Oversize/Overweight Vehicle Permitting

Best Practices Report

Preliminary Findings

October 2017

U.S. Department of Transportation
Federal Highway Administration

Oversize Overweight (OS/OW) Vehicle Permitting Project Lead

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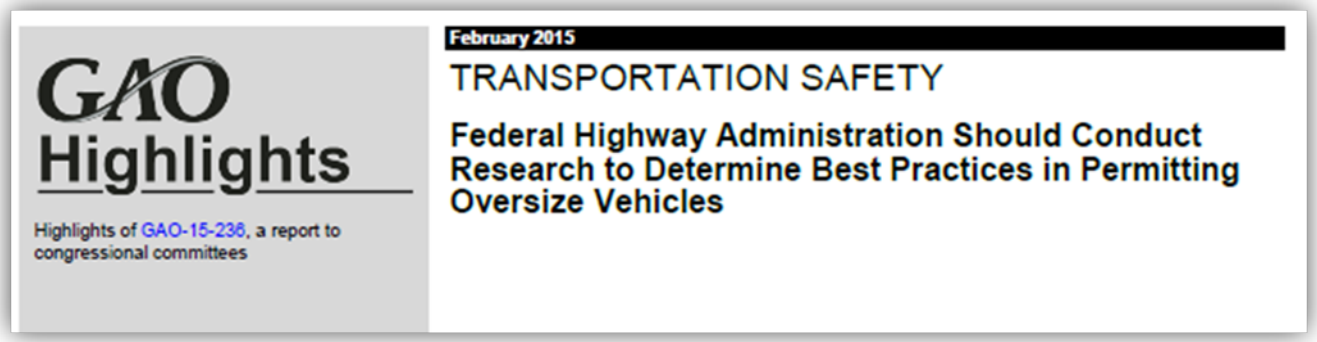
OS/OW Vehicle Permitting Project Objective



GAO Highlights

Highlights of GAO-15-236, a report to congressional committees

February 2015

TRANSPORTATION SAFETY

Federal Highway Administration Should Conduct Research to Determine Best Practices in Permitting Oversize Vehicles

- **GAO Report on the Skagit River Bridge accident:**
  - "To improve stewardship over the nation's highways and bridges, we recommend that the Secretary of Transportation…
    - Conduct a study on State oversize- and overweight-permitting practices, including automated vehicle routing and escort driver certification, to identify areas of best practice and share the results with States."

Source:

- GAO Report / "TRANSPORTATION SAFETY: Federal Highway Administration Should Conduct Research to Determine Best Practices in Permitting Oversize Vehicles", p. 24 February 2015 http://www.gao.gov/assets/670/668711.pdf

OS/OW Vehicle Permitting Research Process

- Began:
  - September 2016
- Three Phases:
  1. Research best practices to develop criteria for OS/OW permitting best practices.
  2. Create inventory of State OS/OW permitting practices and develop Best Practices Report.
  3. Share results via two webinars (Talking Freight 10/18 and SC&RA 11/1.

OS/OW Vehicle Permitting

Phase 1: Research Best Practices Criteria for OS/OW Permitting

- Environmental Scan
- Literature Review
- State OS/OW Permitting System Information Scan
- Review of OS/OW Permitting Vendor Systems
- Pilot Car Training and Certification Programs

OS/OW Vehicle Permitting

Phase 2: Inventory and Identify State Best Practices

- Use Research Results to Develop Inventory Database of State OS/OW Permitting Processes
- Identify Best Practices Using Task 2 Criteria
  - Key Criteria: Efficiency and Safety
  - Cross-reference State Best Practices by Research Product
- Develop Best Practices Report

OS/OW Vehicle Permitting

Phase 3: Share the Results with the States

- Conduct Two Webinars
  - Talking Freight
  - Specialized Carriers & Rigging Association
- Document Webinar Results

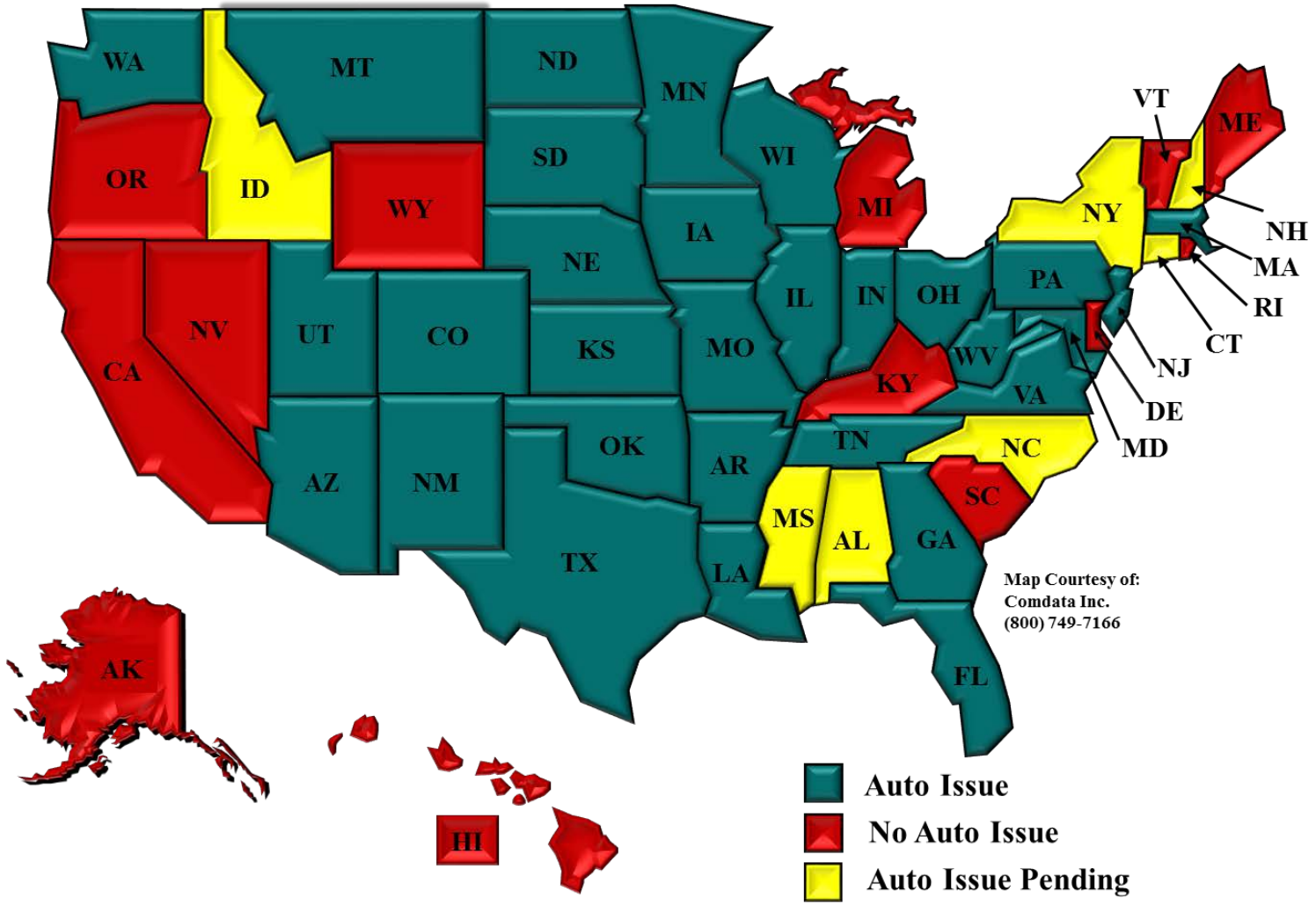
Auto Issue Definition

- Automated vehicle routing is done through automated permitting processes, which are known as “auto issue”

30 States With Automated Permit Systems

7 States in various stages of deployment.

12 States with no imminent plans to deploy.



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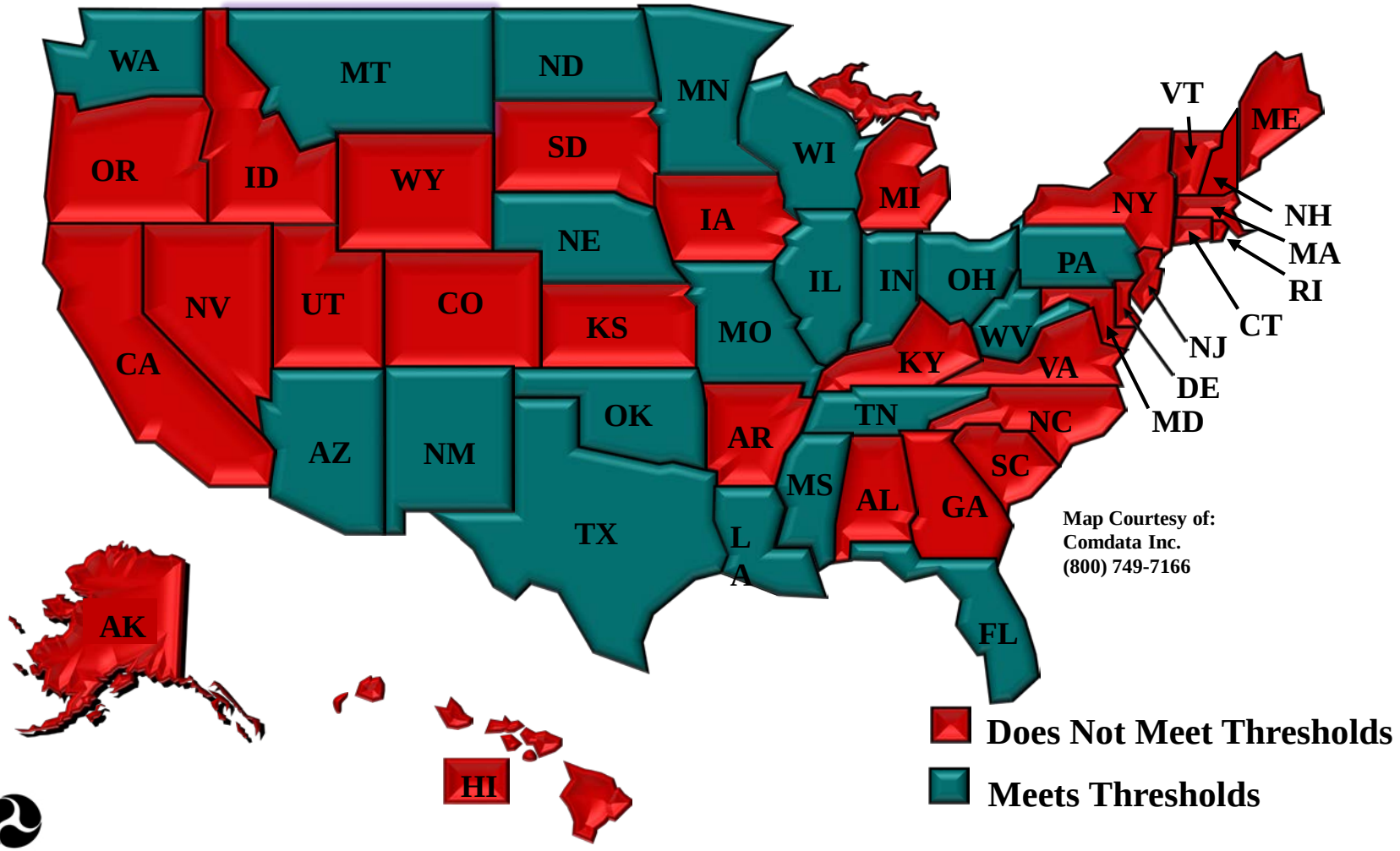
Permit Auto Issue

14' Wide, 14' 6" High, 110' Long, 150k lbs.



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Auto Issue By State Details

- Final report contains table of Auto Issue Thresholds for all U.S. States
- Example:

Jurisdiction	Auto/ Self Issue	Width	Height	Length	Weight	Current System	Future Plans
IL - Illinois	Y	16’	17’	200’	299K	GIS Solutions/Bentley (weight analysis)	Local permitting option

State Best Practices Summary

Criteria	Safety Benefit	Efficiency Benefit
Automated Route Selection 1. The State system has the authority to issue most or all non-State jurisdiction permits (local, toll, turnpike, private port, etc.) as well as State permits. 2. The State system's map includes comprehensive road system including State, local, toll, turnpike, private port, etc. road systems. 3. The State system's map has embedded links that provide point of contact information for local permit agencies. 4. The State OS/OW Permitting Webpage has a link that connects to local permitting portals. 5. The State OS/OW Permitting Webpage has a link that provides point of contact information for local agencies. 6. The State system enables carriers to generate route maps both for purchase and for purpose of preparing for potential moves, i.e., bid proposals, etc. 7. The State system includes and displays permanent and temporary route restrictions along the users preferred/requested route. 8. The State system includes a hyperlink that provides information on the restriction. 9. The State system will auto-route carriers around restrictions.	1. Improved permit accuracy, safety for all motorists. 2. Industry more likely to obtain all permits with one-stop-shop resulting in fewer carriers moving without permit. 3. Automated system accurately routes permitted loads around permanent and temporary route restrictions and bridges. 4. Permitted loads directed onto appropriate routes and reduces potential for infrastructure damage. 5. Permitted loads directed away from potential congestion which reduces potential for traffic incidents.	1. One-stop-shop for industry. 2. Local permits issued at same time as State permits. 3. Reduces permit turnaround time (PTA). 4. Cost savings to carriers, manufacturers, etc. 5. Increased permit fee revenue to States and locals. 6. Frees up permit office staff time to focus on more complicated OS/OW load movements.

State Best Practices Summary (continued)

Criteria	Safety Benefit	Efficiency Benefit
Thresholds		
1. Height restrictions a. The State system contains information on all bridge and other height restrictions. b. The State system automatically routes carriers around bridge and height restrictions. c. The State uses the "minimum or the maximum" criteria for issuing permits on bridges with variations in lane clearance heights. Permits include specific language as to which lane(s) may be used to clear height restrictions. d. Auto-issue permits for a minimum 14 feet 6 inches high. 2. Weight restrictions a. The State system automatically routes carriers on routes that are approved for State weight thresholds. b. The State auto-issue permits for a minimum 150,000 pounds gross (46,000 pound tandem, 60,000 pound tridem, 80,000 pound quad). 3. Length restrictions a. The State system automatically routes carriers on routes that are approved for State length thresholds. b. The State should auto-issue permits for a vehicle minimum 110 feet long. 4. Width restrictions a. The State system automatically routes carriers on routes that are approved for State width thresholds. b. The State should auto-issue permits for a vehicle minimum 14 feet wide.	1. Permitted loads are routed around threshold route restrictions. 2. Permitted loads directed onto appropriate routes and reduces potential for infrastructure damage.	1. Reduced PTA 2. Frees up permit office staff time to focus on more complicated OS/OW load movements. 3. Automates bridge analysis for OS/OW loads that meet established thresholds. 4. Reduces number of oversize loads incorrectly hung up in construction zones. 5. Cost savings to carriers, manufacturers, etc.

State Best Practices Summary (continued)

Criteria	Safety Benefit	Efficiency Benefit
Application Process		
1. The State system includes edit check functions that link the requested OS/OW load movement route to the correct permit for the particular load. 2. The State system includes a library function that enables carriers to store company data, information on power units and trailer configurations and previously issued permits. 3. The State system includes pre-approved routes for the movement of particular OS/OW loads.	1. Permitted loads directed onto appropriate routes and reduces potential for infrastructure damage	1. Reduced PTA

State Best Practices Summary (continued)

Criteria	Safety Benefit	Efficiency Benefit
System Operation		
1. The State system includes electronic payments options – Electronic Funds Transfer, credit/debit cards, escrow accounts. 2. The State system updates route restrictions in a timely manner and tracks all open permits. All open permit holders are notified if a change in a route restriction changes the status of a permit.	1. Permitted loads directed onto appropriate routes which reduces potential for infrastructure damage. 2. Permitted loads directed away from potential congestion which reduces potential for traffic incidents.	1. Permitted loads avoid congestion and delays. 2. Electronic payments save State and industry time and reduces transaction costs.

State Best Practices Summary (continued)

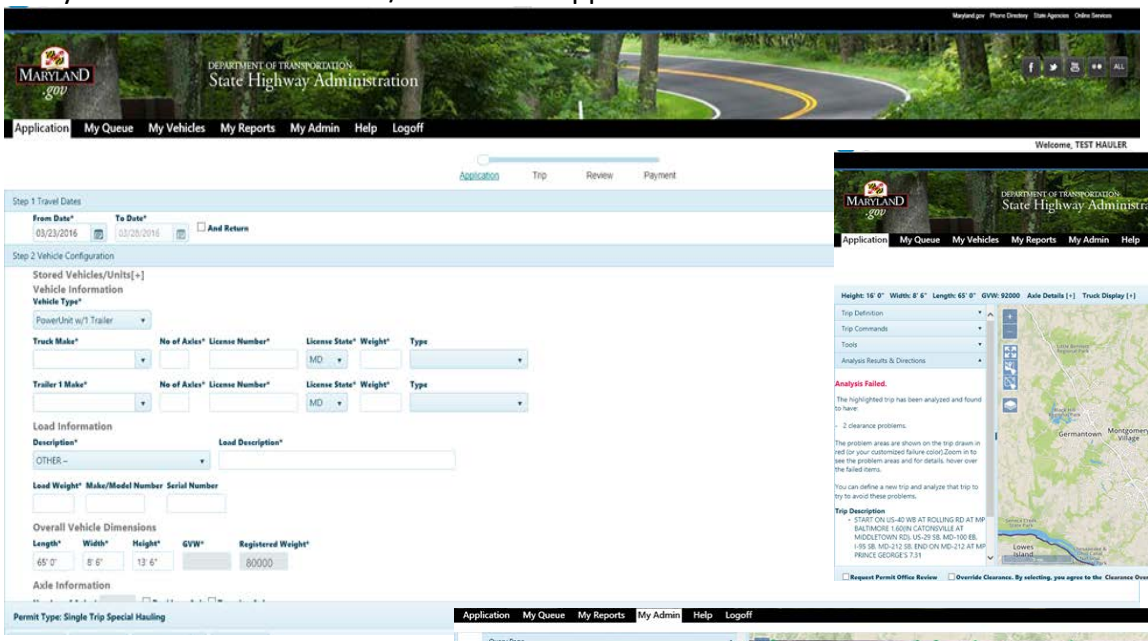
Criteria	Safety Benefit	Efficiency Benefit
Other Best Practices		
1. The State system has the authority to issue permits for a port. 2. A vendor system has the functionality to issue permits for multiple States for a single OS/OW load. The State permits are only issued along a route where the requested permit and proposed route are in compliance with each State's threshold requirements. 3. A vendor system has the ability to issue local permits for carriers whose OS/OW load includes local as well as State roads. 4. A vendor system has the ability to notify local governments of State permit loads traveling through their local jurisdiction.	1. Industry more likely to obtain State permits with one-stop-shop. 2. Industry more likely to obtain local permits with one-stop-shop. 3. Permitted loads directed onto appropriate routes and reduces potential for infrastructure damage. 4. Local agencies know when a permitted load is using their road system.	1. One-stop-shop saves public and private sector time and money. 2. Enhances operating efficiencies for public and private sector. 3. Promotes harmonization in movement of OS/OW loads between States.

Vendor Systems
Bentley

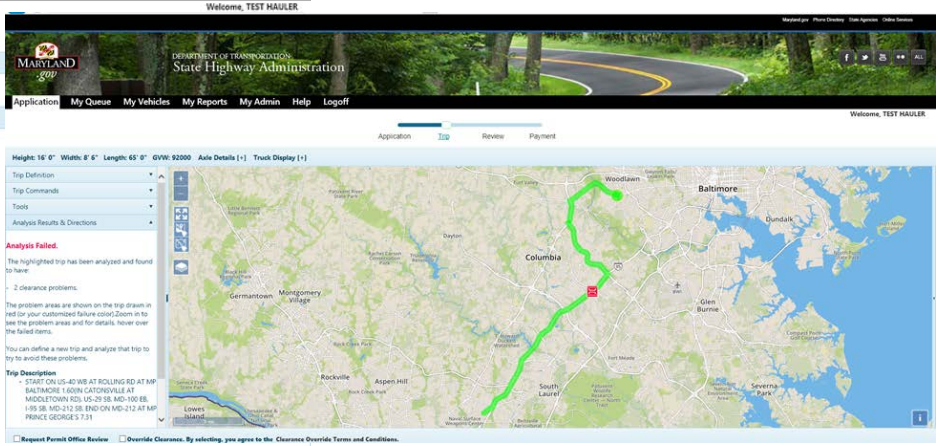
- SUPERLOAD
  - Provides real-time route analysis for compliance with thresholds and auto-issues permits for vehicle
  - Enables State to enter permanent and temporary route restrictions and update as notifications are received
  - Allows live-load bridge analysis for real-time analysis of permit vehicle configuration over each structure (using State thresholds and restrictions)
  - Tracks/notifies open permits, credit cards, electronic funds transfer, escrow accounts; library function for company data, power unit and trailer configuration and previously issued permits/routes

Vendor Systems
Bentley

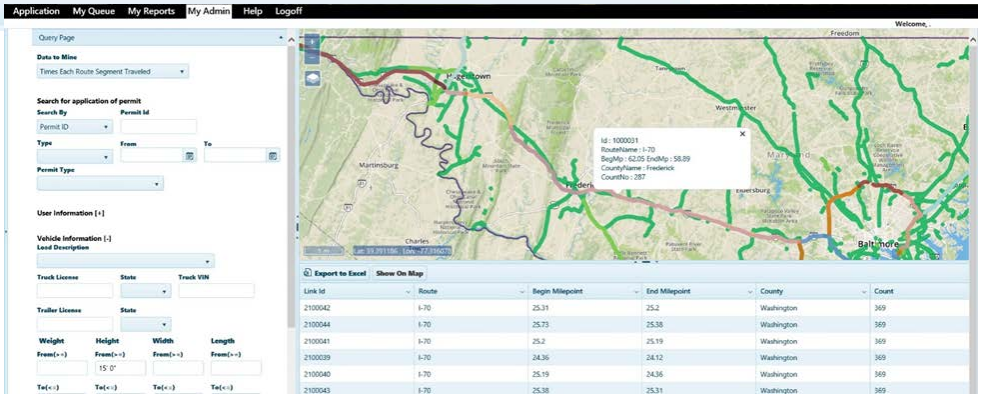
Maryland One Automated OS/OW Permit Application Screen Shot



Real-Time Route Analysis Screen Shot



Historic Route Library Function Screen Shot



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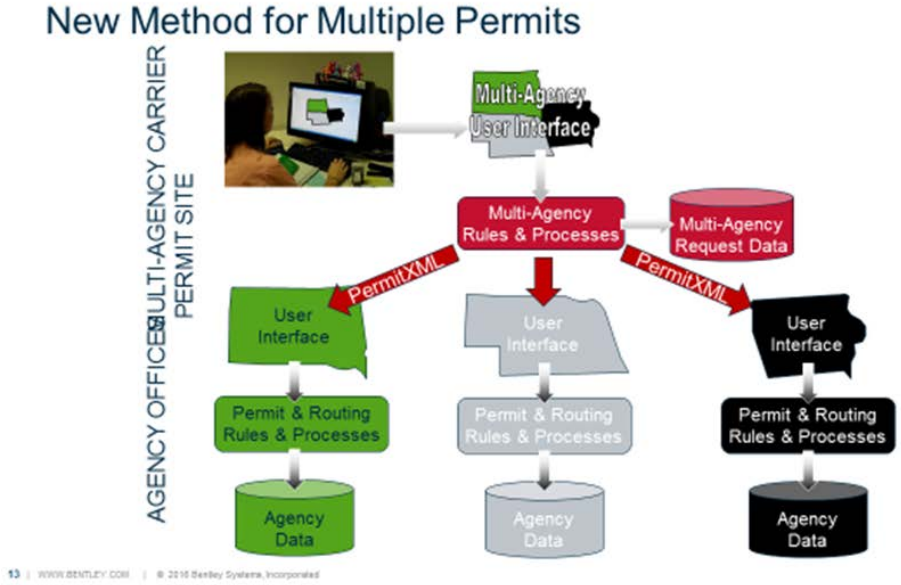
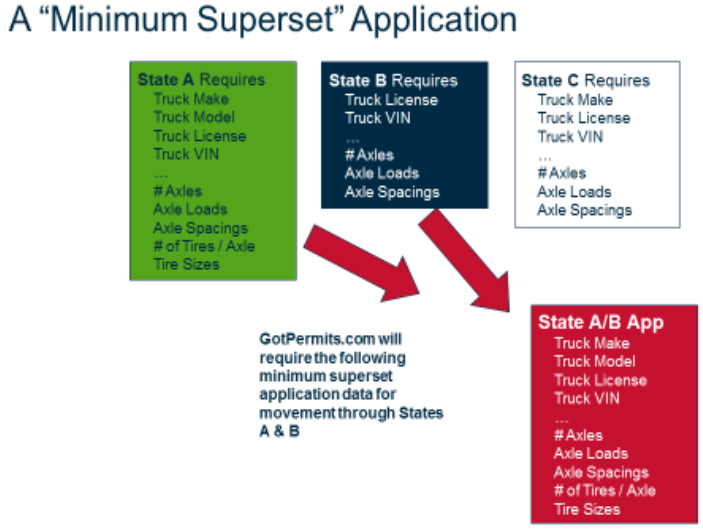
Vendor Systems
Bentley

- GotPermits
  - Enables carrier to submit permit application for multi-State routes
  - Provides user interface links to all States and processes in compliance with each
  - Allows carrier to maintain information about entire fleet:
    - perform own routing with variety of techniques
    - do job/bid reviews at no cost
    - track job numbers with specific permits
    - request reports for accounting and reconciliation
    - immediate permit issuance for most requests

Vendor Systems
Bentley

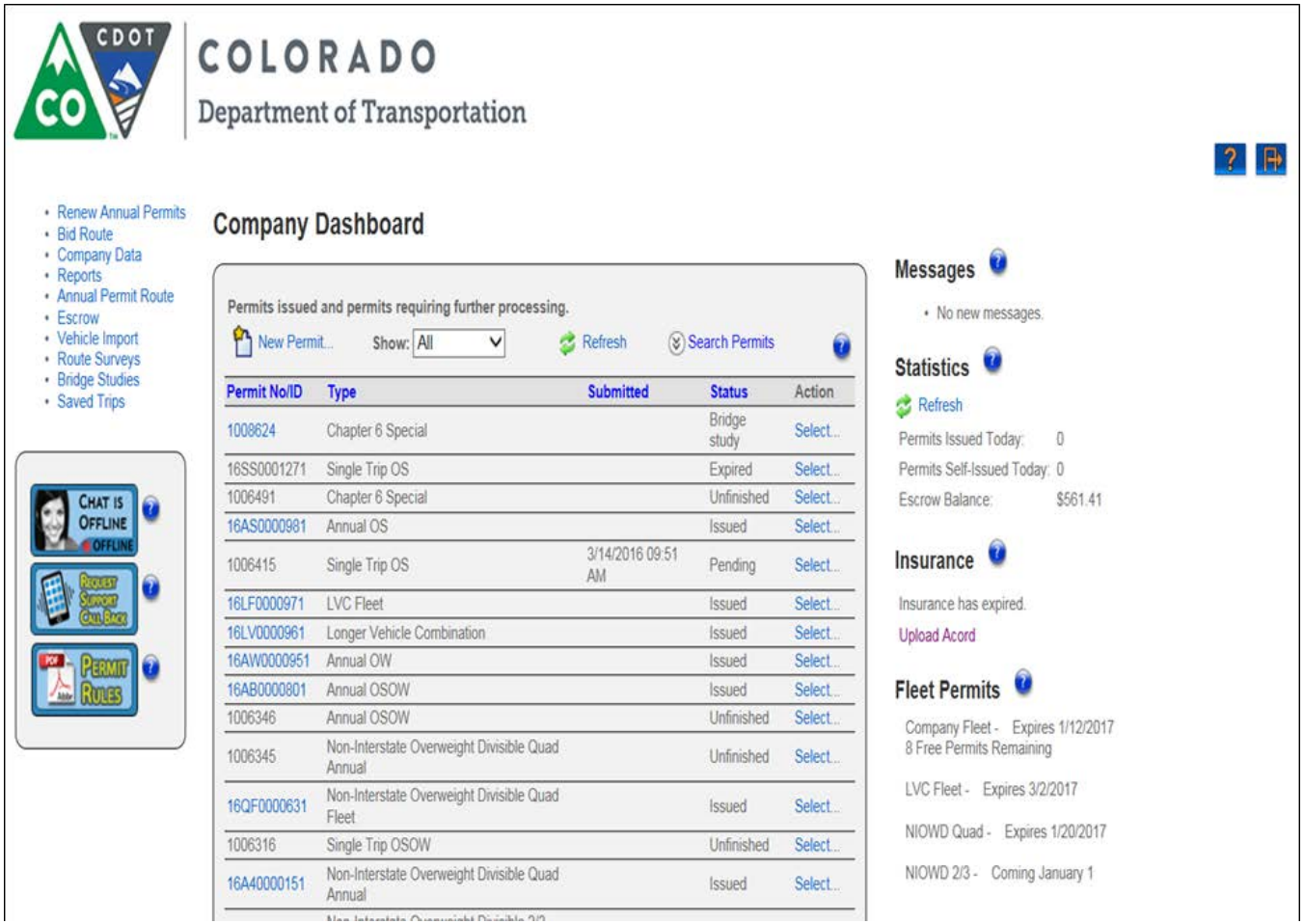




Vendor Systems
ProMiles

- One of two primary vendors
- Customizable Commercial Off the Shelf (COTS) system originally developed for Texas, now is the basis for nine more systems developed
- Components
  - Geographic Information System (GIS) Import Application
  - Aerial Imagery/Topo Maps
  - Integrated Bridge Analysis
  - Bridge Rating Data Source/s
  - Restriction Manager App
  - Reroute Notification App
  - Commercial Vehicle Information Exchange Window (CVIEW)
  - Safety and Fitness Electronic Records (SAFER)
  - International Fuel Tax Agreement (IFTA), International Registration Plan (IRP), and other Jurisdiction Data Sources
- Generates maps showing all State and local roads using GIS data
- Upgrade planned: Onboard navigation system with voice directions to the driver

Vendor Systems
ProMiles



Vendor Systems
Oxcart

- For government permitting offices, Oxcart is tailored to meet local ordinances and threshold requirements.
  - Vendor is developing a GIS mapping system allowing users to expand, collapse, and manipulate a map to identify routes and restrictions.
  - Local government agencies will be able to drag and drop permanent and temporary route restrictions with system generating notices of changes in route restrictions to all open permit holders.

Vendor Systems
Oxcart (continued)

- Carriers submit all local permit applications through Oxcart web-based application. Oxcart processes and submits application to appropriate local permitting agencies. Once approved, Oxcart provides carrier with the permit for download and print, or access by smartphone, tablet or other device.

- Library function allows carriers to add, delete and clone an unlimited number of vehicles and combinations. Route library function will come with a new GIS mapping system, allowing carriers to store company information and payment data, for quick submission process. Credit card payments only.

OS/OW Vehicle Permitting State of the Practice Summary

Automated permitting systems increasing nationwide, bringing safety and efficiency benefits:

- Average permit turnaround time (PTA) dramatically decreased
- Many (30+) States implementing systems increase total permit applications and issuance, with proportional revenue increase.
- Dramatic improvements in accuracy of permits processed and issued
- Higher percentage of carriers have ordered, obtained, travelled on State-issued permits.

OS/OW Vehicle Permitting State of the Practice Summary

(continued)

- Roadway safety for all motorists has improved.
- Integrity of infrastructure, including bridges and overhead structures, improved.
- Cost savings realized: Staff efficiency in review and processing of routine permits frees time for superload review and customer service inquiries.
- More flexibility for States with internal headcount issues.

OS/OW Vehicle Permitting: What's next?

Lightning speed of technology = great possibility for industry:

- Specialized transportation reaps benefits of accurate GPS data, geo-fencing and software integration strategies.
- Cost of using applications should decrease, giving State and local authorities more options to serve carriers.

Pilot Car Training and Certification Programs

- Pilot/escort vehicle operator (P/EVO) 2016 Best Practices Guidelines (FHWA-HOP-16-051 summarized results of extensive research, review, analysis of P/EVO resources. Among sections offered:
  - Pre-trip planning, assignment confirmation, route review, escort vehicle and equipment preparation, driver document checklist.
  - Pre-trip safety meeting re: task assignments, communications planning, review of load limitations, permitted route.
  - Load movement, including knowing the load, laws and regulatory requirements, how to position vehicles per State regulations/requirements, preparing for load movement.
  - Traffic control, including laws about flagging, authority in each jurisdiction, what equipment to have and how to use it, defensive flagging.

Pilot Car Training and Certification Programs (continued)

- Special challenges such as railroad crossings, tillerman operation, tall loads, etc.
- Emergency planning and preparedness including what to plan for
- Activities after delivery
- Post trip evaluation and assessment

Thank You!

Questions

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