

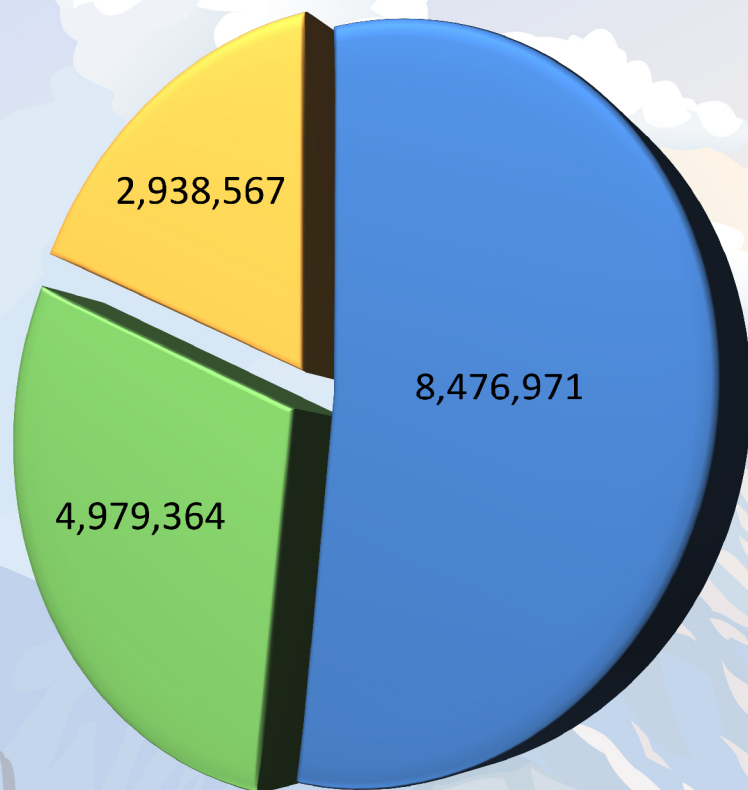


Measure Across America *pilot* At a Glance

Purpose: Advance Responsible Pavement Marking Management
Vehicle: 2017 Tesla Model X, Hardware Version 2, Enhanced Auto Pilot
Equipment: Mobile Retroreflective Unit - LLG7-C, Squid Mount, Surface Tablet
PC Software: Microsoft Excel, Google Maps
of Roads: 38 / **# of States:** 5 / **Miles of Markings:** 1156 / **Personnel:** <2

Measurements

Valid Measurements of Markings

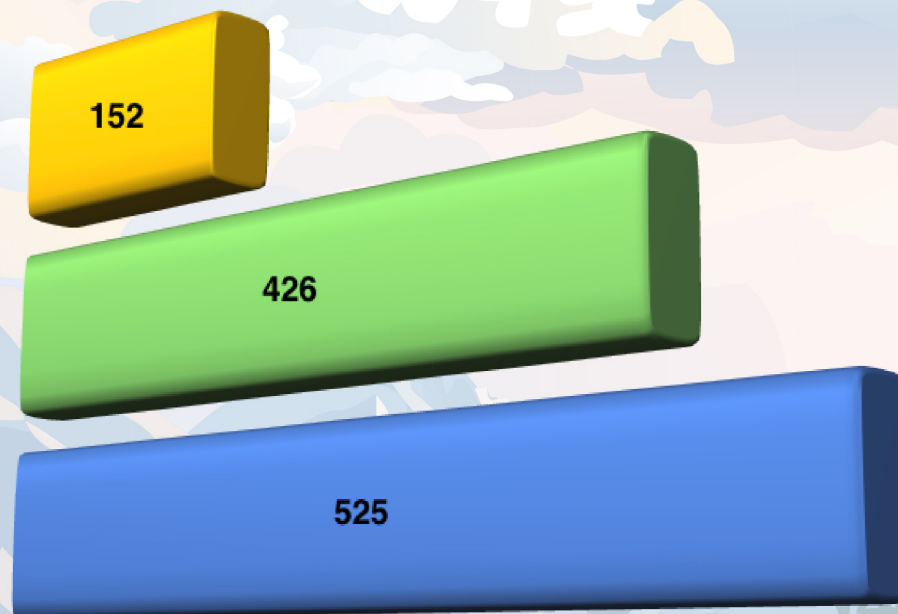


Roadway Type



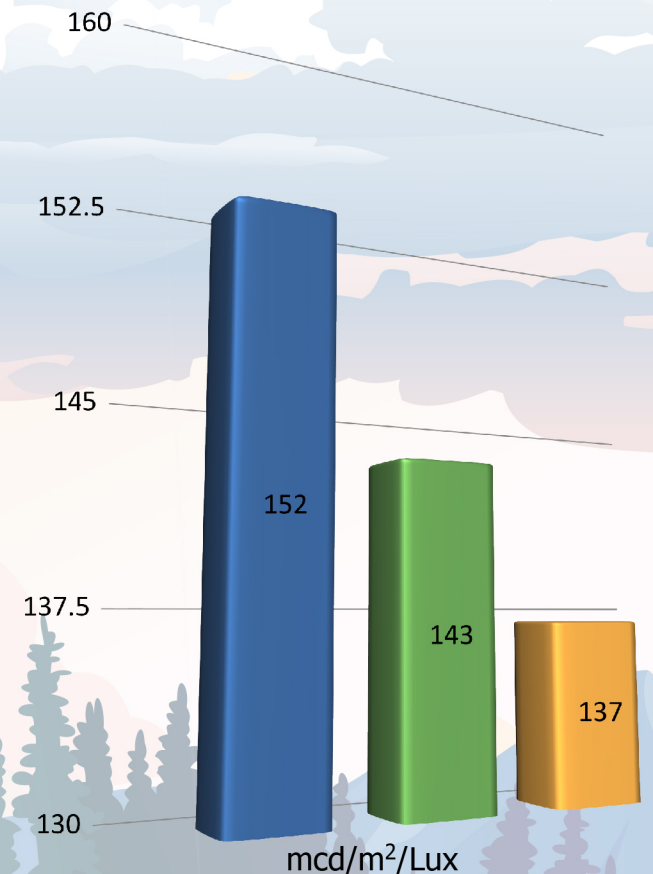
Miles

Measured Miles of Markings



Retroreflectivity

Average Retroreflectivity of Markings

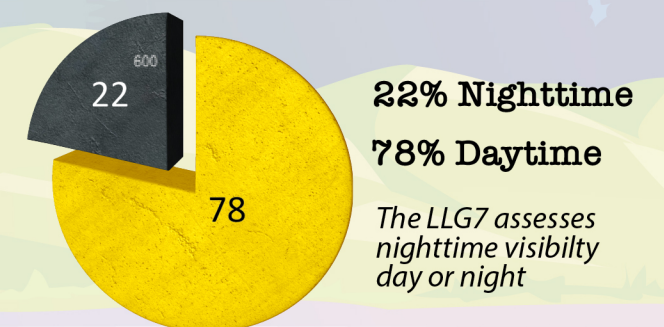


Measurement Route

Florida to Virginia and Back



Day/Night Operation





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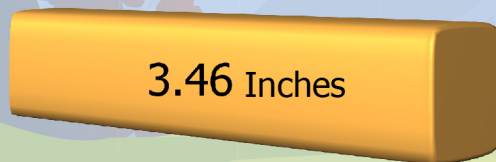
Florida to Virginia and Back



Line Width

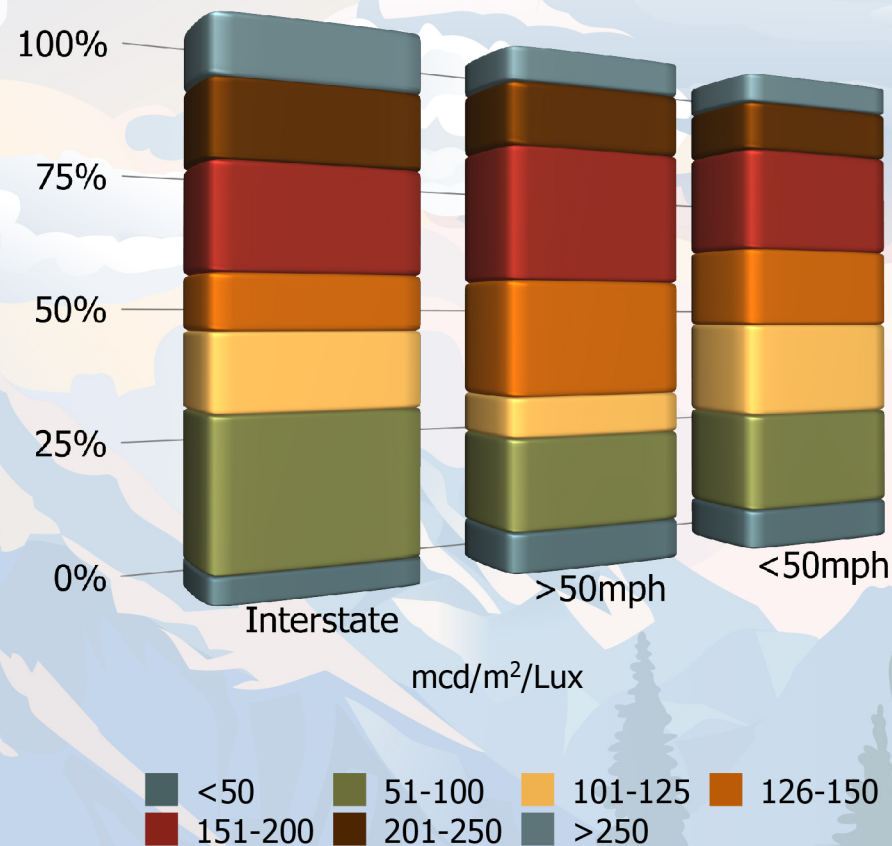
Average Width of Markings

■ Interstate ■ <50mph ■ >50mph



Retroreflectivity Levels

Retroreflectivity Levels of Markings



Wrong-Way Driving



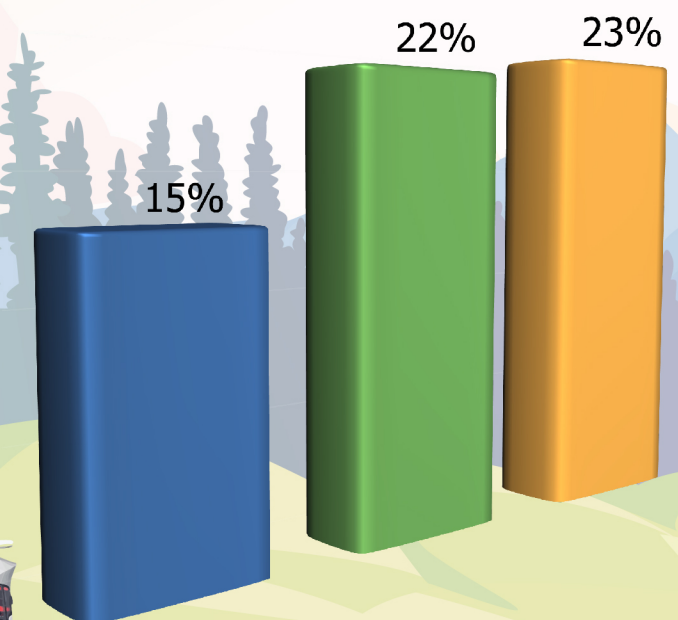
There are **1.34** fatalities per wrong-way fatal crash (TRB 2016)

Nighttime line color recognition reduces the risk of wrong-way driving

Nighttime Color Failure

Total Yellow Fail of Markings

■ Interstate ■ >50mph ■ <50mph



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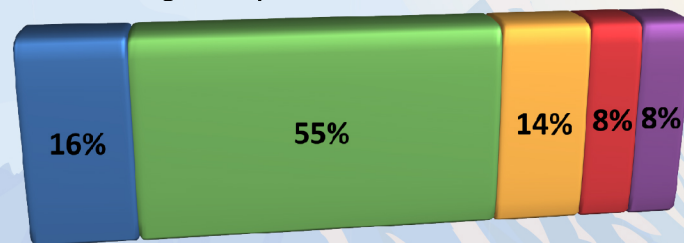
Florida to Virginia and Back



Line Type

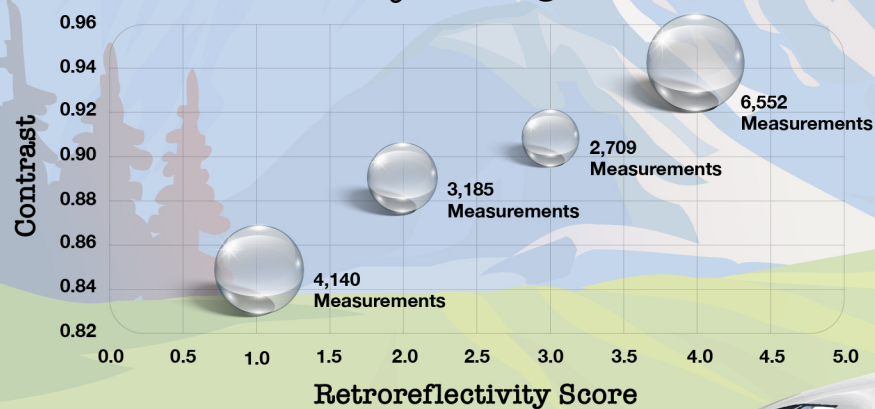
Line Types of Markings

- Double Solid
- Single Solid
- Single Skip
- Left Skip
- Right Skip



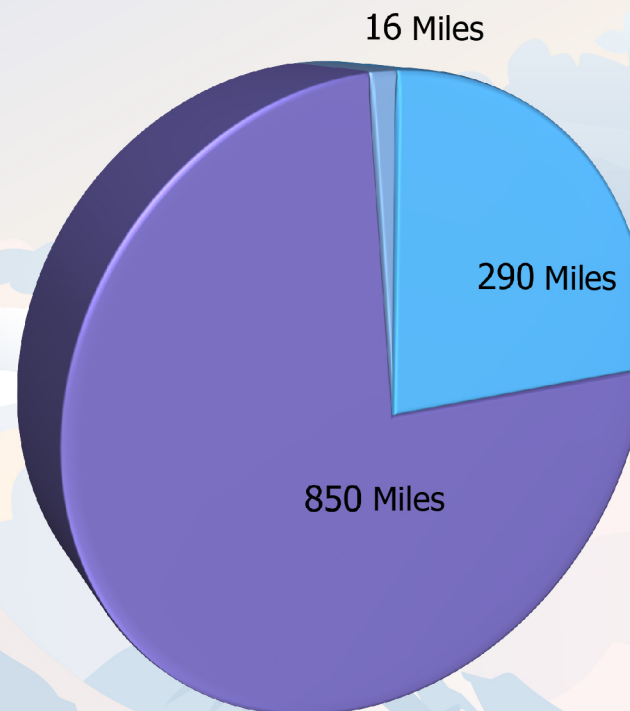
Retro vs Contrast

Retroreflectivity and Nighttime Contrast



Material Type

Material Type of Markings*



- Paint
- Thermo
- Tape

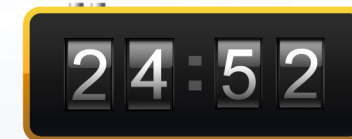
* Material type not verified with DOTs.
Identification accuracy proves difficult when both thermoplastic and paint are applied to the same marking.

Mobile vs Handheld



Personnel: **1.5** Persons
Measurement Labor: **37.31** Hours
Markings Measured: **6,103,680** Feet
Valid Scan Every: **4.44** Inches

Mobile



Hours

Handheld

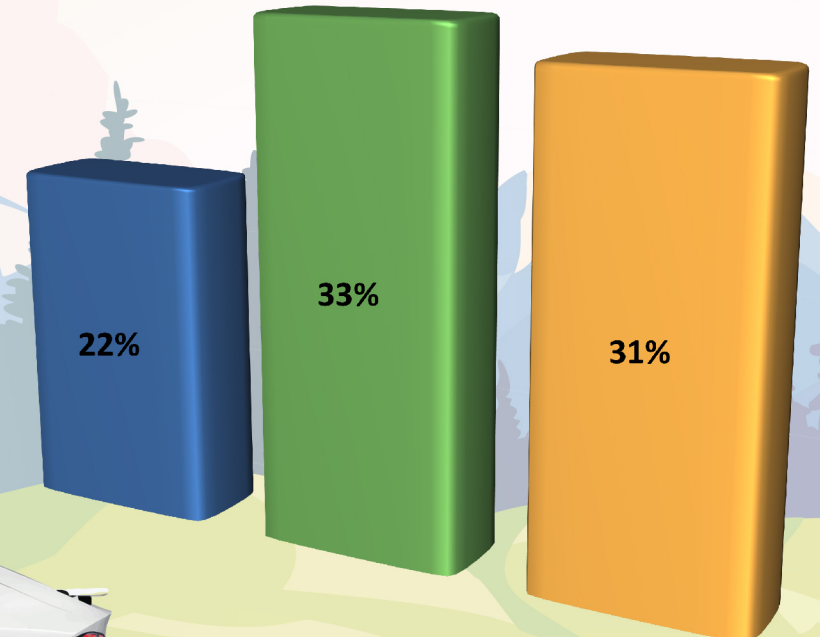


Days

Retroreflective Deviation

Standard Deviation of Markings

- Interstate
- >50mph
- <50mph



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