How Can the MUTCD Best Address Emerging Technology?

NCUTCD Electronic Display Traffic Control Task Force

June 2017
Outline

- Background of changeable message signs in the MUTCD
- National Committee’s Charge
  - Full Matrix Signs
  - Dynamic Message Signs
- Key Questions that have emerged
- Next Steps
  - Design “cheat sheet”

Photo Sources: WSDOT, Caltrans, FHWA, Google Images
How does MUTCD address dynamic message signs?

- Chapter 2A
- Section 2B.26 Reversible Lane Control Signs
- Chapter 2L Changeable Message Signs
- Chapter 4M Lane-Use Control Signals
What has that yielded in applications?
Chapter 2L
- Colors – same for regulatory, warning, guide, TTC, incident, schools, ped/bike
- Symbols – same as Standard Sign Handbook
- Lines – three, 20 character max
- Letter height – 18” min ≥45 mph, 12” min < 45 mph
- Number of words – 4 max/line
- Message length – 4 units ≥35 mph, two phases max
- Visible – ½ mile
- Legible – 600’ night, 800’ daytime

Chapter 4M
- Visibility – 2,300’
- Position – over center of lane
- Alignment - straight across highway
- LUC Size – 18” ≥40 mph
- Clearance – 15’ min, 19’ max
Design Parameters for Dynamic Message Signs
Task Force's Charge

Address Emerging Technology

Consider MUTCD User

Update Definitions

Understand and Define MUTCD Role and that of NEMA and ITE
Questions:
Lane Use Control – sign or signal?
Questions: One Section/Chapter or Multiple?

- Keep as it is – improve text
- Upgrade and consolidate 4M into Chapter 2L – Changeable Message Signs?

- Consider a new Part
- Expand discussion of electronic displays in Chapter 2A
- Edit sections in place – signs, signals, tolling, others…
Questions: Arrows Up or Down for Lane Use Control?

- Lane is closed.
- Lane is open.
- Lane is about to be closed.
Temporary Traffic Control Opportunities
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Questions:
Will the Role of Advertising Change?
Questions: No Apparent Loss of Recognition?

- Vector Based Images
- Pixel Based Images
- Level of appropriate detail
Question:
What Message Load is Too High?
Questions: Impact of Messages on System Capacity?
Committee Schedule
- June 2017 Definitions
- 2017 – Signal/Sign Decision
- 2018 – Draft MUTCD
- Language to Technical Committees
  - RWSTC
  - GMI
  - Markings
  - Signals
  - TTC
  - RR/LRT
  - Bicycle

Outcomes:
- Cheat sheet
- NEMA vs MUTCD vs ITE
- Additional Research
- Revisions to MUTCD
Questions?

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