



## Attracting, Recruiting, and Retaining Skilled Staff for Transportation System Operations and Management:

### *Highlights from NCHRP Project 20-86*

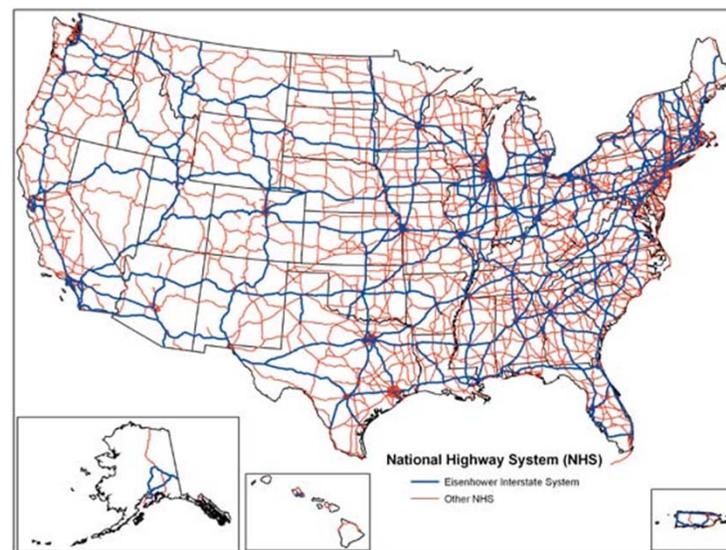
#### **Missouri Operations Summit**

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*ICF International*

# Roadmap

- Introduction
- Overview of Method
- Overview of 8 Action Plans
- Questions





## NCHRP Report 693

Cronin, B., Anderson, L., Fien-Helfman, D., Blair Cronin, C., Cook, A., Lodato, M., & Venner, M. (2012). NCHRP Report 693: Action Plans for Attracting, Recruiting, and Retaining Skilled Transportation Staff in System Operations and Management Occupations. Washington D.C.: Transportation Research Board.

- Full Report:

<http://www.trb.org/Publications/Blurbs/166342.aspx>

- Executive Workbook:

[http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp\\_rpt\\_693Workbook.pdf](http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_693Workbook.pdf)

## Overview of Method

Task 1: Conduct a comprehensive literature review and determine SOM challenges/trends

Task 2: Identify staffing projections and pools of potential workers to meet forecasted SOM needs

Task 3: Determine SOM careers, career paths, and attributes and training needed

Task 4: Describe and evaluate current practices in transportation agencies

Task 5: Identify resources to facilitate attracting, recruiting, developing, and retaining SOM Staff

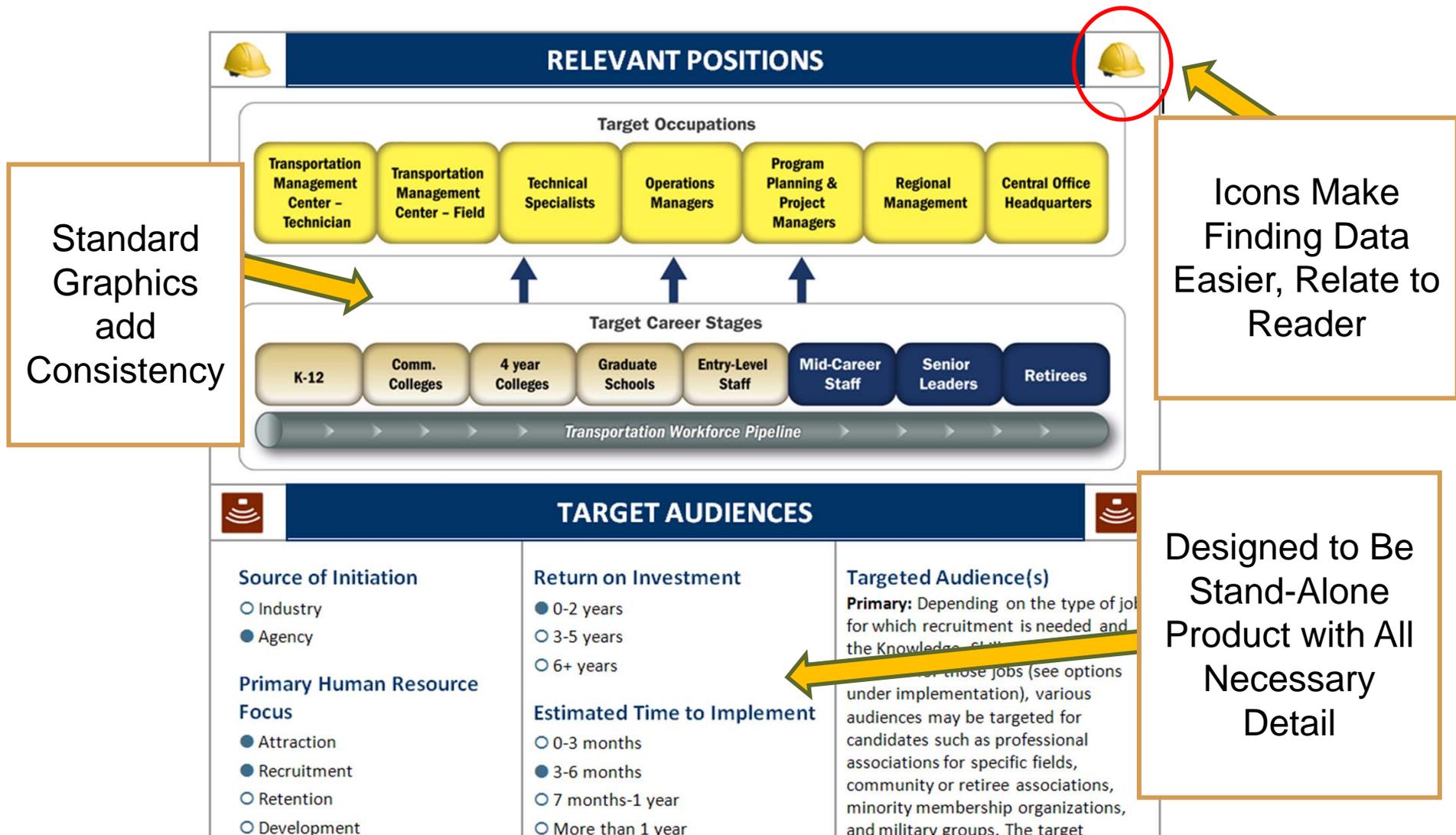
Task 6: Action plans and strategic marketing plan

# Recommended Action Plans for Attracting, Recruiting, and Retaining Skilled Staff for Transportation System Operations and Management



- 1. Implement Annual or Semi-Annual SOM Career Days**
- 2. Develop SOM Curriculum Content for Related Higher Education Courses and Training Programs**
- 3. Implement Student-Worker Internship Program with a Job Rotational Component**
- 4. Implement Virtual Pre-Employment Realistic Job Preview**
- 5. Institute Mentoring Programs**
- 6. Develop Employees and Maintain Employee Career Pathways**
- 7. Implement SOM Succession Plans**
- 8. Recruit from Non-Traditional Sources**

# NCHRP 20-86: SOM Workforce Action Plans



Standard Graphics add Consistency

Icons Make Finding Data Easier, Relate to Reader

Designed to Be Stand-Alone Product with All Necessary Detail

# Recommendation 1: Implement Annual or Semi-Annual SOM Career Days



**Description:** Exciting, hands-on approach to introduce students to SOM careers at a young age. Could consist of a 3- to 5-day after-school program for students in grades K-8 or a career day at a vocational technical school or a Science, Technology, Engineering, and Mathematics (STEM) school

**Example Positive Outcomes:** Increase in community understanding of SOM-related careers; Greater awareness of careers could increase applicant pool

Recommendation Highlights	
Target Career Stage	K-12
Human Resource Focus	Attraction and Recruitment
Estimated Time to Implement	0-3 months
Estimated Return on Investment	6+ years
Primary Targeted Audience	Program directors, principals, students

# Recommendation 1: Implement Annual or Semi-Annual SOM Career Days



## Example of Effective Program:

- **DOT Construction Career Days**
  - Workforce development tools that introduce high school students to the transportation construction industry and support the pipeline of future professionals
  - Promote the transportation industry and careers by offering highway agency staff the opportunity to present in local schools



# Recommendation 2: Develop SOM Curriculum Content for Related Higher Education Courses and Training Programs



**Description:** Specified SOM curriculum is critical for creating awareness for SOM occupations and to ensure students have the opportunity to learn and develop skills needed for these jobs

**Example Positive Outcomes:** Increases in college graduates with SOM skills; Increased performance in new hires; Reduced turnover and training expenses

Recommendation Highlights	
Target Career Stage	Community Colleges and 4-Year Colleges
Human Resource Focus	Attraction and Recruitment
Estimated Time to Implement	More than 1 year
Estimated Return on Investment	3-5 years
Primary Targeted Audience	Education agencies, trainers, college deans and curriculum developers

# Recommendation 2: Develop SOM Curriculum Content for Related Higher Education Courses and Training Programs



## Example of Effective Program:

- **Louisiana Department of Transportation and Development's (LDOTD) Master's of Engineering**
  - Developed as a result of the expectation of high levels of retirement in the agency workforce
  - Coordinating with engineering schools in Louisiana to use distance learning technology to teach courses
  - Courses coordinated by LDOTD



# Recommendation 3: Implement Student-Worker Internship Program with Job Rotational Component



**Description:** Mutually beneficial approach to introduce college students to SOM occupations and variety of different duties and tasks by targeting universities and offering paid positions to students while in school

**Example Positive Outcomes:** Increased numbers of qualified applicants with actual job experience; Reduced attrition in new hires; Enhanced perception of the industry

Recommendation Highlights	
Target Career Stage	Community Colleges, 4-Year Colleges, and Graduate Schools
Human Resource Focus	Attraction, Recruitment, Retention, and Development
Estimated Time to Implement	7 months-1 year
Estimated Return on Investment	0-2 years
Primary Targeted Audience	Students

# Recommendation 3: Implement Student-Worker Internship Program with Job Rotational Component



## Example of Effective Program:

- **PennDOT Civil Engineer Training (CET) Program**
  - Created to identify, recruit, and retain civil engineers
  - Provides one year of work experience rotating through civil engineering work at PennDOT
  - CETs attend training, must pass department tests
  - After the one year program, CET candidates become eligible for full-time employment as a civil engineer at PennDOT
  - The program has been a success, as evidenced by participant feedback, increasing applicant pool, and rising retention rates



# Recommendation 4: Implement Virtual Pre-Employment Realistic Job Preview



**Description:** Provides opportunity for applicants to determine if they will be a good fit for the position and provide a “wow” factor to applicants, given the interactive web-based technology used

**Example Positive Outcomes:** Improve the image that applicants form of the agency; Increased numbers of applications; Reduced attrition in new hires

Recommendation Highlights	
Target Career Stage	Community Colleges, 4-Year Colleges, and Graduate Schools
Human Resource Focus	Attraction, Recruitment, and Retention
Estimated Time to Implement	3-6 months
Estimated Return on Investment	0-2 years
Primary Targeted Audience	University Career Centers and Faculty providing advice to students

# Recommendation 4: Implement Virtual Pre-Employment Realistic Job Preview



## Example of Effective Program:

- **Shaker Consulting's Virtual Job Tryout for Starbucks**
  - Interactive tool that is highly engaging, interactive, and customized
  - Allows candidates to learn about Starbucks and virtually try out the job
  - All completed through an online platform that delivers interactive simulations that are highly representative of the actual job
  - Has helped to optimize talent and reduce turnover



# Recommendation 5: Institute Mentoring Program



**Description:** Provides an opportunity for new employees to learn about their job and the agency from an experienced staff member

**Example Positive Outcomes:** Positive outcomes for mentees including salary increases; Promotional opportunities; Job and career satisfaction

Recommendation Highlights	
Target Career Stage	Entry-Level Staff, Mid-Career Staff, and Senior Leaders
Human Resource Focus	Attraction, Recruitment, Retention, and Development
Estimated Time to Implement	7 months-1 year
Estimated Return on Investment	0-2 years
Primary Targeted Audience	New hires as well as strong performers

# Recommendation 5: Institute Mentoring Program



## Example of Effective Program:

- **Idaho Engineer in Training (EIT) Mentoring Program**
  - Experienced engineer mentor is paired with a new trainee protégé
  - Matches are made purposefully by a selection committee based on the interests, goals, and areas of expertise of the mentor and the protégé
  - While protégés benefit from the support, encouragement, and information that they receive, mentors benefit by the positive impact they are making, earning admiration and respect, and by improving and refining interpersonal skills.



# Recommendation 6: Develop Employees and Maintain Employee Career Pathways



**Description:** Provides guidance to employees to help them to plan for future and advance within the agency

**Example Positive Outcomes:** Decreased turnover; Better preparation staff for leadership positions; Increased job satisfaction and organizational commitment among mid-career staff

Recommendation Highlights	
Target Career Stage	Entry-Level Staff, Mid-Career Staff, and Senior Leaders
Human Resource Focus	Retention and Development
Estimated Time to Implement	3-6 months
Estimated Return on Investment	0-2 years
Primary Targeted Audience	Staff seeking career guidance

# Recommendation 6: Develop Employees and Maintain Employee Career Pathways



## Example of Effective Program:

- **PennDOT's Position Analysis Workbooks Program**
  - Implemented to address recruitment and retention efforts and to support career paths and succession planning
  - Describes roles, responsibilities, and tasks performed in a given position
  - Developed by convening focus groups comprising exemplary employees currently in the position or supervising those in the position



# Recommendation 7: Implement Succession Plans



**Description:** Senior leader positions that will be vacated in the near future should be identified and entry-level and mid-career employees should be offered training programs that focus on management and leadership issues

**Example Positive Outcomes:** Bench strength within agency to address gaps in talent; Better skill retention and performance; Fewer senior leader position openings in the future

Recommendation Highlights	
Target Career Stage	Mid-Career Staff, Senior Leaders
Human Resource Focus	Retention and Development
Estimated Time to Implement	3-6 months
Estimated Return on Investment	3-5 years
Primary Targeted Audience	Current and future senior leaders in the agency

# Recommendation 7: Implement Succession Plans



## Example of Effective Program:

- **Minnesota Department of Transportation (Mn/DOT) Succession Planning Program**
  - Created in 1994 because of estimates that 90% of the engineering workforce would be retired by 2010
  - Focuses on executive-level leadership and management positions
  - Two-fold focus:
    - Identify positions that could be developed internally
    - Identify positions that would benefit from external recruiting
  - Identified high-potential employees to determine training assignments



## Recommendation 8: Recruit from Non-Traditional Sources



**Description:** Create recruitment strategies that seek out candidates from non-traditional sources, such as retired military personnel, engineers from the public sector, or stay-at-home parents, to build a deep and diverse applicant pool.

**Example Positive Outcomes:** Increases the size and quality of the applicant pool; Bring workers with valuable experience back to the workplace; Provides ongoing opportunities for mentoring

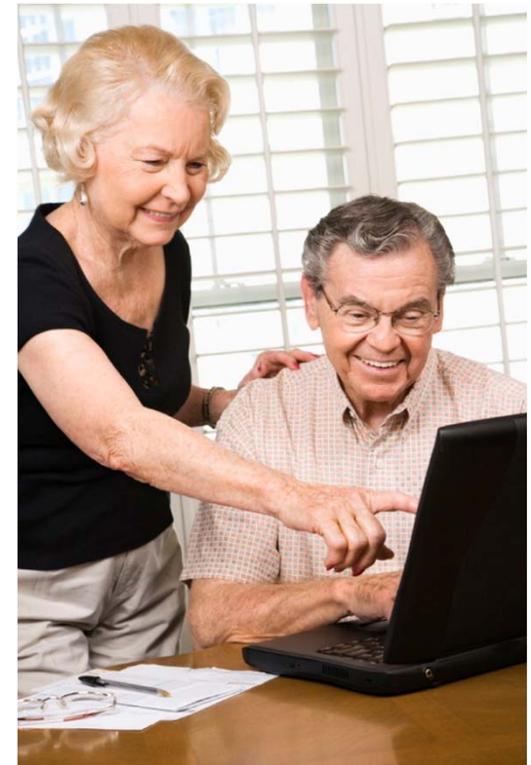
Recommendation Highlights	
Target Career Stage	Mid-Career Staff, Senior Leaders, and Retirees
Human Resource Focus	Attraction and Recruitment
Estimated Time to Implement	3-6 months
Estimated Return on Investment	0-2 years
Primary Targeted Audience	Various , including community or retiree associations, military groups, or professional assoc.

# Recommendation 8: Recruit from Non-Traditional Sources



## Example of Effective Program:

- **California's Boomerang Program**
  - Centralized database of retired state employees who have an interest in temporary employment within a state agency
  - Any state department can use the Boomerang program to identify potential applicants or employment opportunities





## Questions?

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