Messaging Challenges in All-Electronic Tolling

Jim Powell, PE, PTOE
CDM Smith Inc.

powelljl@cdmsmith.com

IBTTA Summit
AET/Managed Lanes/Interoperability
Miami
July 13, 2015
PRESENTATION OVERVIEW:

- Signing “rules of the road”: Manual on Uniform Traffic Control Devices
- Toll & AET Sign Issues/Experience
- Interoperability symbol development
Per 23 CFR, national standard for traffic control devices on roads open to public travel, including Toll roads

Officially promulgated/maintained by FHWA

National Committee on Uniform Traffic Control Devices provides FHWA input – IBTTA is one of ~20 NCUTCD sponsors
FHWA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)

- 2009 – The first edition to include toll facility treatment  ...but just a start
- Draft new MUTCD ~mid-2016
- Next MUTCD not likely until ~2018
AET not referenced in 2009 MUTCD, instead covered as “Electronic Toll Collection” (ETC)

Toll Chapter 2F tends to focus on registered ETC cases (the color purple)
ALL-ELECTRONIC TOLLING (AET)

- No cash handled
- First U.S. implementations in mid-90s
- Evolutionary development
  - Transponder-based
  - Image-based
SOME TOLL SIGNS TODAY

ETC

AET

Road Names

Agency

Managed Lanes

Rental Car & Trucks
A FEW MORE…

Minnesota

Ambassador Bridge, MI & ON

Kansas

Oklahoma
SAMPLE U.S. TOLL PAYMENT SIGNS
In short, some consistency in AET signs:

- layout
- colors
- axle-based
- ETC toll on left
- license plate toll on right
- max: 3 lines of information

But how much info do you really need?
WHAT DRIVERS *REALLY* NEED...

- That have to pay a toll
- How to pay: Cash? Transponder? “Bill me” (LPR)?
- “Just Don’t confuse me!”
WHAT AGENCIES *REALLY* WANT/NEED…

- Branding
- Reliable collection equipment
- Driver conformance (minimum “leakage”)

CDM Smith
Initial Illinois Tollway AET - “I-PASS ONLY”: Eola Road Interchange

On I-57 (Illinois DOT)

On I-294 (Tollway)
AET – NEW INFRASTRUCTURE: ELGIN O’HARE WESTERN ACCESS (EOWA) PROJECT – ILLINOIS ROUTE 390

Approx. 11 Miles
EOWA PROJECT – ILLINOIS ROUTE 390: AET SIGNING – FALL 2016

On mainline

TOLL COLLECTED AHEAD

OR PAY ONLINE

On exit ramps

PLAZA XXX
CARS I-PASS $0.25
CARS ONLINE $X.XX

AVOID FINES
7 DAYS TO PAY

PAST toll collection point

Non-AET version

TOLL PAID
I-PASS CARS $1.00
CASH CARS $2.00

OR PAY ONLINE
ALL entry signs need banner even if no toll plaza on the particular entry ramp.
AET LESSONS LEARNED

- Involve the customer – market research/focus groups
- Educate the public through media, web page, public service announcement...
- No matter what - expect some bumps in the first few months
IBTTA INTEROPERABILITY (IOP) COMMITTEE
MUTCD NEW SYMBOL PROCESS

- Selected five “new” symbols
- Submitted to Regions for rankings and comments
- Submitted to IBTTA Board for comments
INTERNATIONAL CANDIDATES
POTENTIAL NEXT STEPS*

- IBTTA IOP Committee to narrow the field
- FHWA “Pooled Fund” Study this fall (?): human factors
- NCUTCD craft language → FHWA Interim Approval
- To meet MAP-21 (unfunded) mandate for interoperability by Oct. ‘16

* Don’t bet the farm on it!
YOU HAVE A VOICE!

- Join IBTTA  www.ibtta.org
- Reach out to NCUTCD or join  www.ncutcd.org
- Monitor the FHWA web site (for NPA)  mutcd.fhwa.dot.gov/
- Monitor your state DOT web site
Thanks !