License Plate Design and Operational Considerations

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3M Company
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Agenda

• Consumer Trends
  • Impact on license plates
• Purpose of a license plate
• Technology trends around license plates
• Considerations around license plate design
  • Supply Chain
  • Cost
Consumers Changing Demands

- Forrester Research

81% of consumers are willing to pay more for customized products.
- Forrester Research
Purpose of License Plates

- Identifies vehicle
- Registration compliance
- Promote the latest state image
- Enhance safety
- Improve visual and camera readability
  - Law Enforcement
  - Toll operations
Changing Technology Landscape

- License plates are being used in more ways than ever
- Information is vital to many stakeholders

Law Enforcement

Tolling

Parking & Access Control

Asset Recovery
Automated Enforcement Applications

The License Plate & DMV Records Are Critical for Enforcement

Cash

Cash & Electronic

All Electronic

Automatic License Plate Reading (ALPR)
### Enhanced Camera Readable Plate

- **Tolling** – “Enhanced Revenue Capture”
  - Minimize Revenue Leakage – improved camera readability
  - Minimize Labor Intensive Manual Enforcement Operations
- **Law Enforcement** – “Automated LP Reading”
  - More complete and consistent Id of hotlist Plates
  - Improved “Hands Off” Automation
- **DMV** – “Improved Compliance”
  - Insurance
  - Registration
  - Emissions
Challenges for License Plate Reading

- **Plate Design**
  - Fonts & Graphics Variations
  - Repeated Alpha Numeric

- **Plate Construction**
  - Embossed vs. Flat Plates
  - Reflective Properties of Sheeting
  - Printing Inks

- **One Plate vs. Two Plates**

- **Camera Readability**
  - Illumination Type (white light vs. IR)
  - OCR Software (regional optimization)

*Uniquely Identifying Vehicles: Alpha Numeric, Sate/Country, Plate Type*
One Plate or Two?

The Benefits of Two License Plates and the Costs of Removing One
www.frontplate.org

THERE IS SAFETY IN THESE NUMBERS

**Coming and going,** license plates provide public safety around the country by keeping cars visible on the road—alongside accurate, effective law enforcement that protects the public good.

But some states have begun taking legislative steps to remove the front plate. More states could do the same, because car lovers want sleek front ends and state legislators want to show cuts to their budgets.

The real price of losing front license plates is higher than it looks.
Resources
Good Information Can Make a Real Difference.

We have collected an online library of studies, facts, presentation material and more for you to read and share with your state legislator, or community of coworkers and friends about the benefits of two-plate laws.

LEARN, DOWNLOAD AND SHARE

Study
Texas A&M Transportation Institute has prepared a study on the effects of one plate and two plates in Pennsylvania, Arizona, Maryland and Texas. In all of these states, visibility, safety, revenues and law enforcement were affected depending on the presence of one plate or two.
ALPR Demonstration
Considerations around plate design

- Readability for the human eye, as well as in IR for camera readability
  - Night time and day time
  - Understand how license plates are used by your stakeholders
- Design – Manufacturing – Distribution processes in place
  - What processes are in place to assure a good customer experience and a cost effective fulfillment approach?
Operational Considerations

- Understand your supply chain
  - Customer order process and information flow
  - Manufacturing lead times
  - Branch structure and fulfillment models
    - Direct mail vs. branch delivery
- Understand your costs
  - Inventory levels for small volume plates
    - Stock vs. on demand production
  - Transaction costs vs. shipping costs
  - Program management costs (design proofing process, inventory tracking and auditing)
Questions?