

Vehicle License Plate Production

Kansas Division of Vehicles
Presented to Senate Transportation Committee
March 3, 2016

Current Process

- ▶ County places bulk order for license plates in Motor Vehicle System (MVS).
 - ▶ Division of Vehicles (DOV) Inventory Manager reviews quantity and if agrees, approves order. If disagrees, contacts county to adjust request, then approves order.
 - ▶ Approved orders are sent to Center Industries via automated interface that runs every Tuesday and Thursday.
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- ▶ Center Industries accepts interface and schedules orders in production.
 - ▶ Plates are produced:
 - Sheeting applied to aluminum and blank plate stamped.
 - Blanks are sent to embossing line where raised letters/numbers are stamped.
 - Plates are roller coated with ink, then sent through drying oven to set ink.
 - Decals are applied and plates boxed for shipping.
 - Plates sent to shipping area where they are picked up for delivery to Counties.
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Specialty Plates

- ▶ Some specialty plates, such as personalized plates must be ordered and approved one plate at a time.
- ▶ Some specialty plates such as educational institution plates are produced on white sheeting with silk screen logos.
 - White sheeting is applied and blank plate is stamped. The logo is then silk screen printed on the blank. The plate is sent through the drying oven to set logo ink.
 - Once logo is applied, the plate is sent to the embossing station to be embossed and roller coated.

Receiving License Plate Orders

- ▶ When the order is received at the county, the order must be marked as having been received and placed into a virtual store room in MVS.
 - ▶ Inventory then must be assigned to each clerk via a virtual window in MVS.
 - ▶ The clerk then issues the plates to customers over the counter.
 - ▶ Personalized plates require the county to notify the customer that the plate is ready for pick up. The customer then comes to the county to pick up the plate.
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Transferring License Plates From One County to Another

- ▶ If a county runs low on inventory before an order can be produced and shipped, counties may move inventory from one county to another.
 - ▶ The shipping county must remove the sequence of plates from their virtual store room and place it in an “In Transit” location in MVS, identifying the location the inventory is being shipped to.
 - ▶ The shipping county then packages the inventory and ships it to the receiving county.
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- ▶ Once the inventory arrives at the receiving county, that county must remove the inventory from the “In Transit” location in the MVS system and place it into their virtual store room in MVS.
 - ▶ Inventory must then be assigned to virtual windows so that clerks can issue inventory to customers.
 - ▶ This process is the same for a single plate as it is for multiple plates.
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Challenges with Current Process

- ▶ Overproduction routinely occurs. In FY 2014, 215,601 more plates were produced than sold, resulting in \$644,318 of excess inventory. In FY 2015, 78,926 more plates were produced than sold, resulting in \$320,496 of excess inventory.
 - ▶ Counties must store inventory produced in bulk.
 - ▶ Some counties do not manage inventory as well as others resulting in excessive quantities and wasted inventory or insufficient quantities creating crisis situations and “borrowing” inventory from other counties.
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- ▶ New specialty plates often times result in overproduction. A minimum initial run of 2,500 automobile plates and 1,500 motorcycle plates is required to initially stock counties. (Eg. First year sales of Donate Life plates = 649 Auto and 124 motorcycle plates sold).
 - ▶ Multiple plate types have the same combination which creates problems for tolling authorities and law enforcement.
 - ▶ Plate design is limited due to manufacturing process.
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Digital License Plate (DLP) and Registration Fulfilment Services (RFS)

March 2015

License Plates Functionality



1. Crime Prevention Element (Law Enforcement)

2. Vehicle Registration/Tax Collection

3. Road Safety/Conspicuity

4. Identification (citizens, cameras)

5. Promotion and Specialty Graphics

Challenges for License Plate

- Visibility from a longer distance (Safety)
- Legibility from a shorter distance (Law Enforcement)
- Secure features (authentication of a valid license plate)
- Gray background appearance of current technology (contrast)
- IR Camera readability



Next Generation of Sheeting



Motorist Safety



Security of the Credential



Vehicle Identification

- ▶ **Safer roads** through more visible plates*
- ▶ A **more secure credential** that is difficult to counterfeit and includes new security features
- ▶ **More legible plates** due to brighter and whiter sheeting leads to **easier vehicle identification*** and **crime identification****

*2013 university study comparing non-reflective, beaded and High Definition plates

**International Association of Chiefs of Police estimates 70% of crimes involve a motor vehicle

Customer Benefits

- Easier to see (long distance)
- More legible (short distance)
- Secure features
- Better aesthetics



More Reflective at the Proper Angles & Whiter

- Better legibility for Law Enforcement
- Faster recognition of a plate from “witnesses”



Digital License Plate System

Background

Since introducing digital printing for license plates in 1999, 3M has installed 28 systems that have produced over 250 million plates combined

Features

- digital production from order to ship
- bar code printing and reading
- uses white or pre-printed sheeting
- highest capacity printer in the market

Benefits

- faster turnaround on special plates
- no volatile organic solvents and less energy
- lower energy, inventory, aluminum and postage costs
- fewer data entry errors and simplified remakes



DLP Printer and roll handling equipment



DLP System about the size of a minivan!

Embossed vs. Digital Plates



Reduce Inventories of Specialty Sheeting



White Roll input

Multi Design output

Variable Characters on one roll

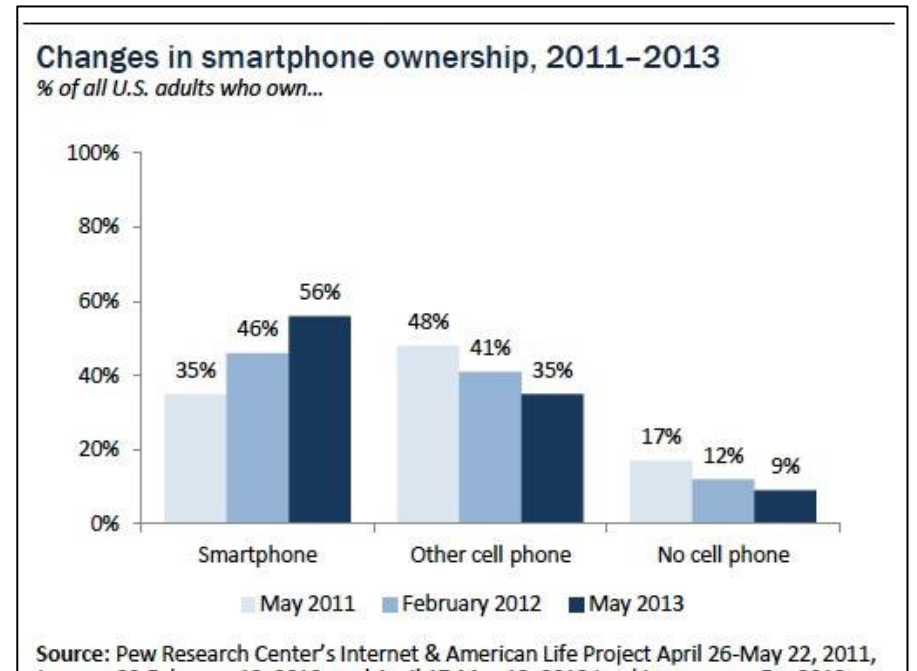
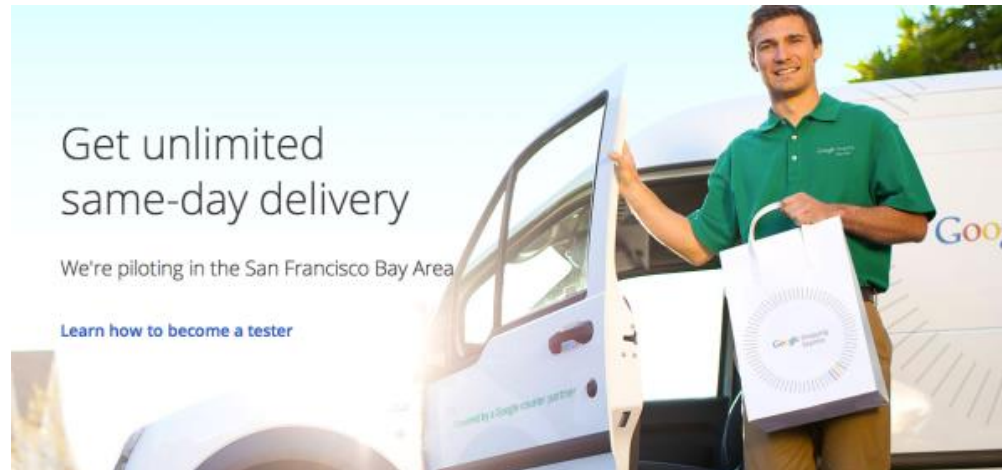
Online & Fulfillment Trends

85% of U.S. adults use the internet
– (Pew May 2013 survey)

71% of Americans filed their taxes online in 2011, with projections hitting 84% in 2018
– IRS website

More than half (62%) of US consumers with Internet access now shop online at least once a month, and just 1% say they never shop online
– recent report by [Walker Sands](#).

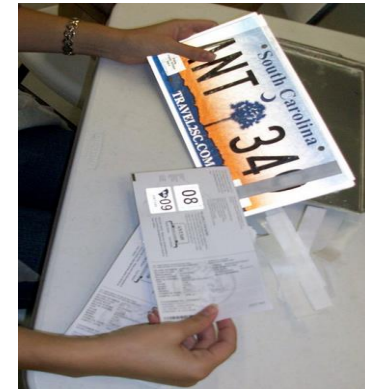
Customer expectations of service will continue to change



Fast and Furious How Wal-Mart's and Amazon's same-day delivery stack up		
	Walmart	amazon.com
COST	\$10 regardless of purchase amount	\$8.99 per shipment plus 99 cents per item*
HOW IT WORKS	Orders must be placed before noon. Items in stock at a local Wal-Mart store; excludes apparel and shoes.	Orders must be placed before 7 a.m. to noon, depending on city. Eligible items vary by city.
WHERE AVAILABLE	Philadelphia, Northern Virginia, Minneapolis, San Jose and San Francisco	Baltimore, Boston, Chicago, Indianapolis, Las Vegas, New York City area, Philadelphia, Phoenix, Seattle, Washington, D.C.
*\$3.99 per shipment for Amazon Prime members Source: the companies		The Wall Street Journal

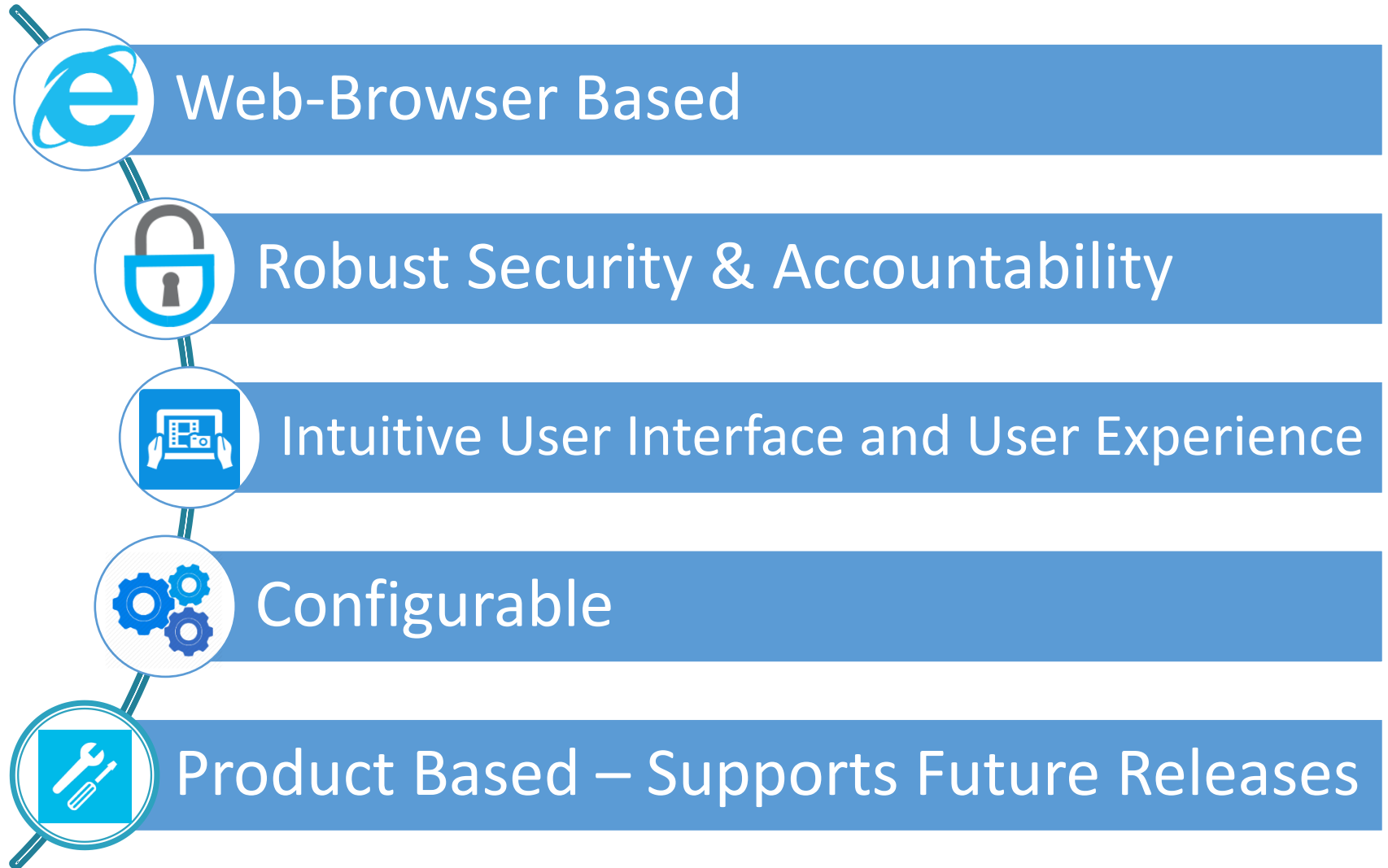
What is RFS?

- Stands for Registration Fulfillment Services – 3M term
- Different fulfillment model for license plates & forms
 - Traditional fulfillment is make to stock
 - Excess inventory (\$)
 - Long turnaround times for specialized plates
 - Manual processes
 - RFS is make to order
 - Migrate delivery from branches to direct to motorist
 - Inventory management (or elimination)
 - Digital workflow and manufacturing
 - View to information
 - Transaction pricing
- Improve service to motorist
- Streamline License Plate and Registration Processes



3M Plate Builder Software

Plate **Builder**



Benefits of Digital License Plate Production

- ▶ A plate is not manufactured until it is sold so overproduction and waste is reduced.
 - ▶ Reduces the need for counties to allocate space for inventory storage.
 - ▶ Reduces the need for counties and the Division of Vehicles to allocate resources to inventory management.
 - ▶ Allows opportunities to address issues such as duplicate combinations on different plate types.
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- ▶ Provides more options for font styles and sizes leading to more possible combinations.
 - ▶ Allows for use of white sheeting on plates with low volume sales reducing need for specialized sheeting and reducing waste.
 - ▶ Eliminates the need for silk screening on some plates which creates efficiencies.
 - ▶ Provides more options for plate design and possible personalization of any plate type.
 - ▶ Eliminates the need for roller coating ink.
 - ▶ Cost to sponsoring organizations is reduced.
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Inventory Funding

- ▶ Inventory budget is \$2.7 million
 - License Plates
 - Registration year decal stock
 - All other decals (county situs, weight limit, farm, military branch, etc)
 - Handicapped placards
 - ▶ License plate production portion is \$2.5 million
 - ▶ Funding source is an appropriation from the Highway Fund.
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▶ Plate replacement

- 93,395 Dome Auto plates and 3,915 Dome Motorcycle plates have been on the roads since 2001
- 2,302,932 Ad Astra Auto Plates and 82,394 Ad Astra Motorcycle plates have been on the road since 2010
- 33,317 IRP Apportioned plates have been on the road since 2005
- To replace all plates in a single year would require an additional appropriation of \$7.5 million.
- Reflectivity of plates degrades to fifty percent between year five and eight the plate is on the road.

Rolling Plate Replacement

- ▶ Since sheeting reflectivity degrades significantly after year eight, plates would not be on the streets longer than eight years
 - ▶ We would replace one-eighth of plates each year so that amount of funding needed would be more constant
 - ▶ Funding estimate for this model would require \$3.95 million per year.
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Options for Funding

- ▶ Increase appropriation by amount needed to fully fund Digital Production.
 - ▶ Increase annual fees (eg. Registration fees) by appropriate amount to generate necessary funding and divert funding to Division of Vehicles.
 - ▶ Add a surcharge that a customer would pay only when a new plate is produced.
 - ▶ Other suggestions from committee members.
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Questions???????

Thank you for your time and attention!