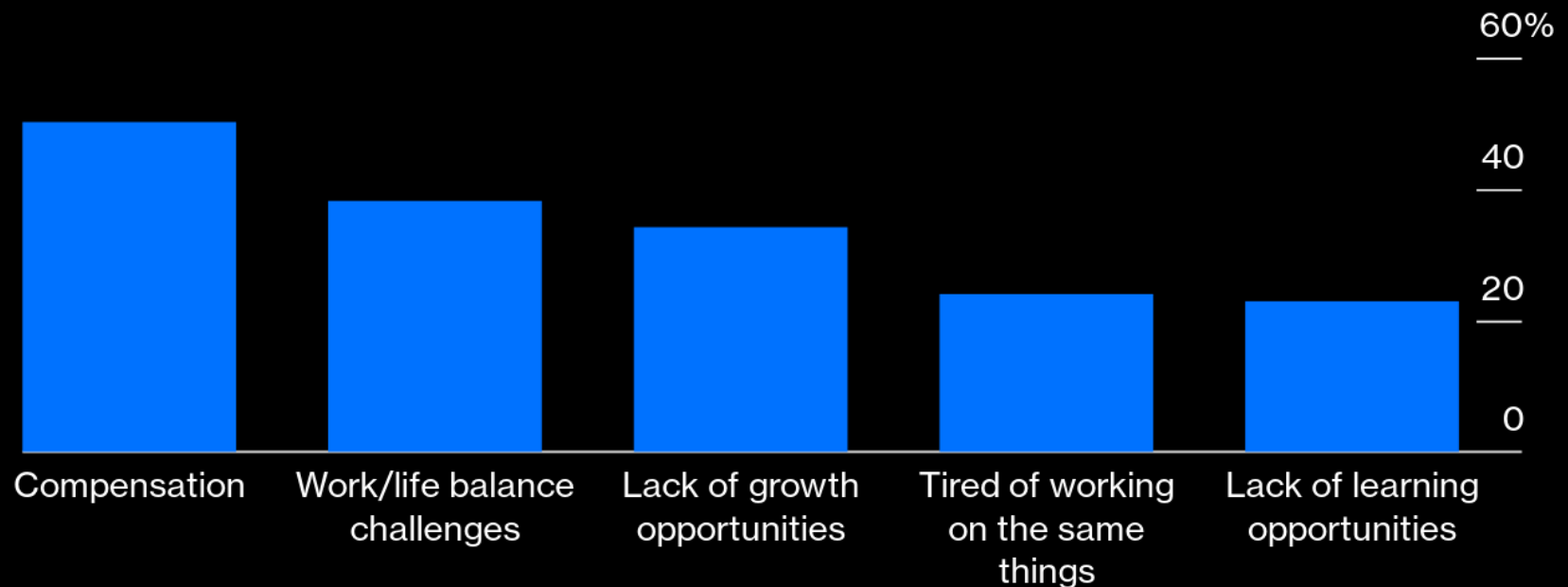


The Great Resignation

Driving Forces in Talent Migration

What's Driving the Talent Migration?

A quarter of workers (24%) are planning to look for a new job post-pandemic.



Source: Prudential's Pulse of the American Worker Survey
Note: Conducted by Morning Consult in May 2021

BloombergOpinion

Strategic Workforce Planning



NOT ALL "WORKFORCE PLANNING" IS THE SAME



Recommendations



Capitalize on MnDOT strength with HR systems to other agencies* (where possible)



More awareness – marketing of career options to new populations of future workers



Realistic expectation for job description (clear and realistic expectations or job and skill requirements)



Minimize red tape when possible



Mentoring programs



Succession planning programs



Investment in development and implementation of knowledge management systems

Strategic Workforce Planning: Tips and Tools for Local Transportation Agencies

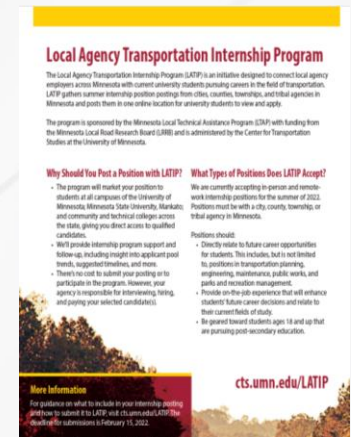


February 17
9:00-10:00am

Internship Program

mnlta.umn.edu/training/internship

- Job postings accepted through Feb 15
- Will begin marketing with students later this month
- Expanded marketing this year: technical and community colleges



Civil Tech Certificate Program

Level I Coming July 2022

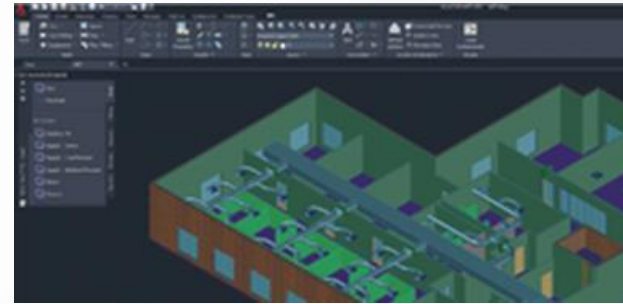


- Continue building career pathways
- Levels align with Civil Technician positions (skill requirements/responsibilities)
- Levels comprised of workshops/courses and certifications (MnDOT & Industry)

New Trainings

Roadway Design Using AutoCAD and Civil 3D

- AutoCAD Skills and Construction Concepts (instructor-led)
- Introduction to Roadway Design (self-paced)
- Civil 3D Practical Application (instructor-led)



Work- Zone Safety Orientation (self-paced)



Other Resources Available Today

PPE pocket guide

Mousetrap/OPERA posters

Stay Connected!

mnltap.umn.edu

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