

**ARTBA Workforce Development
Council:
Workforce Development Research**

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WORKFORCE RELATED RESEARCH

- Tran-SET Region 6 University Transportation Center
 - **Project PPLSU07: Recruiting, Retaining, and Promoting for Careers at Transportation Agencies (PI)**
- National Cooperative Highway Research Program (NCHRP)
 - **Project 23-05: Guidance for Training and Certification of Construction Inspectors for Transportation Infrastructure (PI)**
 - Project 19-10: AASHTO Partnering Handbook, 2nd Edition (Co-PI)
 - Synthesis 518: Staffing for Alternative Contracting Methods (Co-PI)
 - Synthesis 534: Emerging Technologies for Construction Delivery (PI)
 - Synthesis 52-01: Highway Inspection Practices for the Digital Age (Co-PI)
- Graduate Student Ph.D. Dissertation
 - **Challenges to Workforce Resiliency in Rural Communities (Co-advisor)**

**Tran-SET Project PPLSU07:
*Recruiting, Retaining, and
Promoting for Careers at
Transportation Agencies***

**Ph.D. Dissertation:
*Challenges to Workforce Resiliency
in Rural Communities***



OVERVIEW

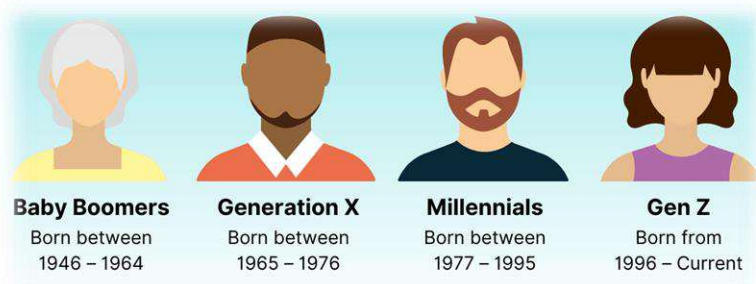
*Transportation Agencies currently face various **workforce challenges** in recruiting and retaining a quality and highly-valued workforce necessary to function properly*



WORKFORCE CHALLENGES

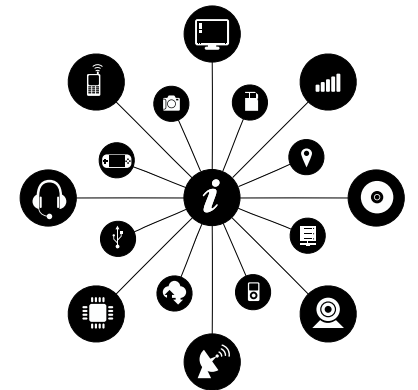
Generational Differences

- Millennials represent the largest generational cohort in the civil workforce
- Gen Z will surpass Millennials, and most Boomers will be retired in the next 10 years
- Workforce generations have different beliefs and motivators
 - Work ethics and values
 - Organizational commitment
 - Career goals / Enhance community/society
 - Feedback and rewards
 - Work-life balance



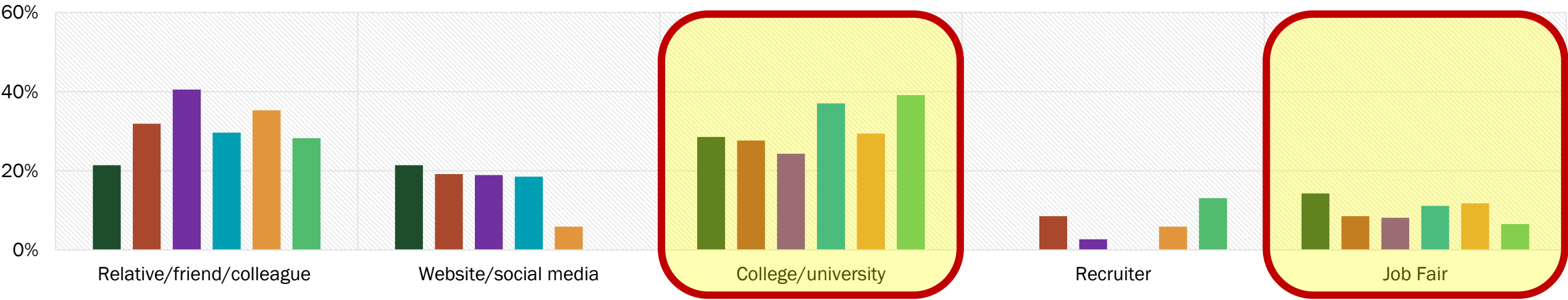
Use of Technologies

- The nature and skills of the DOT workforce are changing due to the use of emerging technologies
- More computer science and information technology knowledge, skills, & abilities will be needed
- Highway construction may look very different 10 years from now
 - Autonomous and connected vehicles
 - EV charging
 - Energy systems

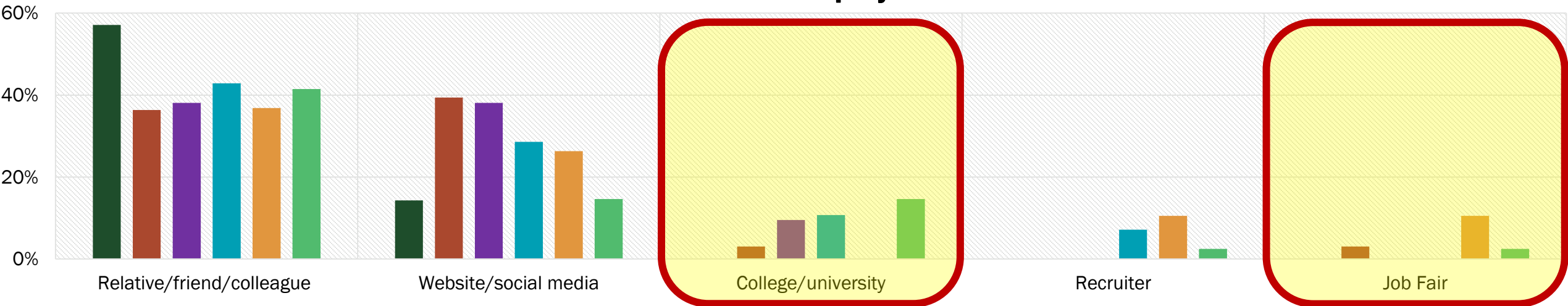


RECRUITMENT METHODS

Urban DOT Employees



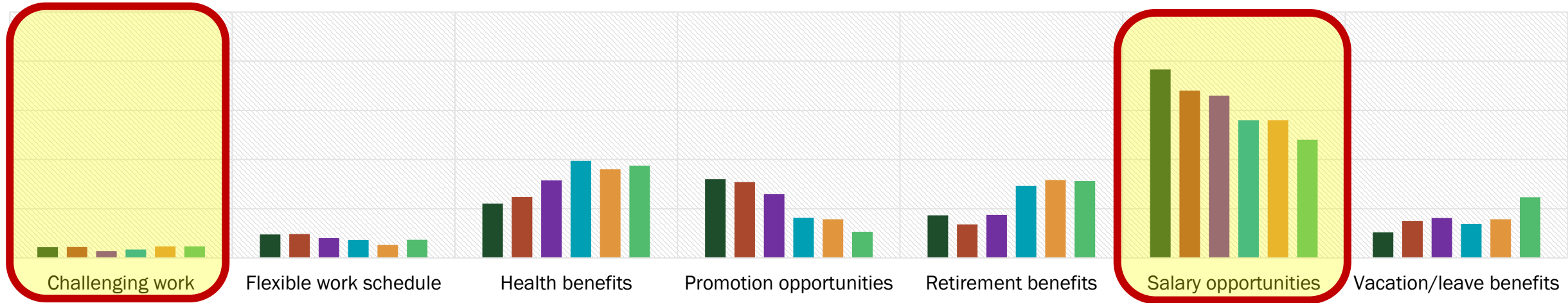
Rural DOT Employees



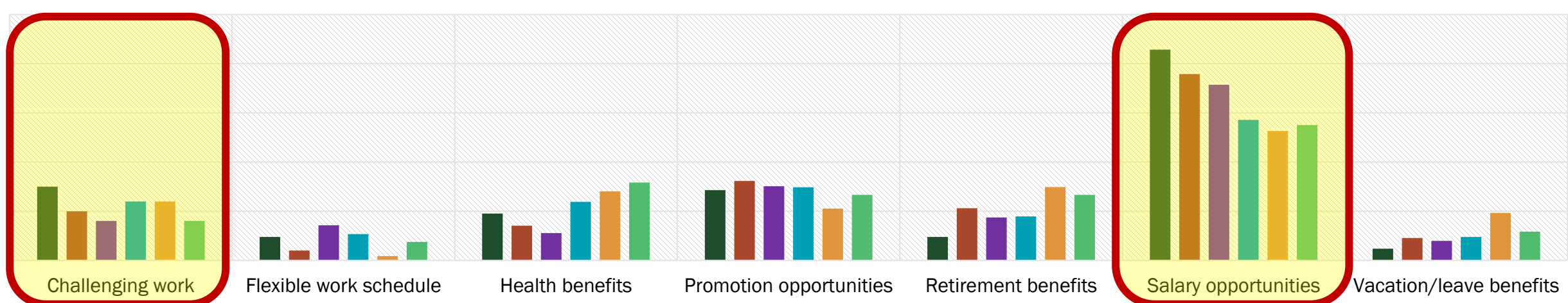
Years since hire: ■ Less than 1 yr ■ 1-5 yrs ■ 6-10 yrs ■ 11-15 yrs ■ 16-20 yrs ■ 20+ yrs

RETENTION FACTORS

Urban DOT Employees



Rural DOT Employees



Years since hire: ■ Less than 1 yr ■ 1-5 yrs ■ 6-10 yrs ■ 11-15 yrs ■ 16-20 yrs ■ 20+ yrs

POTENTIAL STRATEGIES

Recruitment

- Quantify benefits along with salary
- Use of social media and the internet as a recruiting tool
- Promote the importance of working for a public agency
- Advertise the use of technologies
- **Evaluate job advertisements**
- Provide training

Retention

- Offer flexible work schedules and work-life balance
- Improve department morale and motivation
- Provide clear promotion/career paths tied to salary increases
- Provide professional development opportunities

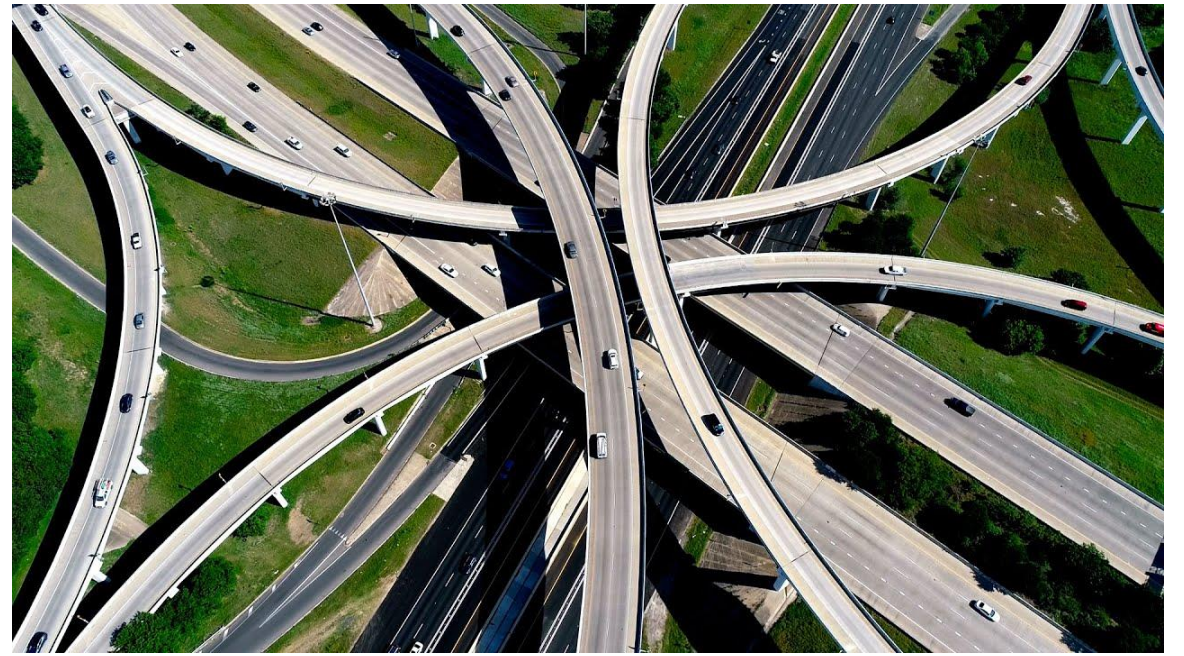
JOB ADVERTISEMENT EVALUATION RUBRIC

- Reliable and easily understood evaluation process
- Replicable method of assessment
- 3 primary sections:
 - Assessment criteria
 - Quality descriptors
 - Scoring system
 - 4 = exceeds expectations
 - 3 = meets expectations
 - 2 = Needs improvement
 - 1 = Rewrite required

Example Evaluation Rubric

| Job Title | Assessment Criteria | | | | | | | TOTAL SCORE |
|--|---------------------|------|-------------------|--------------|-----------------------|-------------------------|---------------|-------------|
| | Accessibility | Info | Speed of Response | Compensation | Social Media Presence | Diversity and Inclusion | Social Policy | |
| Engineer Intern 1 | 3 | 2 | 1 | 2 | 1 | 1 | 1 | 11 |
| Engineer Intern | 4 | 4 | 1 | 3 | 1 | 1 | 1 | 15 |
| Intern - Civil Engineering | 3 | 2 | 1 | 3 | 1 | 1 | 1 | 12 |
| Engineering Assistant I, II, III or IV | 4 | 2 | 1 | 4 | 1 | 1 | 3 | 16 |

NCHRP Project 23-05: *Guidance for Training and Certification of Construction Inspectors (CIs) for Transportation Infrastructure*



PROJECT OVERVIEW

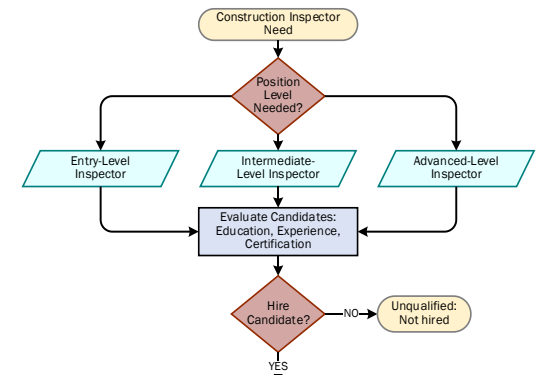
- Scope: Investigate and develop tools and strategies for DOTs in the recruitment, retention, development (e.g., training and certification) of the Transportation Construction Inspection Workforce
 - Research needs statement developed and sponsored by the AASHTO CoC – Presenting this project next Monday (August 8th) at the CoC Annual Meeting
 - More information available at:
<https://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=4786>
- Goal: Create guidance for State DOTs and their industry partners to develop and maintain CI training and certification programs
- Outcome: *Guide to Recruiting, Developing, and Retaining Transportation Infrastructure Construction Inspectors*

Note: Project was completed in July 2022 and deliverables have not been published, so I can only share limited information at this time

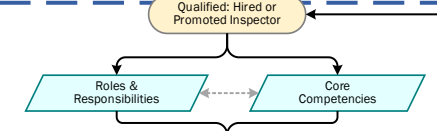
GUIDE CHAPTERS AND DEVELOPMENT FLOWCHART

1. Introduction
2. Identify Need and Recruitment
3. Core Competencies and Knowledge, Skills, and Abilities Assessment
4. Training and Certification
5. Retention and Career Development

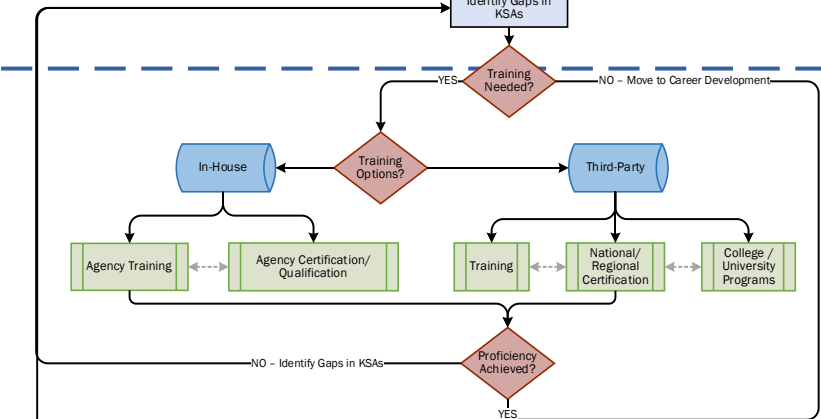
Path I: Need and Recruitment
(Chapter 2)



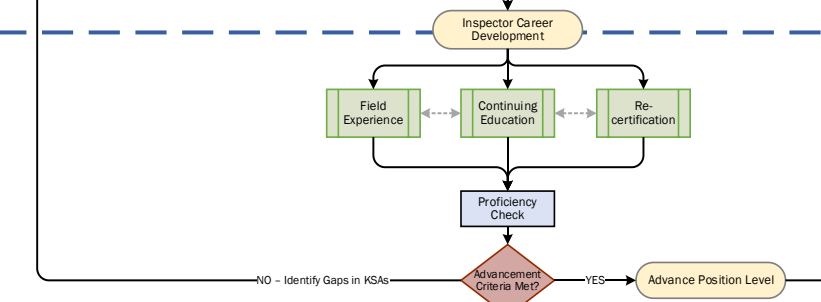
Path II: Core Competency and KSA Assessment
(Chapter 3)



Path III: Training and Certification
(Chapter 4)



Path IV: Retention and Career Development
(Chapter 5)



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