FREQUENCY AND SEVERITY OF TREE AND OTHER FIXED OBJECT CRASHES IN FLORIDA FROM 2006 TO 2013

PRESENTED AT TREES PEOPLE AND THE BUILD ENVIRONMENT 2017

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DESCRIPTION OF PROBLEM

- Roadside trees are a major part of the landscape in Florida and around the world

- Became interested in tree crashes through colleague

- Non-compliance with Florida Greenbook

- Co-authored Bar Journal Article on Tree Crashes and Sovereign Immunity

RISK ASSESSMENT

- Probability of Event Occurring

- Consequence of Event Occurring

BENEFITS OF ROADSIDE TREES

- Reduces Stress

- Ecological Benefits (e.g. cooling)

- Improved Aesthetics

- Increase Property Values

- Improves Roadway Definition

ROADSIDE PLANNING

- Roadside trees are a common element of roadway infrastructure involved of single-vehicle fixed object collisions

- Roadway planners ust consider the risk of roadside trees against the benefits

RESEARCH QUESTIONS

- What is the impact of land use (urban/rural), vehicle type, light conditions, and weather conditions on tree crash frequency?

- Are tree crashes more severe than other single-vehicle accidents?

MATERIALS AND METHODS

- Archival crash data from DHSMV

- Chi Square Tests for Proportion

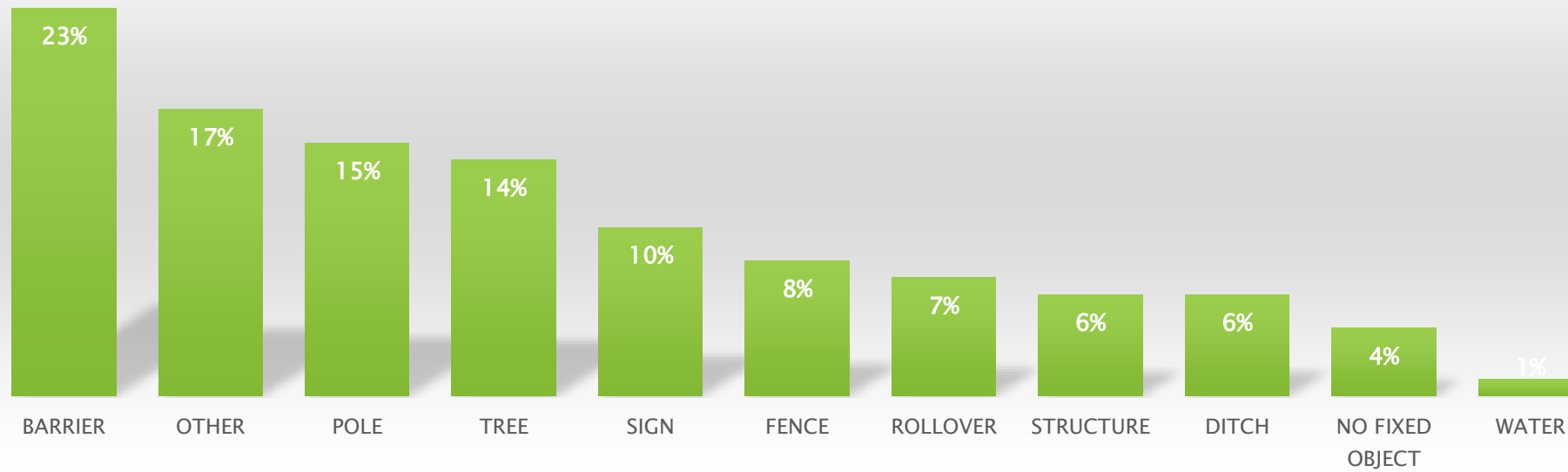- Ordered Logic Regression

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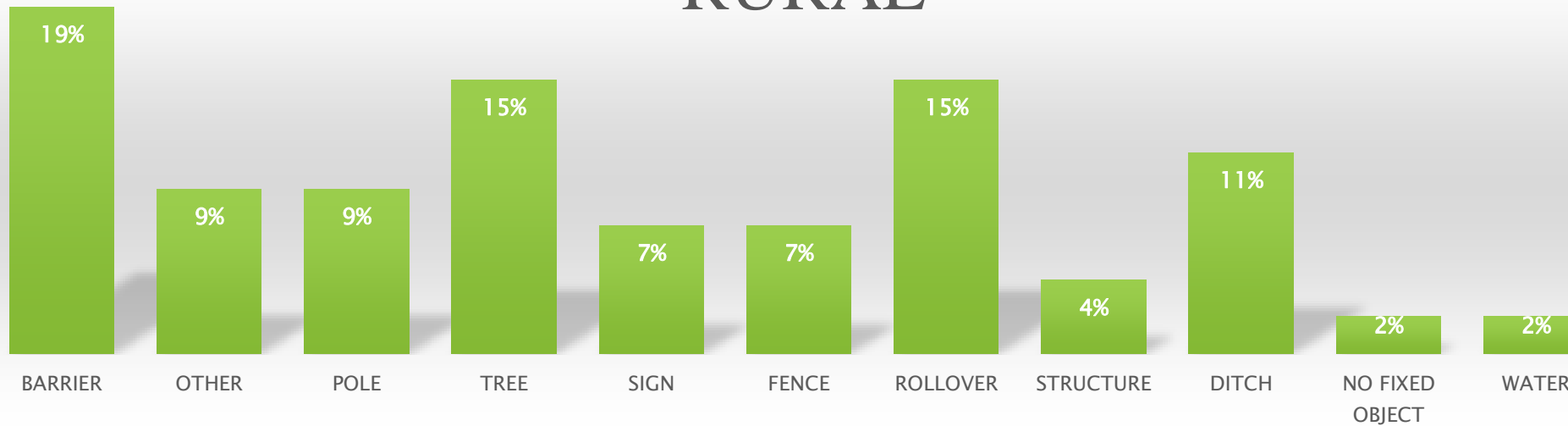
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SINGLE VEHICLE CRASHES

- Tree

- Barrier

- Ditch

- Fence

- Parked Car

- Pole

- Sign

- Rollover

- No fixed object

- Other

TREE CRASH FREQUENCY RESULTS

- Tree Crashes more common in rural conditions than urban conditions

- Tree crashes most common in dark conditions with lighting present

- No impact of drugs/alcohol on tree frequency

SEVERITY RESULTS

- Tree Crashes are more severe than all other single-vehicle crashes, except for rollovers

TAKEAWAY

- The role of roadside trees in roadway planning is complex and multi-faceted

- Must balance benefits with risks

- Need for future research