



WEST REGION
Transportation
Workforce Center

CONNECTIONS for Tomorrow's Transportation Workforce

Technology & the Transportation Workforce

*National Rural ITS Conference
Snowbird, UT
August 10, 2015*



Agenda

- Introducing the National Network for the Transportation Workforce
 - Presenter: Susan Gallagher, WRTWC Project Manager
- University Programs Round Table
 - Moderator: Steve Albert, Director, MSU Western Transportation Institute
 - Panel:
 - Kevin Chang, University of Idaho
 - Rhonda Young, University of Wyoming
- Audience Q & A
 - All

Background:

Transportation Workforce Challenges

- Baby boomer retirements
- Lack of awareness and understanding of career opportunities
- ✓ Rapid pace of technological advancement
- ✓ New skill sets required of entry level hires
- ✓ Competition for competent staff

Background:

Impetus for National Network

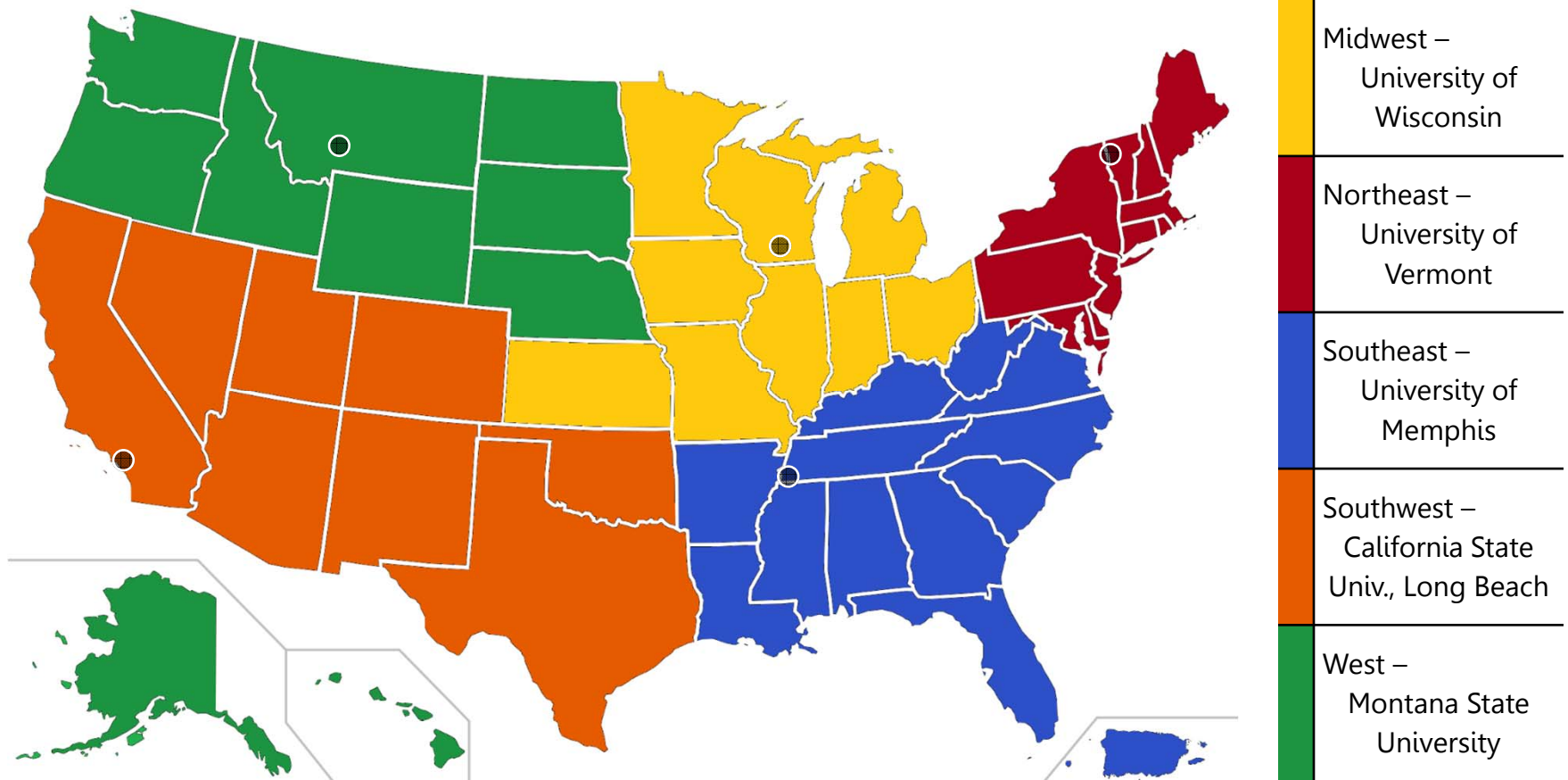
- **Recognized need for strategic approach to transportation workforce development to meet challenges, including:**
 - Need to increase awareness of existing programs
 - Need to coordinate successful practices at all levels
 - Grades 6-12, Community & Technical Colleges, University, Professional Development
 - Need to coordinate efforts and leverage resources across transportation, education, workforce, and labor communities

Background: Establishing a National Network

- 2014: Federal Highway Administration establishes 5 Regional Centers
- Combination of SAFETEA-LU and MAP-21 funding for 4 years
- Administered through FHWA Technology Partnership Program



National Network for the Transportation Workforce



West Region Transportation Workforce Center (WRTWC)

- Serves 10 western states:
 - Montana, North Dakota, South Dakota, Nebraska, Wyoming, Idaho, Oregon, Washington, Alaska, Hawaii
- Western Transportation Institute at Montana State University (lead institution) in partnership with the Upper Great Plains Transportation Institute at North Dakota State University

Mission:

National Network for the Transportation Workforce

The Regional Centers will serve as a resource to support, grow and maintain a skilled and career-ready transportation workforce in their respective regions.

The Centers are network rather than program focused and will engage *existing* regionally based programs, to catalyze new strategic partnerships and to communicate programs and best practices to educators, employers and those on the transportation career pathway.

Strategic Outcomes

- **One Stop Web Portal**
 - To training & education programs
- **Direct Connections**
 - Between key stakeholders to catalyze strategic partnerships
- **Better data**
 - On transportation workforce priorities in region
- **Better alignment**
 - Of education & training to skill gaps



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The West Region Transportation Workforce by the Numbers

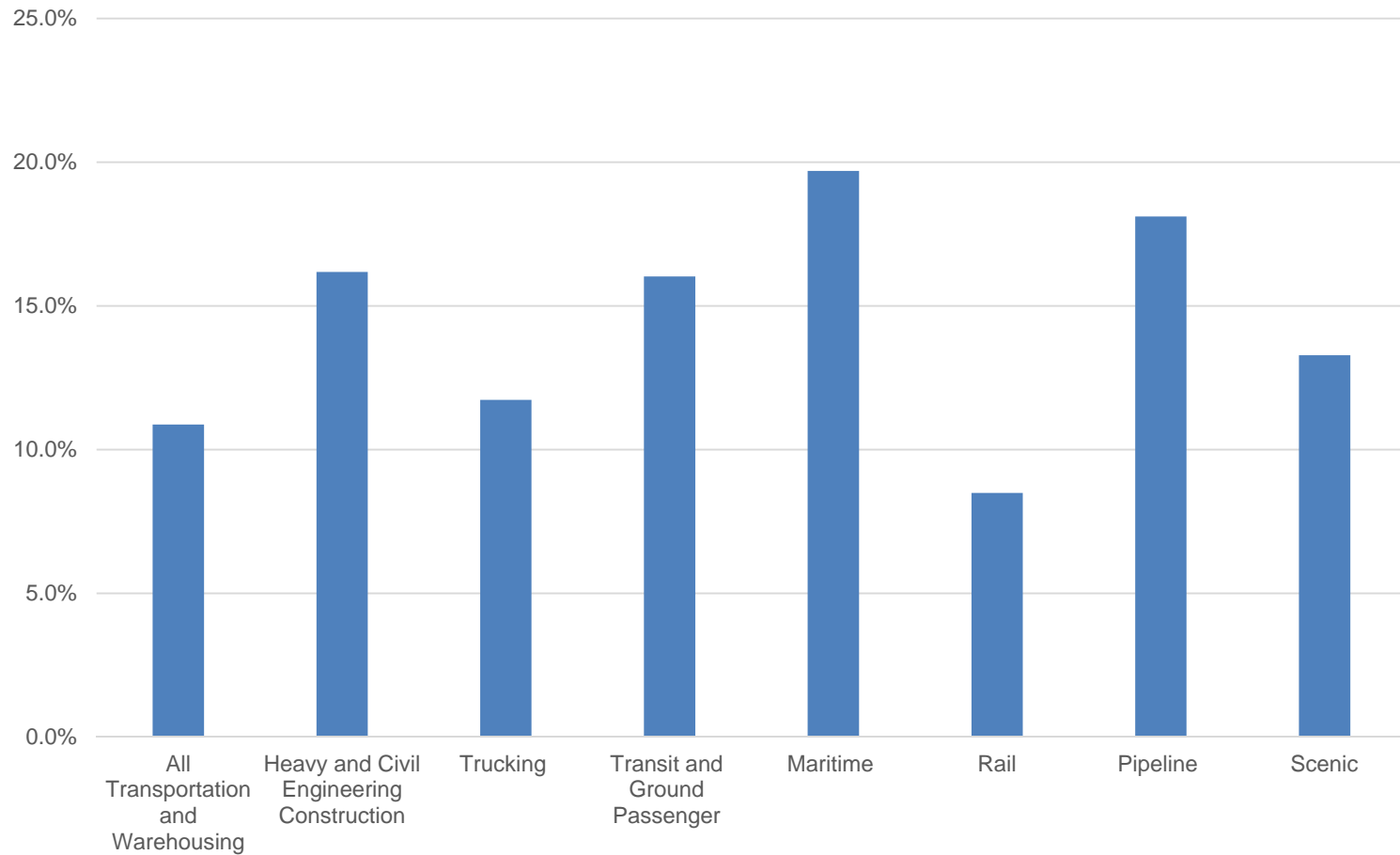
*Regional Workforce Overview for Job Needs &
Priorities Analysis*



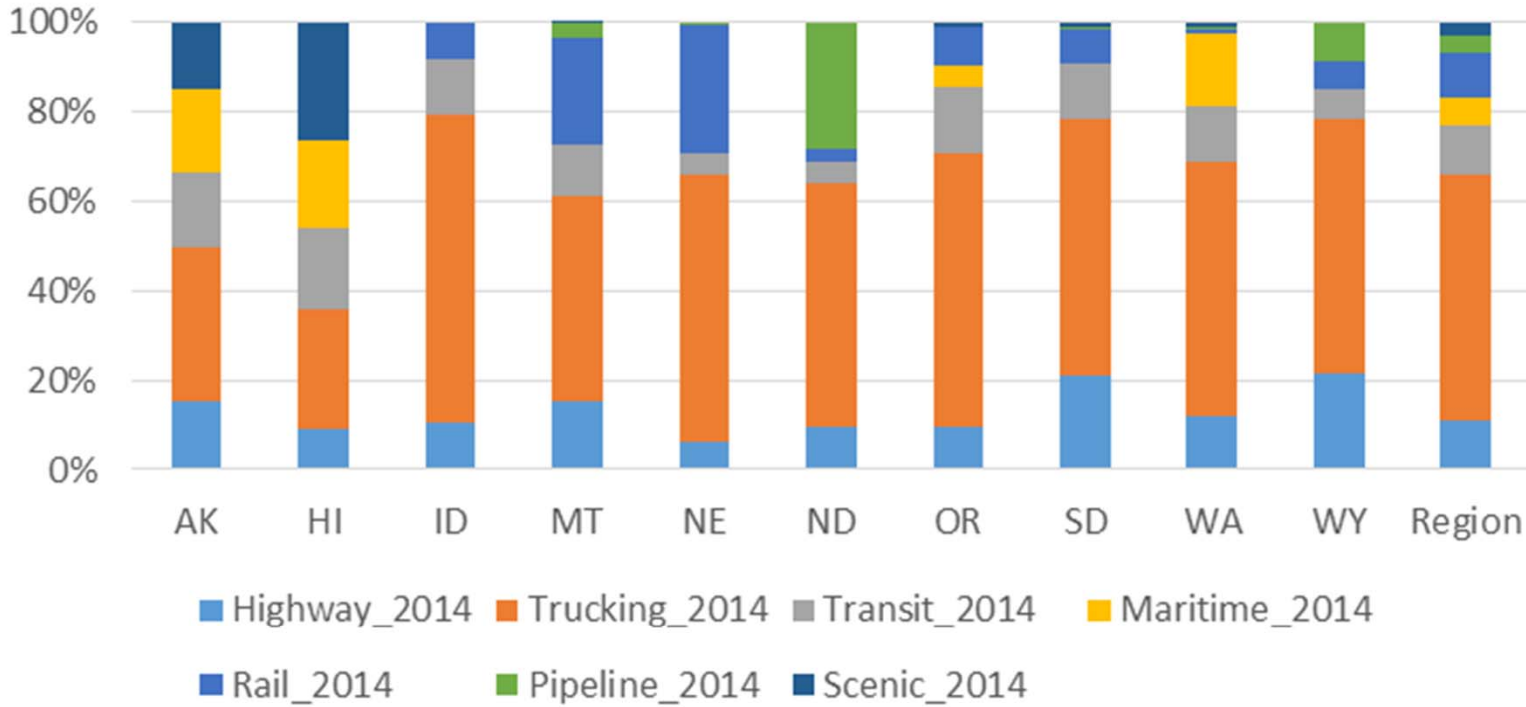
By Industry:

- Trucking
- Rail
- Pipeline
- Transit & Ground
- Maritime
- Highway
- Scenic

2012-22 Growth Rates in Transportation Industries, Western Region



Share of Employees by Transportation Industry, 2014



Total Employees by Transportation Industry, 2014

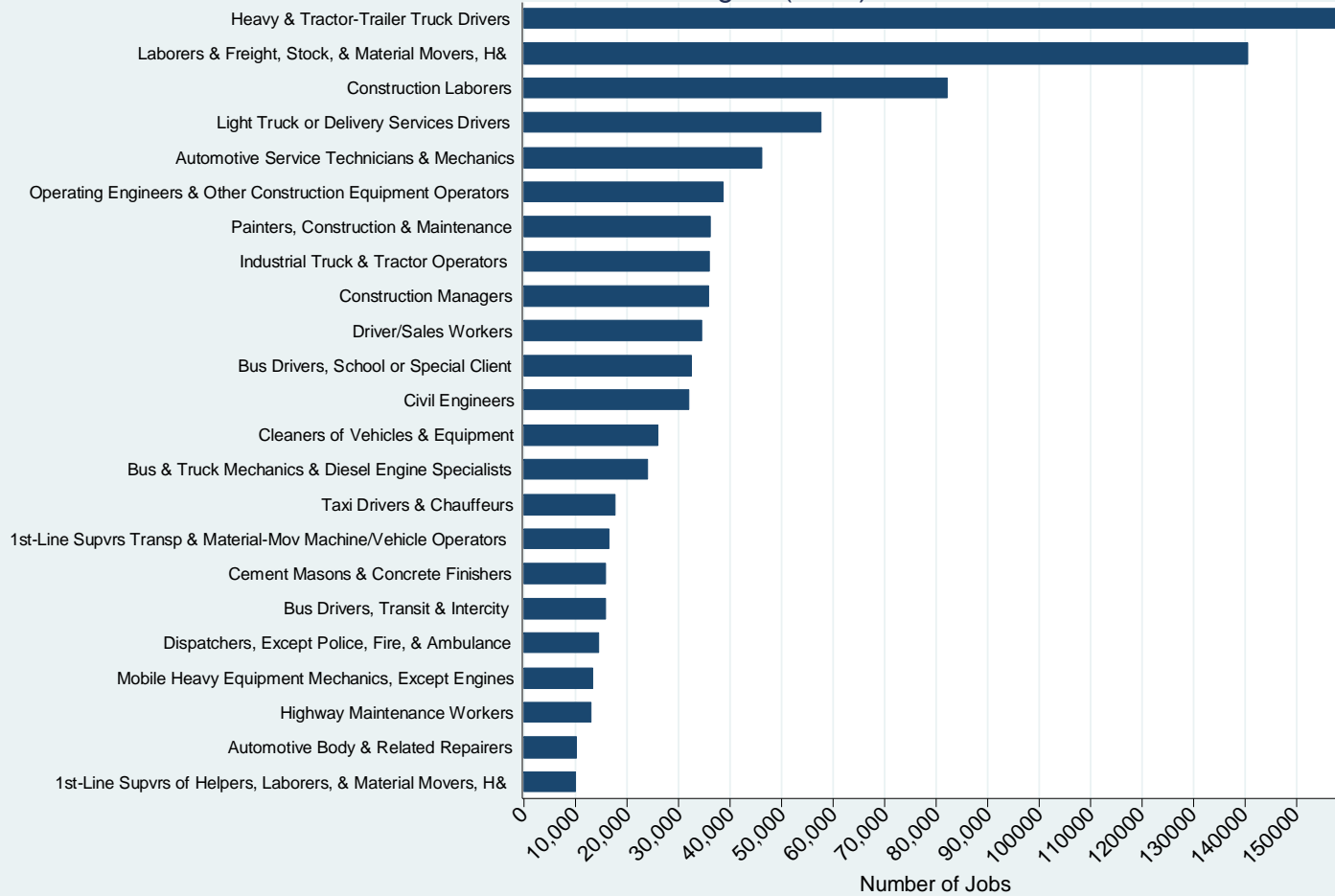
	Highway Construction	Trucking	Transit and Ground Passenger	Maritime (including ports)	Rail	Pipeline	Scenic
AK	1,530	3,460	1,660	1,880	--	--	1,480
HI	1,370	3,980	2,740	2,900	--	--	3,950
ID	1,590	10,330	1,900	--	1,210	--	--
MT	2,110	6,440	1,580	--	3,370	420	30
NE	2,730	26,350	2,140	--	12,840	160	--
ND	2,870	16,140	1,400	--	900	8,320	--
OR	3,340	21,930	5,410	1,740	3,090		310
SD	2,150	5,890	1,320	--	750	70	100
WA	6,710	31,400	6,710	9,090	470	190	660
WY	1,910	5,050	590	--	550	760	--
Region	26,310	130,970	25,450	15,610	23,180	9,920	6,530

By Occupation:

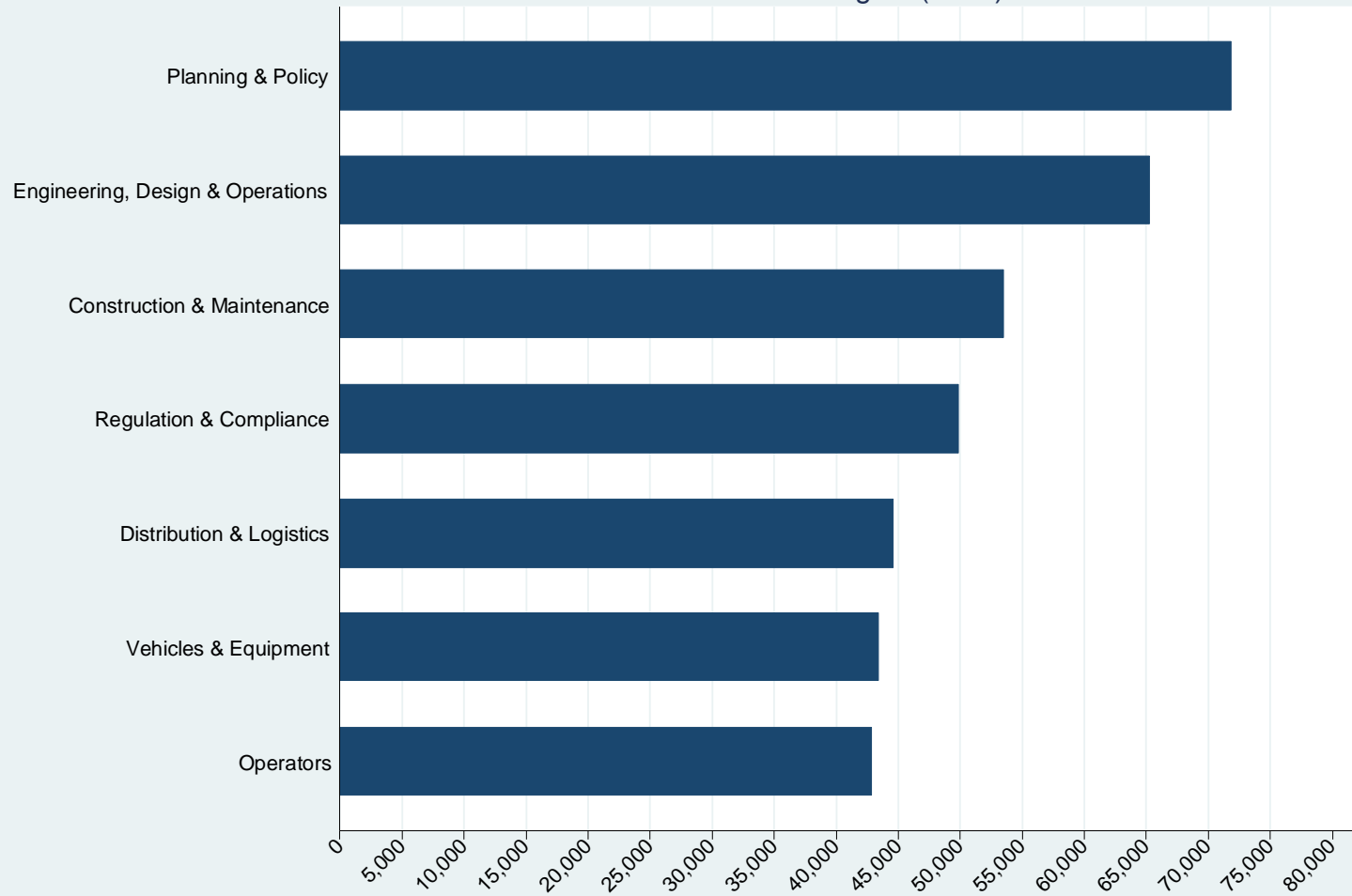
What is a Transportation Job??

Occupations related to the planning, design, construction, operation, management and maintenance of transportation infrastructure; conveyances; systems; and modes that support the movement of people, materials, and goods.

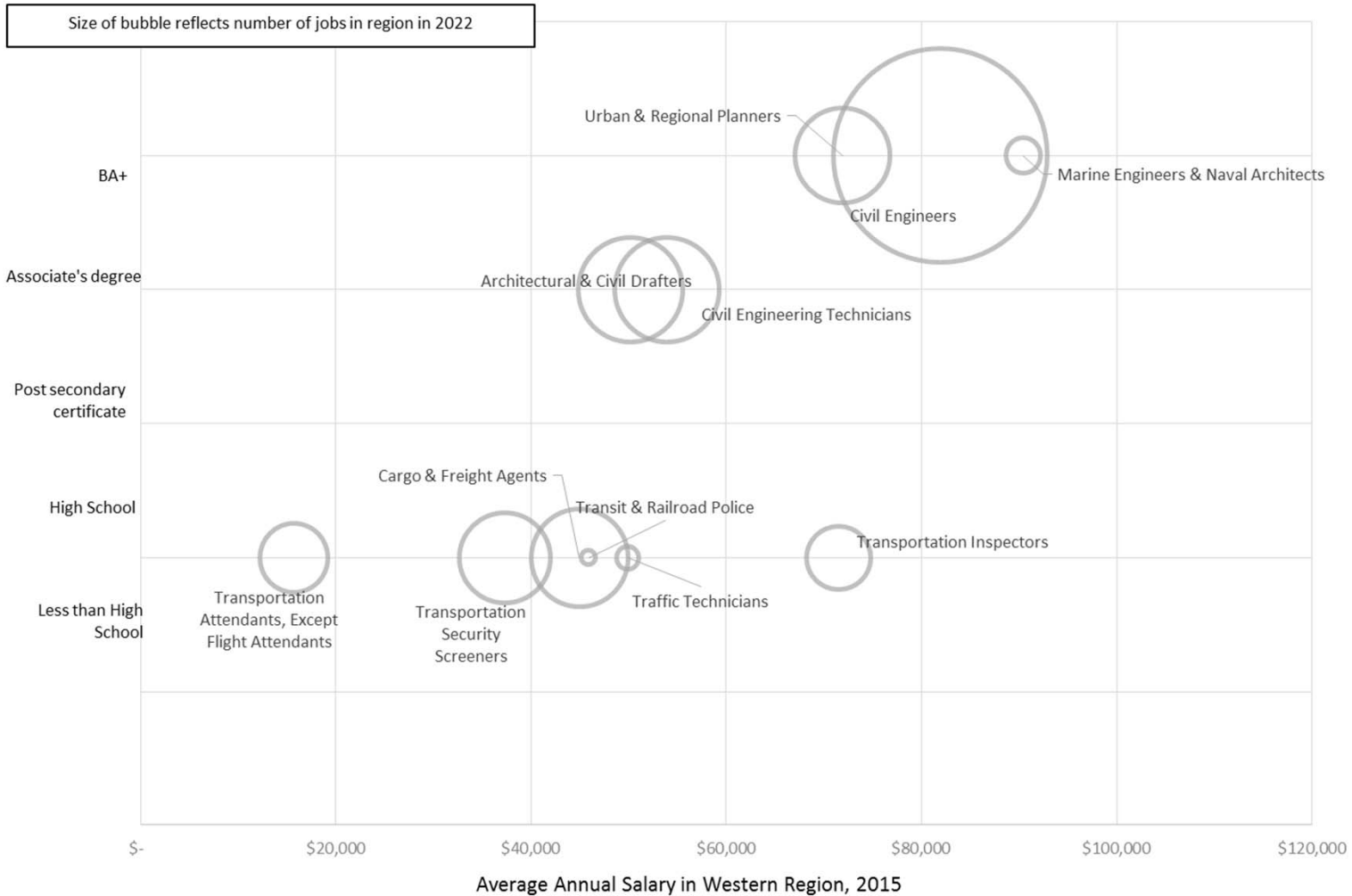
Demand for Transportation Jobs with at Least 10,000 Positions Western Region (2022)



Average Annual Wages for Transportation Jobs Western Region (2015)



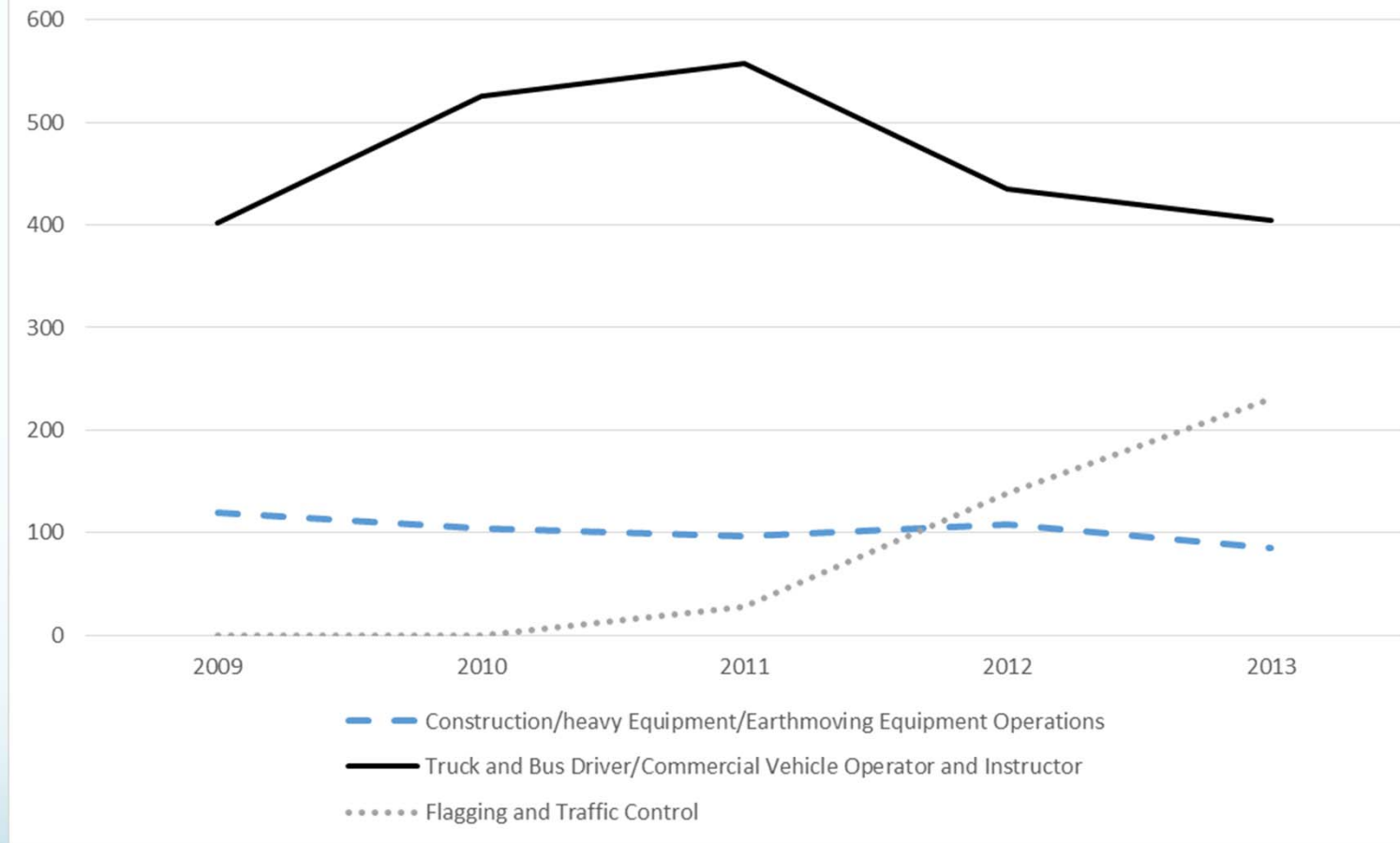
Demand Comparison for Planning, Engineering, Design, Operations & Compliance Jobs in Western Region by Wage and Required Education



Career Pathway Example: Transportation Planning, Design, Engineering & Compliance Fields

Required Education Level	Occupation
Masters	Urban & Regional Planners Average annual wage: \$71,926 290 projected annual openings
Bachelors (4 years)	Civil Engineers Average annual wage: \$81,948 1240 projected annual openings
Associates (2 years)	Civil Engineering Technicians Average annual wage: \$53,883 170 projected annual openings Architectural & Civil Drafters Average annual wage: \$50,159 140 projected annual openings
High School + on-the-job-training	Transportation Inspectors Average annual wage: \$71,481 110 projected annual openings

Ground Transportation Associate's and Certificate Degree Completions, Western Region





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Stakeholder Engagement & Needs Assessment

Input on Job Needs & Priorities





Stakeholder Engagement

Education/Training Providers

- Universities
- Community/Technical Colleges
- Local and Tribal Technical Assistance Programs
- Grades 6-12
- Career and Technical Education network

Industry/Professional Organizations

- ITE, ASCE, ITSA
- AGC
- AASHTO
- APTA
- Trucking, rail associations

Key Stakeholders (con't)

Transportation Agencies

- State Departments of Transportation
- Transit Agencies
- City and County Transportation Supervisors
- Metropolitan Planning Organizations

Labor & Workforce Organizations

- State Workforce Investment Boards
- State Economic Development Agencies
- Local Workforce Centers

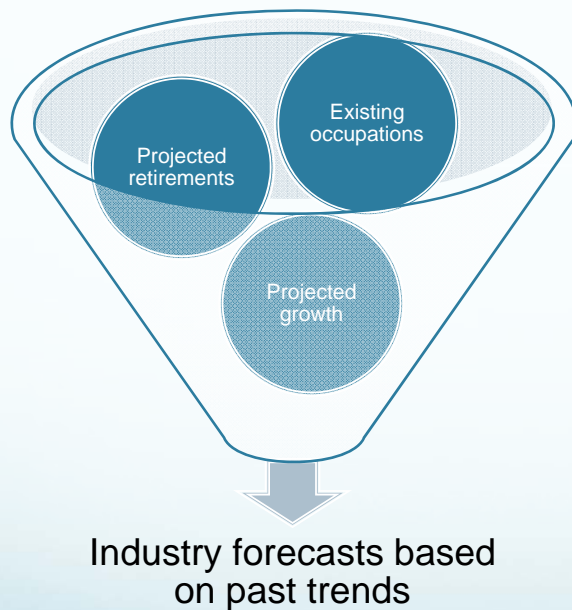
What is Missing?

- Many “priority occupations” for transportation organizations are not classified as “transportation occupations”
- No BLS data on “new” or “blended” occupations
- What are the industry game changers?

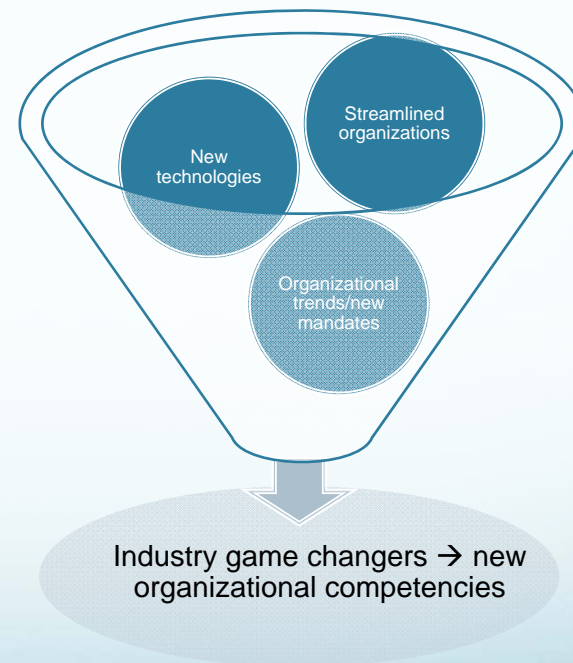
“ITS is glaringly missing. We are supposedly moving to a connected vehicle and vehicle to infrastructure environment, and I would argue that we are not gearing up to be able to deal with it. We aren’t really thinking yet about what it is going to take to engineer and implement the technology associated with the next jump in transportation capability...We need to think about constructing a workforce that can keep this technology properly working & engineered so that we can deliver accurate, timely, and reliable services.”

What does the Future Hold?

Traditional



Futurecasting





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University Round Table

Moderator: Steve Albert

Panel:

Kevin Chang, University of Idaho

Rhonda Young, University of Wyoming



Questions

- What are the most significant or pressing workforce development issues facing transportation agencies?
- What are the most needed skills for the coming decade?
- How do Connected Vehicle or other high tech deployments impact transportation skill needs?
- What are the unique training and education opportunities offered at your university?
- How might universities and transportation organizations work together to make transportation a more attractive career choice to “tech savvy” younger generations?
- How can Rocky Mountain region universities work more collaboratively to enrich student experience and career choice?