



Evaluating Options to Increase Specific Service (Logo) Signs From Six Businesses to Nine Businesses per Service

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Motivation

- Current MUTCD language limits
 - Six panels per service
 - One sign per service
 - Four signs per interchange



- FHWA interim approval – 12 panels, 2 signs
- Desire to provide more information for motorists

Experimental Alternatives

- 9-Panel Sign



Experimental Alternatives

- Overflow Combination



Objective

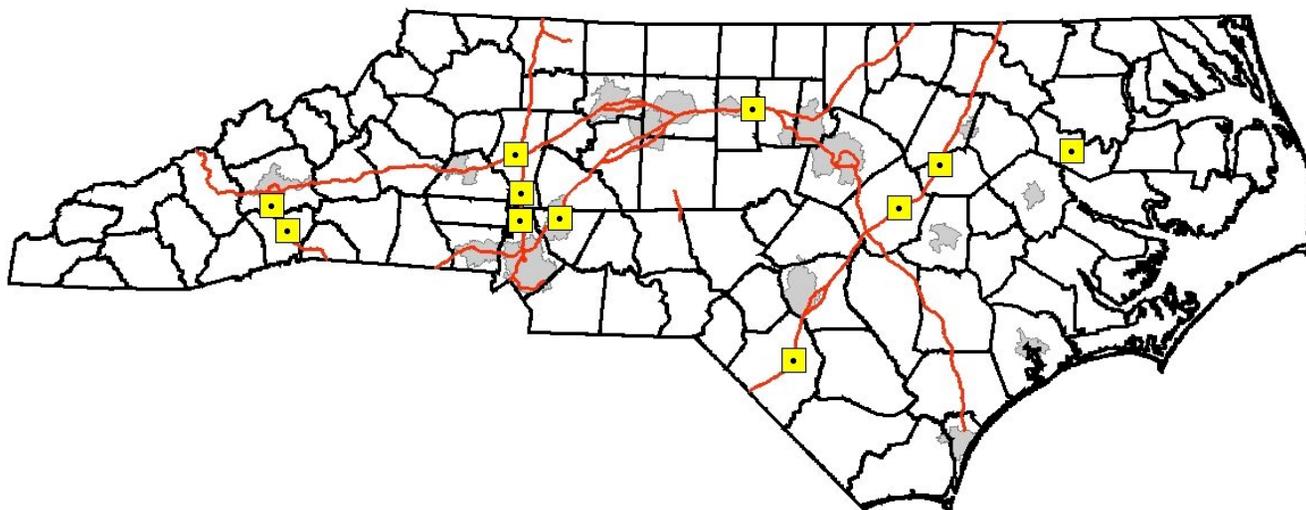
- To evaluate whether implementation of 9-panel and overflow combination signs have a negative effect on highway safety

Method

- Observe motorist behaviors at experimental signs and standard 6-panel signs
- Compare rates of “unusual” behaviors to see if experimental signs cause significantly more driver distraction
- Unusual behaviors:
 - Braking
 - Drifting
 - Line encroachment

Site Selection

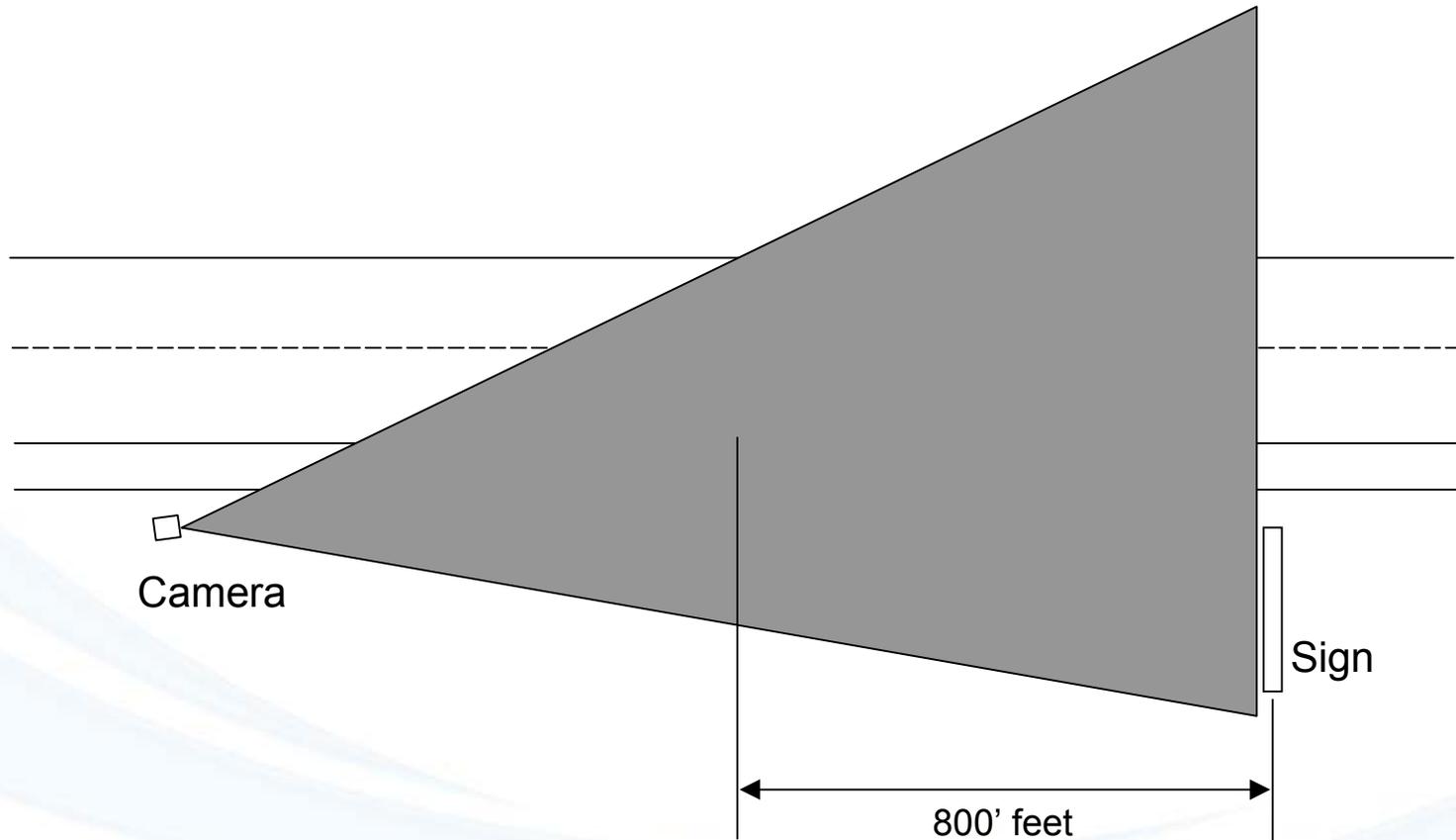
- Five 9-panel signs
- Five overflow signs
- Six 6-panel signs
 - Some were the first sign in the overflow combination



Data Collection



Data Collection



Data Collection



Data Reduction

- Tapes were viewed at HSRC
- For each unusual behavior observed:
 - Time
 - Lane
 - Behavior type (e.g., braking, drifting, etc)
- Data were compiled in terms of rate of unusual behaviors per 1000 vehicles

Results

Site Type	Lane*	Unusual Behaviors Rate	Comparable 6-Panel Rate	Diff	T-test p-value	Significant Difference? (90% conf)
9-Panel	Lane 1	31.2	38.4	-7.2	0.55	no
	Lane 2	9.8	13.1	-3.4	0.47	no
	Both lanes	41.0	51.6	-10.6	0.49	no
Overflow	Lane 1	29.5	38.4	-8.9	0.48	no
	Lane 2	13.8	13.1	0.7	0.32	no
	Both lanes	43.3	51.6	-8.3	0.62	no

Results

- Before/after site evaluation (I-95, exit 121 in Wilson)

Site	Type	Date	Hourly Volume Observed	Rate of Unusual Behaviors per 1000 Vehicles		
				Lane 1	Lane 2	Both Lanes
1.13 SB (before)	6-Panel	6/16/2006	1404	37.2	20.1	57.2
1.13 SB (after)	9-Panel	10/20/2006	1326	28.7	5.1	33.7

Conclusion

- Rates were actually lower at experimental signs, however the difference was not statistically significant
- Before/after evaluation showed lower rates after sign installation
- **Bottom Line:** 9-panel and overflow combination signs were not shown to cause added motorist distraction