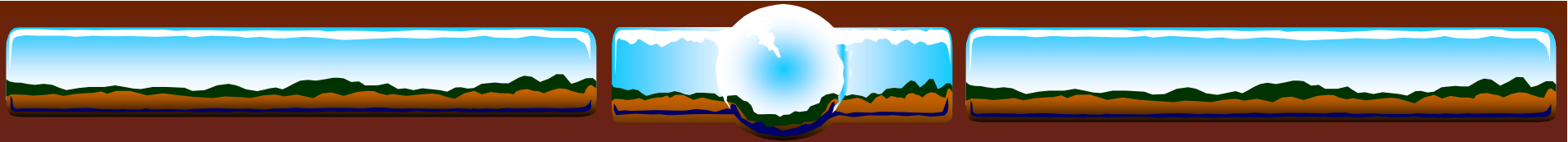# Field Evaluation of Detection-Control System (D-CS)

Wei Zhang, Ph.D., P.E.

Highway Research Engineer
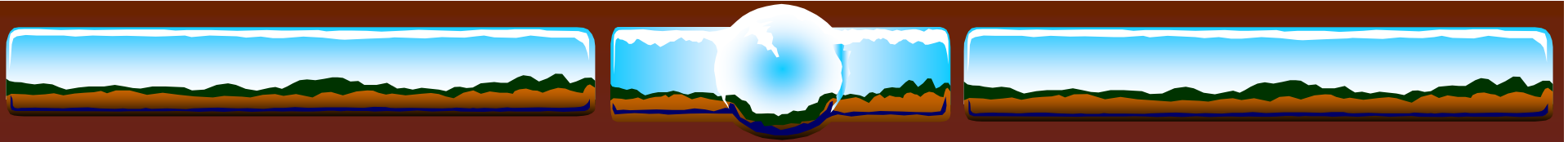
Turner Fairbank Highway Research Center

Safety R&D Intersection Team

Call for Participation of D-CS Evaluation

❖ We are recruiting 12-15 sites

❖ We help you improve safety at high speed signalized intersections

❖ We provide financial incentives to participating agencies

The Dilemma Zone Problem

❖ There is a physical distance (V*t) before the intersection, within which if the signal changes from green to yellow, different drivers react differently.

Ideas behind D-CS

❖ Detect vehicle speed and length way before intersection (1,000 ft)

❖ Determine the dilemma zone of each individual vehicle on main approach

❖ Once minimum green is reached, If call for service is received from side street, the D-CS algorithm constantly looks for gap to serve the side street

❖ Hold green if there is truck, or more than 2 cars in the dilemma zone
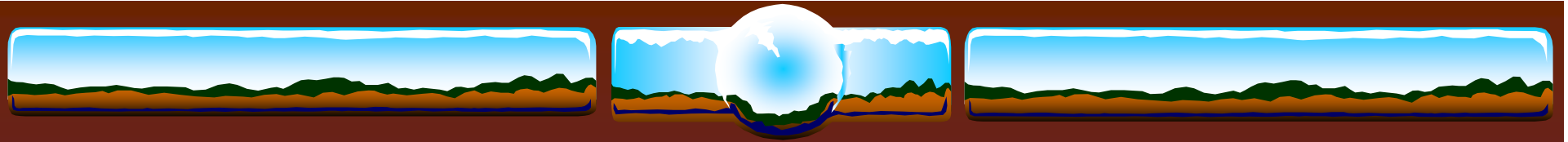
Expected Benefit of D-CS

- ❖ 39% reduction in crashes
- ❖ 79% reduction in red light running
- ❖ 15:1 benefit to cost ratio

Funding

- ❖ Estimated cost: $60,000/intersection
- ❖ FHWA provides up to $10,000/intersection
- ❖ FHWA hires contractor to monitor the the sites for 2 years or longer
- ❖ FHWA pays contractor to collect and analyze the data

Contact

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