1. **ABSTRACT:** Using Google Earth and SketchUp Tools for an Effective Value Engineering Workshop

This presentation will take the audience through an actual highway project value engineering workshop using the graphic measuring and modeling tools of Google Earth and SketchUp. Not only will the audience learn how to fully utilize the Google Earth and Sketchup tools for identifying topographic features, but they will learn to accurately measure, draw and three dimensionally model the solutions identified in the value engineering workshop. These tools greatly minimize the time expended in a value engineering workshop on researching field data and developing presentation material for the communication of the value engineering solutions. Value engineering team leaders, facilitators and all designers will find these tools extremely useful during the value engineering workshops and through the implementation of the value engineering solutions.

2. **OUTLINE:**

1) Investigation  
   a) Google Earth Image Overlays of Existing Designs  
   b) Google Earth Elevations  
   c) Google Earth Measuring  
   d) Google Earth Layers  
2) Functional Analysis  
3) Solution Generation  
   a) Google Earth Image Overlays of Proposed Solutions  
   b) Google SketchUp of Proposed Solutions in a Google Earth Environment  
4) Solution Prioritization  
5) Presentation  
   a) Google SketchUp Three Dimensional Modeling  
   b) Google SketchUp Viewer Presentation in the Google Earth Environment

3. **TIME DURATION:** This will be a 60 minute interactive presentation

4. **PRESENTATION FORMAT:** This will be a lecture format with the actual development of solutions and questions address throughout the presentation.

5. **FINAL PAPER CONTENTS:** This will be in Microsoft Powerpoint format.

6. **AUDIO/VISUAL:** An LCD Projector will be required along with internet access.

7. **SPEAKER BIOGRAPHY:**

    Todd Miller, P.E., A.V.S., is the Innovations Engineer at the Missouri Department of Transportation (MoDOT), he holds a bachelor of science degree in Civil Engineering from the Missouri University of Science and Technology at Rolla (MST) and has Graduate Certificates in Public Management and Interdisciplinary Transportation from the University of South Florida.

    Joseph G. Jones, P.E., is the Engineering Policy Administrator at MoDOT, he holds a bachelor of science degree in Civil Engineering from MST.