



Connected Vehicle Training and Education Implementation Plan

**T3 Webinar
August 2015**

The CV Training and Education Implementation Plan was designed to address the needs of the emerging CV deployment market

Transportation professionals are requesting training beyond the introductory level for their CV deployment roles

1,500,000+

professionals working in transportation are candidates for some level of CV training and education

- This plan can help you reach a meaningful percentage of these over the next 5 years

16

distinct audience sectors require some level of CV training and education in order to work even more effectively together at a national level and in regions to advance CV deployment

25

CV focused training and education offerings are currently today

- 78% of available CV training and education offerings are at the introductory level
- The remaining 22% of CV training and education offerings are at the practitioner basic level, primarily for a fee

\$1.2 Trillion

The **anticipated revenue potential** for mobile operators of Connected Vehicles by 2020

If transportation professionals are to make **well-informed decisions** about implementing CV technologies, they need to know more

Rigorous research forms the basis for the CV Training and Education Implementation Plan

| Method | Formal | Informal |
|--|--------|----------|
| Primary | | |
| Conducted 4 CV training consumer based focus groups and 12 interviews with ITS JPO and FHWA offices , which gave further insight into CV awareness levels, Strengths Constraints Opportunities Risks (SCOR), key influencers and messages | | ✓ |
| 21 training providers participated in a 1.5 day workshop to provide insight into the CV training and market needs | | ✓ |
| Secondary | | |
| 12 technical and industry reports were used to help identify training development cost trends as well as the market opportunity size | ✓ | ✓ |
| 2 reports from previous FHWA focus groups and 2 conferences that discussed CV deployment aided with understanding the attitudes and perceptions into CV and intelligent transportation systems | | ✓ |
| 1 survey and 3 industry best practice reports were incorporate to identify educational trends and marketing support needs of division staff and transportation practitioner needs | ✓ | |
| In total, nearly 200 people provided input via various channels that were incorporated into the CV Training and Education Plan (2015-2019) | | |

Research identified four key findings and the Plan's goals areas address these areas

Goal
Area
1

A comprehensive approach is needed to evaluate the impact of training

Goal
Area
2

Audiences desire a progressive path to competency in CV

Goal
Area
2

CV competency areas are at varying levels of maturity

Goal
Area
3

Existing training is not yet fully reaching all audiences

The CV Training and Education Implementation Plan's Mission, Vision, and Goals align to the ITS JPO strategic plan

Vision

A transportation workforce prepared to plan for, deploy, operate, maintain, and manage Connected Vehicle technologies supported by training development

Mission

Design, develop, deliver, and link people to training and educational opportunities that facilitate widespread deployment of Connected Vehicle technologies

Goal Areas

1. Manage Learning Experiences Portfolio:

Institute processes and procedures that support management and improvement of a comprehensive CV training and education program

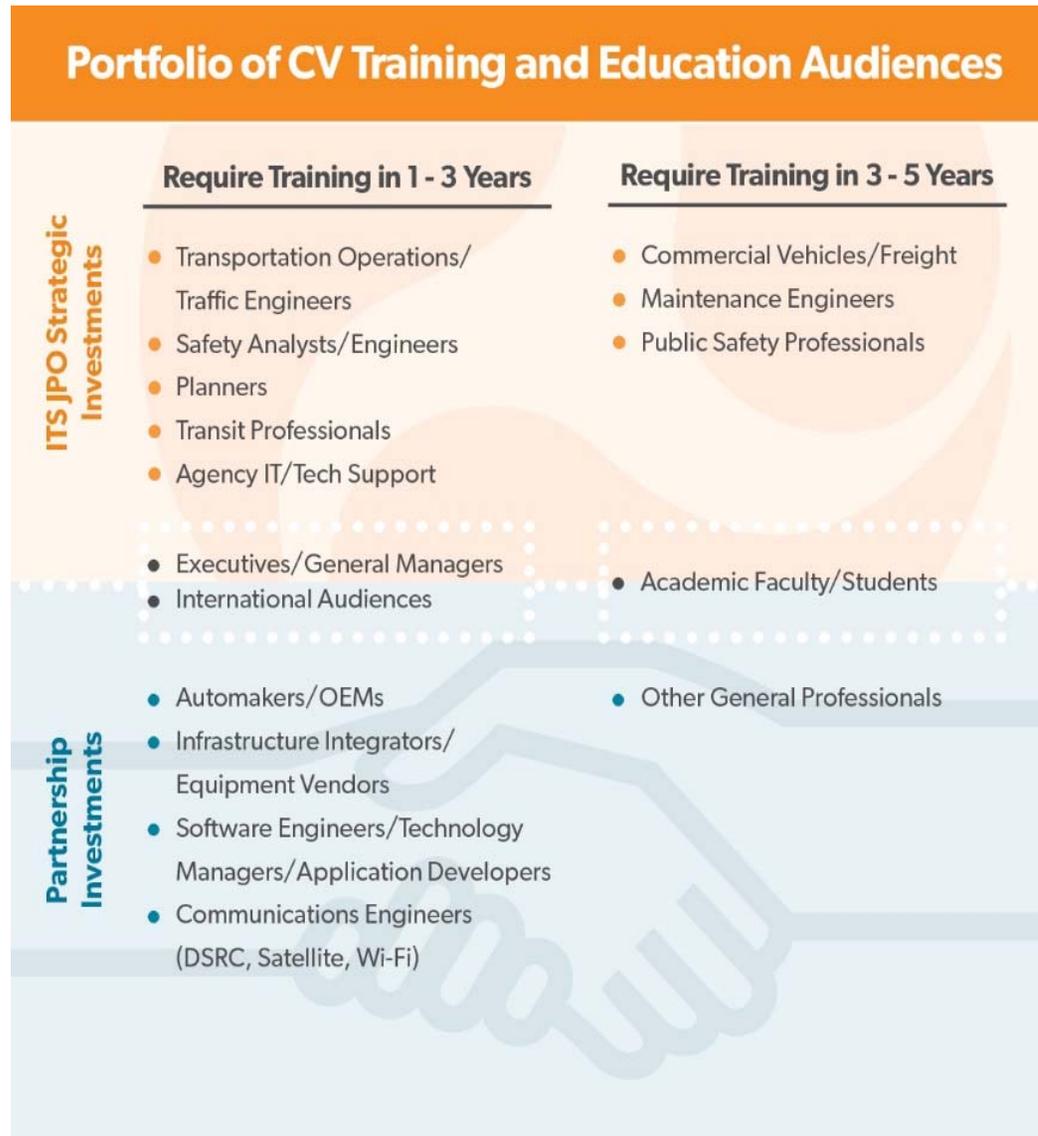
2. Deliver Dynamic Training and Education:

Design, develop, and deliver content in formats that prepare deployment leaders for successful CV deployment

3. Attract Audiences to Relevant Training:

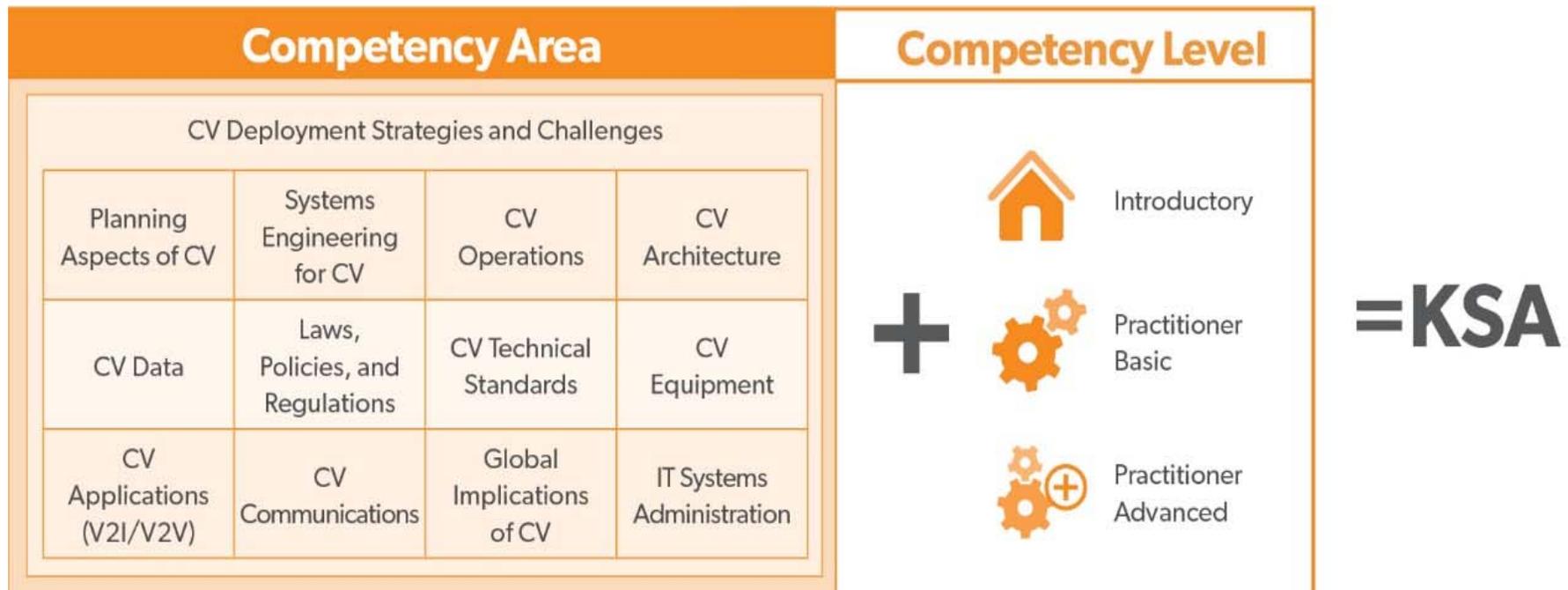
Expand audience engagement with, and participation in, available CV learning experiences.

The first step in creating the Plan was to categorize and define CV training and education audiences



*Year 1 of the CV Training and Education Implementation Plan will begin October 1, 2015

Successful CV deployment requires individuals with knowledge, skills, and abilities in these CV Competency Areas



Use of a variety of formats to support training and education needs is recommended



Webinars



Virtual Classroom



Blended Learning



eLearning/
Computer-Based Training



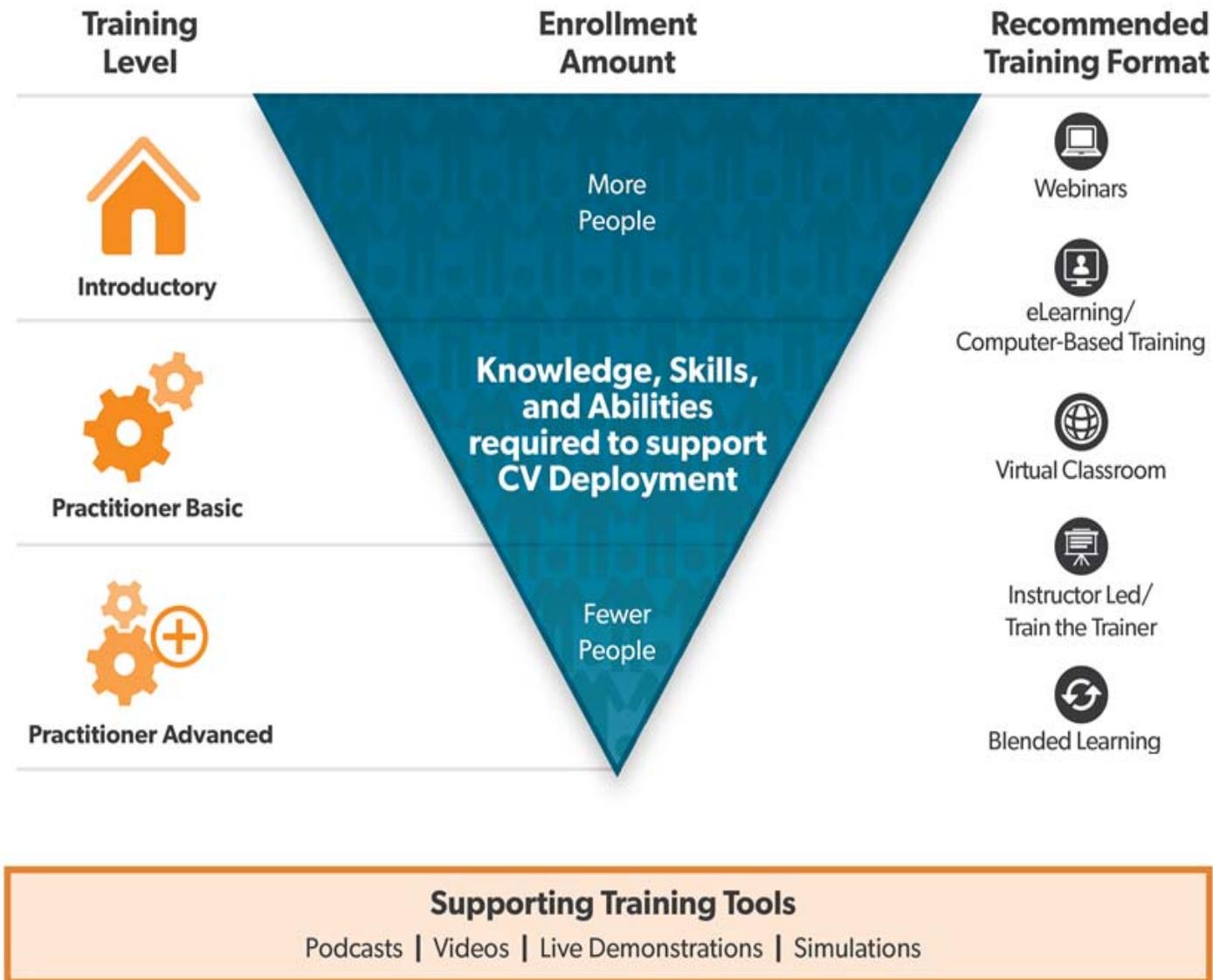
Instructor Led/
Train the Trainer

← **Good for Introductory levels**
Digital platforms help many people gain foundational knowledge of key vocabulary and concepts in a cost-effective manner

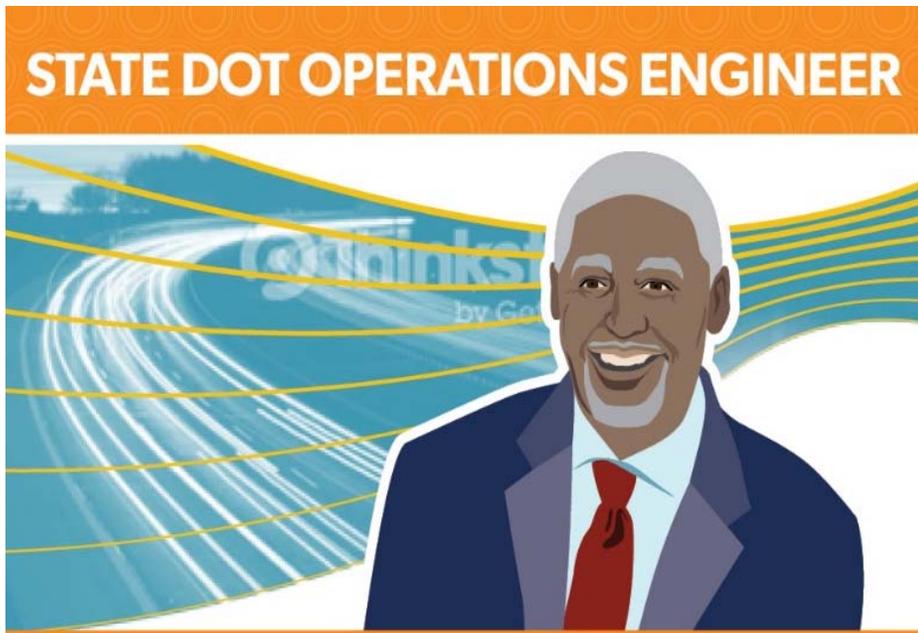
————— **Ideal for Practitioner Basic** Use of varied formats to help people achieve a deeper grasp of key concepts and gain *applied* knowledge, skills and abilities

————— **Ideal for Practitioner Advanced levels**
Audiences are more invested in learning, complete required pre-work for a more intensive learning experience yielding advanced knowledge, skills and abilities →

Training is most successful when the format matches audience need



Sample of a Customized Learning Path by Role



Example CV Learning Path for Operations Engineer

EXAMPLE ROLES:

- Secure funding for CV deployment
- Oversee technical deployment of CV
- Manage equipment suppliers
- Determine deployment schedule
- Assure compatibility with security management system

ANTICIPATED TRAINING NEEDS:

Introductory Competency with:

- CV Communications

Practitioner Basic Competency with:

- Global implications of CV
- Laws, policies and regulations
- CV Deployment Strategies and Challenges
- Systems Engineering for CV
- CV Technical Standards
- CV Applications

Practitioner Advanced Competency with:

- CV Operations
- CV Data
- CV Equipment

- ▶ Introductory
 - CV 101 (Available now!)
 - CV 102 (Available now!)
 - CVRIA (Available now!)

- ▶ Practitioner Basic
 - Plugfest (Available now!)
 - CVP Certificate (Available now!)
 - Organizing for CV (Anticipated FY16)
 - Systems Engineering for CV (Anticipated FY16)
 - Preparing for CV Operations (Anticipated FY16)
 - CV 201 (anticipated FY16)
 - CV 202 (anticipated FY16)

- ▶ Practitioner Advanced
 - Preparing for CV Operations (Anticipated FY18)

- ▶ Get “Connected”:
 - *Join the National Operations Center of Excellence*
 - *Bookmark the USDOT ITS JPO Course Listing*
 - *Check out ITE.org*

Sample of a Customized Learning Path by Role



Example CV Learning Path for Planners

- ▶ Introductory
 - CV 101 (Available now!)
 - CV 102 (Available now!)
- ▶ Practitioner Basic
 - Organizing for CV (anticipated FY16)
 - CV 201 (anticipated FY16)
 - CV 202 (anticipated FY16)
- ▶ Practitioner Advanced
 - CV Data (anticipated FY16)
- ▶ Get “Connected”:
 - *Join the National Operations Center of Excellence*
 - *Bookmark the USDOT ITS JPO Course Listing*
 - *Check out AMPO.org/CV*

EXAMPLE ROLES:

- Leading region’s CV deployment coalition
- Integrating CV in planning – assessing benefit-costs and impacts on safety, mobility and the environment
- Defining and measuring success
- Translating national policies to the local level

ANTICIPATED TRAINING NEEDS:

Introductory Competency with:

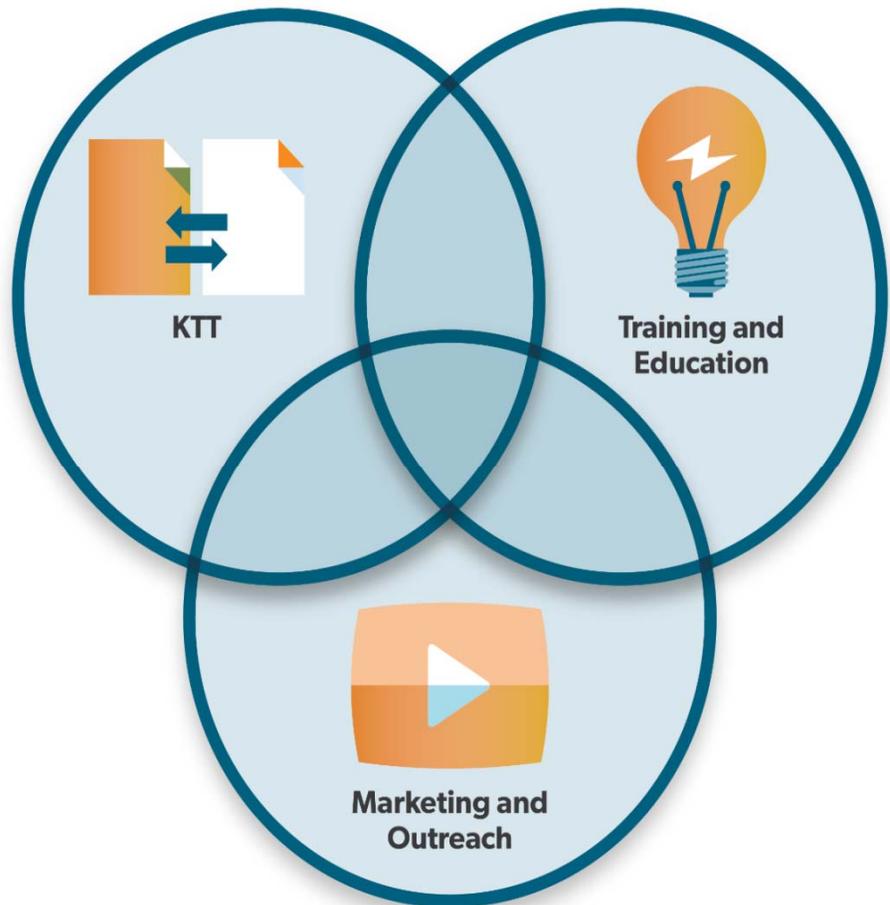
- CV Communications
- Systems Engineering for CV

Practitioner Basic Competency with:

- Global implications of CV
- Laws, policies and regulations
- CV Operations
- CV Deployment Strategies and Challenges
- CV Technical Standards
- CV Applications
- CV Data

Training and education are closely linked to marketing and outreach, and knowledge and technology transfer. All three are required for successful CV deployment

- Marketing and outreach:
 - ✓ Raises awareness about and generate interest in CV
 - ✓ Enhances the learning impact of training and education and KTT
 - ✓ Notifies prospective audiences of available training or KTT opportunities.
- Training and education investments:
 - ✓ Prepare deployment audiences at large for successful KTT and ultimately deployment by building a common vocabulary and applied understanding of core concepts.
- KTT:
 - ✓ Equips specific deployment groups for success through solution-specific transfer in a focused and context-relevant environment.



Recommended activities to enable the ITS JPO PCB to achieve the goals set forth in the CV Training and Education Plan

| Goal Area 1: Manage Learning Experiences Portfolio | Goal Area 2: Deliver Dynamic Learning Experiences | Goal Area 3: Attract Audiences to Relevant Training |
|---|--|---|
| <p>Recommend Activities</p> <ul style="list-style-type: none"> • Track audience participation by audience segment • Use standard feedback forms across ITS JPO PCB and training partners • Work with training partners to align training and educational offerings to the CV Competency Framework | <p>Recommended Activities</p> <ul style="list-style-type: none"> • Modify existing training to include new CV competency areas • Develop new eLearning courses to expand access • Provide Practitioner Basic training in the areas of Preparing for CV Deployment, Systems Engineering for CV, and CV Operations | <p>Recommended Activities</p> <ul style="list-style-type: none"> • Establish Training Provider Roundtable • Update listings of available trainings on ITJPO PCB and partner websites • Develop a communications and outreach plan |