KYTC Roadway Geometry Fundamentals Course

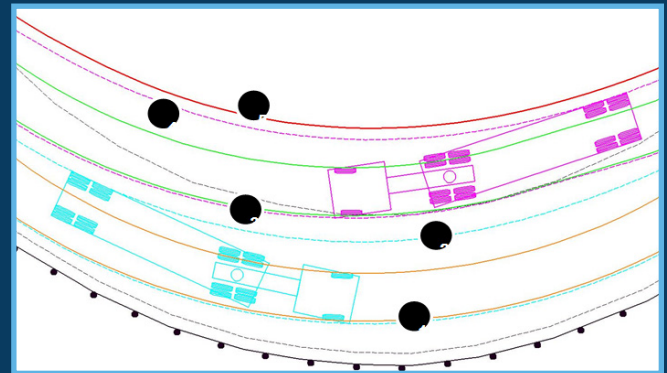**TEAM KENTUCKY®** TRANSPORTATION CABINET

KTC

Mastering the skills needed to become an effective highway designer or project leader typically requires years of learning and practice. The five-day Roadway Geometry Fundamentals course accelerates this process through practical, hands-on (non-software) training.

Course Overview

The course tackles fundamental concepts (e.g., horizontal and vertical alignment, cross-sectional elements, roadside safety) and advanced topics, including:

- **Understanding how geometric design influences safety for all users**
- **Applying applicable standards and guidance in design workflows**
- **Integrating human factors & context classification into geometric design decisions**
- **Evaluating & applying innovative designs, such as 2+1 configurations & alternative intersections**
- **Designing for complex road environments (e.g., irregular topography)**
- **Applying geometric design judgment to achieve desired project outcomes**

Instructor-led lectures present key concepts, demonstrate design best practices for new and retrofit projects, and highlight real-world case studies. Modules conclude with review questions and real-world design problems to reinforce learning. Through group discussions, attendees collectively strengthen their decision-making abilities and professional intuition.

Future Offerings and Intended Audience

MULTIPLE COURSE OFFERINGS ARE PLANNED FOR 2026. KYTC STRONGLY ENCOURAGES ANYONE WHOSE WORK TOUCHES ON GEOMETRIC DESIGN TO ATTEND — from new designers to veteran reviewers and project managers. Broad participation is critical for the Cabinet to achieve key long-term goals:

- **Promote safety in all decision making**
- **Ensure key project development staff are proficient in geometric design**
- **Establish and sustain design-focused communities of practice statewide**
- **Advance innovative and context-sensitive roadway design**

Contact Information

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