Road Safety Fundamentals

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ROAD SAFETY SEMINAR
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Overview

Solving Traffic Safety Problems

Traffic Control Devices

Roadway Design Criteria

Improving Roadside Safety

Intersection Safety
Crash Causes

Roadway 34%

Driver 93%

Vehicle 12%
Solving Traffic Safety Problems

1. Identify Sites
2. Accident Experience
3. Field Conditions
4. Assess & Select
   - b/c, budget, cost-effective, documentation, consequences
5. Implement & Evaluate
6. Contributing Factors & Countermeasures

Feedback loop:
- Please don’t drink and drive
- Gil City Pop.
Traffic Control Devices: Principles

Fulfill a need

Command attention

Command respect

Have a simple, clear meaning

Allow adequate time for response
Traffic Control Devices: Edgelines
Traffic Control Devices: Raised Pavement Markers
Traffic Control Devices: Post Mounted Delineators
Traffic Control Devices: Inspection & Maintenance

Retroreflectivity

Bent signs or posts

Proper placement

Fading, weathering

Vegetation
Roadway Design: Cross Section Elements

Stopping Sight Distance

Cross section elements

Lane width & surface

Shoulders, curbs, pavement drop offs

Roadside slopes

[Diagram showing shoulder width, traveled way width, roadside slope, curb, and pavement cross-slope (S)]

S is the pavement cross-slope
Chevrons – How NOT to place them
Roadside Safety: Overview

Types of Hazards

Clear zones

Treatment options

Guardrail
Roadside Safety: Clear Zone

A roadside area free of dangerous fixed objects, slopes, etc

Available for safe use by errant vehicles
Roadside Safety: Order of Treatment

*Remove* the obstacle

*Relocate* the obstacle

*Redesign* the obstacle

*Reduce* impact severity

*Shield* with guardrail

*Delineate* to guide drivers around it
Roadside Safety: Rumble Strips
Roadside Safety: Rumble Stripes
Roadside Maintenance

Mow clear areas

Mow deflection areas

Ditch cleaning

Encroachments
Intersections: Overview

Intersection type and risk

Geometric issues

Traffic control devices

Sight distances

Access management
Intersections: Conflict Points

Three leg intersection

9 conflict points

4 leg intersection

32 conflict points
Intersections: closing one approach
Additional Resources

Low Cost Local Road Safety Solutions (American Traffic Safety Services Association)


AASHTO Strategic Highway Safety Plan Implementation Guides (National Cooperative Highway Research Program)

http://safety.transportation.org/guides.aspx
Summary

Remember the human needs

Take time to think about the cause of the problem

Consider solutions beyond engineering

Consistency provides predictability
Thank you

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