

# SELF-EXPLAINING, SELF-ENFORCING ROADS

Nikiforos Stamatiadis, Ph.D., P.E.  
University of Kentucky



# Roadway Design Objectives

A roadway environment that the user can

- ◆ Interpret correctly and safely
- ◆ Minimize their mistakes
- ◆ Minimize impact of their mistakes

# Basic Idea

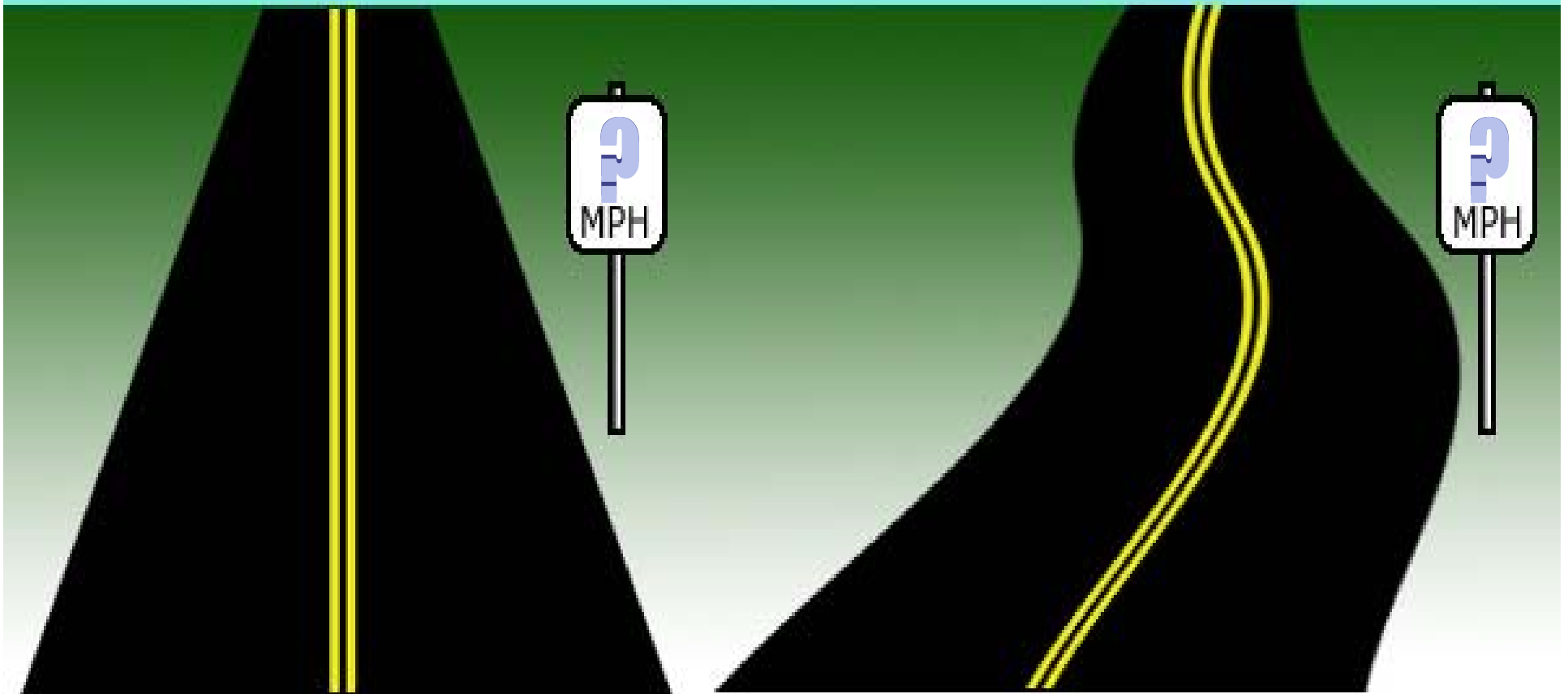
User gets **consistent** information from

- ◆ Roadway
- ◆ Roadway signs
- ◆ Environment

# A Self-Explaining Road



# What is the Issue?



# Road User and Speed

- ◆ Provide a clear and consistent speed information
- ◆ Enforce speed
  - Physical means
  - Signs and markings
- ◆ Signs are frequently disregarded
- ◆ Need for novice means

# Areas of Focus

- ◆ Rural areas
- ◆ Transition areas
  - Rural to built-up zones
  - Tangent to curve

# Potential Problem Area



# Another Problem Area



# Some Background

- ◆ Concept initiated in Europe
  - Denmark
  - The Netherlands
  - Germany
- ◆ Focus on road type/function & desired operating speed
- ◆ Safety improvements
  - Travel speed reductions
  - Traffic separation

# Some Ideas-Solutions



# Some More Ideas-Solutions



# Some More Ideas-Solutions



# Some More Ideas-Solutions



# Some More Ideas-Solutions



# What's Next?

- ◆ Increase applications and evaluate
- ◆ Evaluate potential applications for US roadways
- ◆ Reconsider
  - Functional classification
  - Design speed

# The Big Question

Are we ready to trade  
speed for safety?

