

**”Tire-Pavement Noise  
Evaluation and Equipment  
Comparison Using On Board  
Sound Intensity Methodology  
over Several Pavement  
Surfaces in Virginia”**

- Contribution to a larger ongoing research project addressing noise pollution
- Creating a database for further pavement studies

## 12 tested pavement surfaces

Standard pavement types:

- SM 9.5D (Standard Mixture)
  - 4 different sections, representing e.g. aging
- SM 12.5D
- SMA 12.5D (Stone Mixed Asphalt)

Others:

- Microsurfaced
- OGFC (Open Graded Friction Course)

## 4 rigid pavements



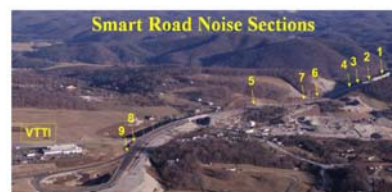
- PCCP, transverse tined
- CRCP (Continuous Rigid Concrete Pavement), transverse tined



- CRCP (Continuous Reinforced Concrete Pavement), longitudinal tined
- JRCP (Jointed Reinforced Concrete Pavement), longitudinal tined

## Test road sections

- Virginia smart road
  - Closed test track
- US460
  - Public road



## Methodology

- OBSI-method (Onboard Sound Intensity)



## Standard procedure: AASHTO TP76-12

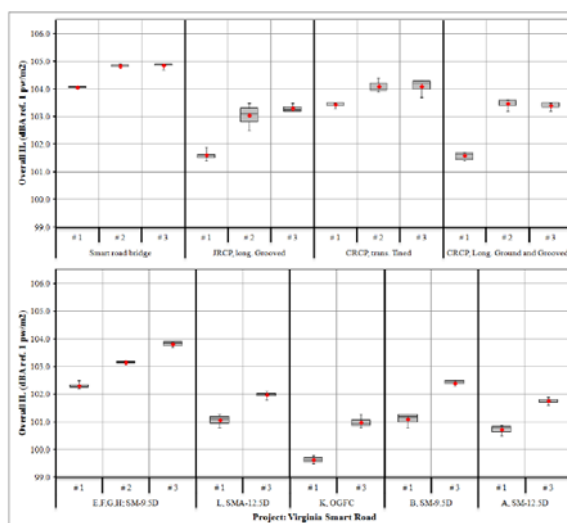
- Length of test section or test time
- Environmental variability
- Tire pressure
- Tire type
- Test speed
- Recording other data



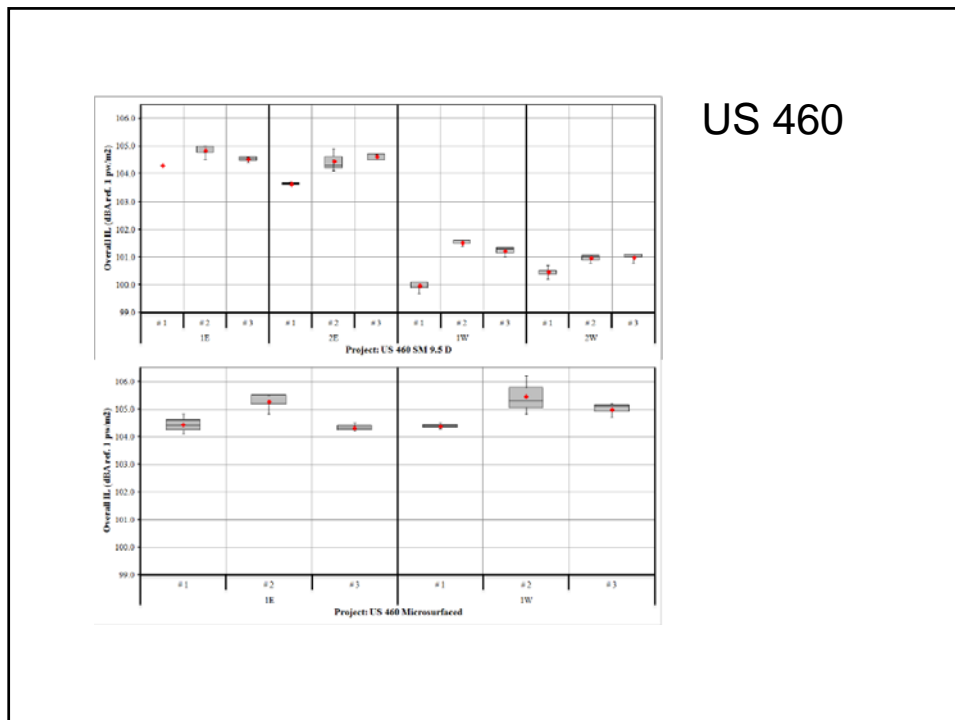
## Three different test teams with own equipment

- VTTI (Virginia Tech Transportation institute)
- IGGA (International Grooving and Grinding Association)
- Rutgers (Rutgers center for advanced infrastructure and transportation)

## Results



Virginia  
smart road



## Conclusion

- Low standard deviation between the devices
- Quietest pavement surface: Open Graded Friction Course

## **Our comments on the paper**

- Structure
- References
- Presentation of the different devices and their results
- No verifications of the tests done in this report
- Good conclusion, properly supported by the results.
- No recommendation for future research

Questions

