

**TRANSPORTATION**

**RESEARCH BOARD**

# Training Leaders To Build Tomorrow's Transportation Workforce

**16<sup>th</sup> IRF World Meeting  
May 2010**

National Academy of Sciences  
National Academy of Engineering  
Institute of Medicine  
National Research Council

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**TRB**

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May 27, 2010

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## TRB Critical Issues in Transportation

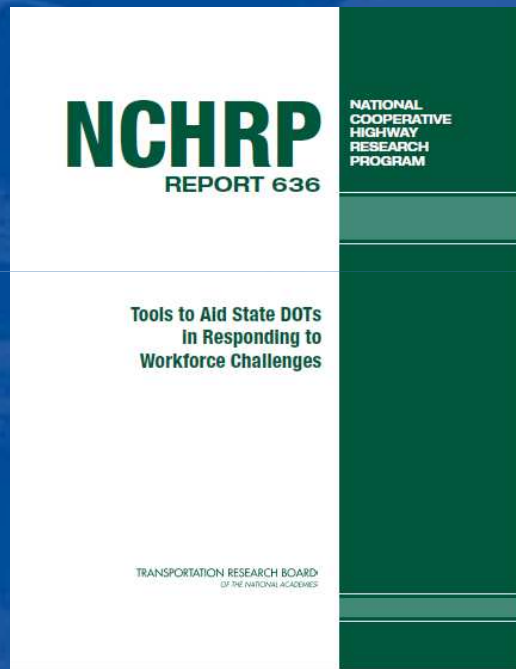
- *With the current problems in hiring capable workers, and with the projections for retirements in the public and private sectors, attracting more and better students into transportation careers is critical.*
- *Given the complexity of the issues to be addressed, workers will need a wider range of skills and training than the current workforce possesses.*

## TRB Reports

- *TRB Special Report 275: The Workforce Challenge.*
- NCHRP Project 20-24(40), “Analysis and Benchmarking of State DOT Recruitment and Hiring Practices.”
- NCHRP Project 20-24(48), “Analysis and Benchmarking of State DOT Human Resource Activities.”
- NCHRP Project 20-24(50), “In-Service Training Needs for State DOTs.”
- *•NCHRP Synthesis 323: Recruiting and Retaining Individuals in State Transportation Agencies.*
- *•NCHRP Synthesis 349: Developing Transportation Agency Leaders: A Synthesis of Highway Practice.*
- *•NCHRP Synthesis 362: Training Programs, Policies, and Practices.*



## TRB Reports



- NCHRP 636: Tools to Aid State DOTs in Responding to Workforce Challenges (2009)
- NCHRP Project 20-81: Guide to Implementing Strategies to Attract and Retain a Capable Transportation Workforce

## Future Trends #1: Organizational Change

- Technology tools making collaboration easier
- Networked teams will be essential
  - Merging direct hires with talent from other sources
- Customers' demands that services become more effective and efficient with limited resources

## Future Trends #2: Leadership Development

- Reduced hierarchical structures
- Leadership development will need to occur at every level
- Change of culture to a more networked structure
- Assemble and use teams inside and outside of organization
- Focus on enhancing individual's strengths, not curing weaknesses



## Future Trends #3: Organizational Development

- Increased use of information technology systems and resources
- The presence of three to four generations of workers in the workforce
- Pressures forcing social networking within and outside the organization
- The scarcity of sufficient numbers of individuals in the labor pool to meet workforce needs



## Future Trends #4: Measuring Organizational Performance

- Talk will be replaced by reality
- Assess performance against overall goals and objectives
- Link with human, fiscal, and other resources
- Employee and organizational performance closely related
- Performance measured on ultimate outcomes

## Future Trends #5: Measuring Individual Performance

- Managing organizational and individual performance as two halves of the whole
- Merging strategic plan goals and outcomes with individual performance requirements
- Assuring both supervisors and employees understand how these pieces work together

## Future Trends #6: Recruitment

- “Rebranding” the profession & the organization
- Broadened to focus on sources of skill sets
- Reach out to more diverse workforce
- Applications will be mostly internet based
  - Organizations need to substantially enhance their web-based recruitment tools



## Future Trends #7: Retention

- Decrease in growth of labor pool
- Competition for well-qualified workers will be at a premium
- Need to provide interesting work
- Allow employees to make substantial contributions
- Provide opportunities to grow and develop professionally

## Future Trends #8: Retirement

- Retirement is being redefined
- Workforce will include as many as four generations of employees
- Retirement benefits and work arrangements being affected
- “Step down” work arrangements
- Succession planning

## Future Trends #9: Knowledge Management

- Organizing knowledge for the maximum benefit of the organization, employees, customers, and stakeholders
- An essential competitive advantage as organizations compete for the best talent
- Organizations will make slow but steady progress



## Future Trends #10: Workforce Training & Development

- Rate of new knowledge creation will increase exponentially
- Assure that workforce acquires knowledge necessary to achieve goals & outcomes
- Increase understanding of which training mechanisms most effective & efficient
- More informal computer based training likely to play a bigger role

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# Examples of Best Practices



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## State DOT Workforce Toolkit

- From NCHRP Report 636
- Web address (demonstration site):  
<http://nchrpworkforcetoolkit.com/NCHRP.aspx>
- Links to 200 resources on common state DOT workforce issues
- Organized around top ten needs facing DOT workforce managers



# State DOT Workforce Toolkit

[Home](#) > Top Ten DOT Needs

Top Ten DOT Needs

FAQ

Functional View

Faceted Search

Geographic View

Text Search

Add Resource

State Practices

Home

Forum

## Top Ten DOT Workforce Needs

I am seeking resources to help me:

My organization needs to address	A. Understand issues and trends	B. Learn about peer agencies	C. Assess our situation	D. Implement programs, policies, procedures
1. Strategic workforce planning	<a href="#">Resource list</a>	<a href="#">Resource list</a>	<a href="#">Resource list</a>	<a href="#">Resource list</a>
2. Attracting and retaining talent	<a href="#">Resource list</a>	<a href="#">Resource list</a>	<a href="#">Resource list</a>	<a href="#">Resource list</a>
3. Retooling the workforce to meet evolving business needs	<a href="#">Resource list</a>	<a href="#">Resource list</a>	<a href="#">Resource list</a>	<a href="#">Resource list</a>
4. Grooming the next generation of leaders	<a href="#">Resource list</a>	<a href="#">Resource list</a>	<a href="#">Resource list</a>	<a href="#">Resource list</a>
5. Downsizing	<a href="#">Resource list</a>	<a href="#">Resource list</a>	<a href="#">Resource list</a>	<a href="#">Resource list</a>
6. Preserving institutional knowledge	<a href="#">Resource list</a>	<a href="#">Resource list</a>	<a href="#">Resource list</a>	<a href="#">Resource list</a>
7. Employee conflicts and performance issues	<a href="#">Resource list</a>	<a href="#">Resource list</a>	<a href="#">Resource list</a>	<a href="#">Resource list</a>
8. Outsourcing	<a href="#">Resource list</a>	<a href="#">Resource list</a>	<a href="#">Resource list</a>	<a href="#">Resource list</a>
9. Organizational change - reengineering and reorganization	<a href="#">Resource list</a>	<a href="#">Resource list</a>	<a href="#">Resource list</a>	<a href="#">Resource list</a>
10. Improving efficiency and effectiveness of the HR function	<a href="#">Resource list</a>	<a href="#">Resource list</a>	<a href="#">Resource list</a>	<a href="#">Resource list</a>

## Minnesota DOT CARRS Program

- Community Advisors on Recruitment and Retention Solutions (CARRS)
- Partnership with 18 minority or women-managed organizations
- Partners hold community meetings and disseminate information on DOT job openings
- CARRS produced 30 minority hires in a year
- Improved community relations with DOT

## North Carolina DOT Supervisor Academy

- For employees transitioning to a supervisory role
- Two 2-week courses: Fundamentals of Supervision, and Advanced
- Participants and immediate supervisors complete a pre and post Academy survey
- DOT has seen a improvements for supervisors in these measures



## Washington State DOT Branding Through Social Media

- Using YouTube and Facebook to re-brand the agency and to connect with younger population
- Includes information about the transportation industry and a typical career at WSDOT
- Variety of videos on key position classes and sample employees

## Maryland SHA Advanced Leadership Program

- SHA developed to identify employees to fill leadership positions before those positions become vacant
- Two-year training program
- Employees must apply – selection very competitive
- Individual development plans focus on leadership, career, personal, and community
- Has increased tenure for future leaders, number of qualified leaders, and number of working mothers in leadership positions

## MnDOT Succession Planning for Supervisors & Leadership

- Develops employees for 37 targeted leadership positions
- Relies on 7 core competencies that support the DOT mission, vision, and goals
- Assesses each individual's competencies and professional development needs to prepare for next level
- Employs job-sharing, job-switching, and training as part of preparation
- Program has directly influenced more than 20 senior appointments



## Virginia DOT Knowledge Management Program

- Guards against losses in critical institutional knowledge due to retirements and downsizing
- Includes process mapping, organizational network analysis, lessons learned, and communities of practice
- Collects return-on-investment data on cost savings due to improved processes
- KM program has been “overwhelmingly successful”

## Distance Learning Program for Transportation Leaders

- Early to mid-career professionals who are potential leaders
- Graduate education certificate program on transportation policy, management, & operations
- Real time delivery over a common distance learning medium
- Delivered by faculty from outstanding universities
- Certificate delivered by Regional University Transportation Centers
- Three year pilot program to be initiated soon

**Obrigado!  
Thank You!**

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