Mobile Data Applications for Port Drayage Trucks

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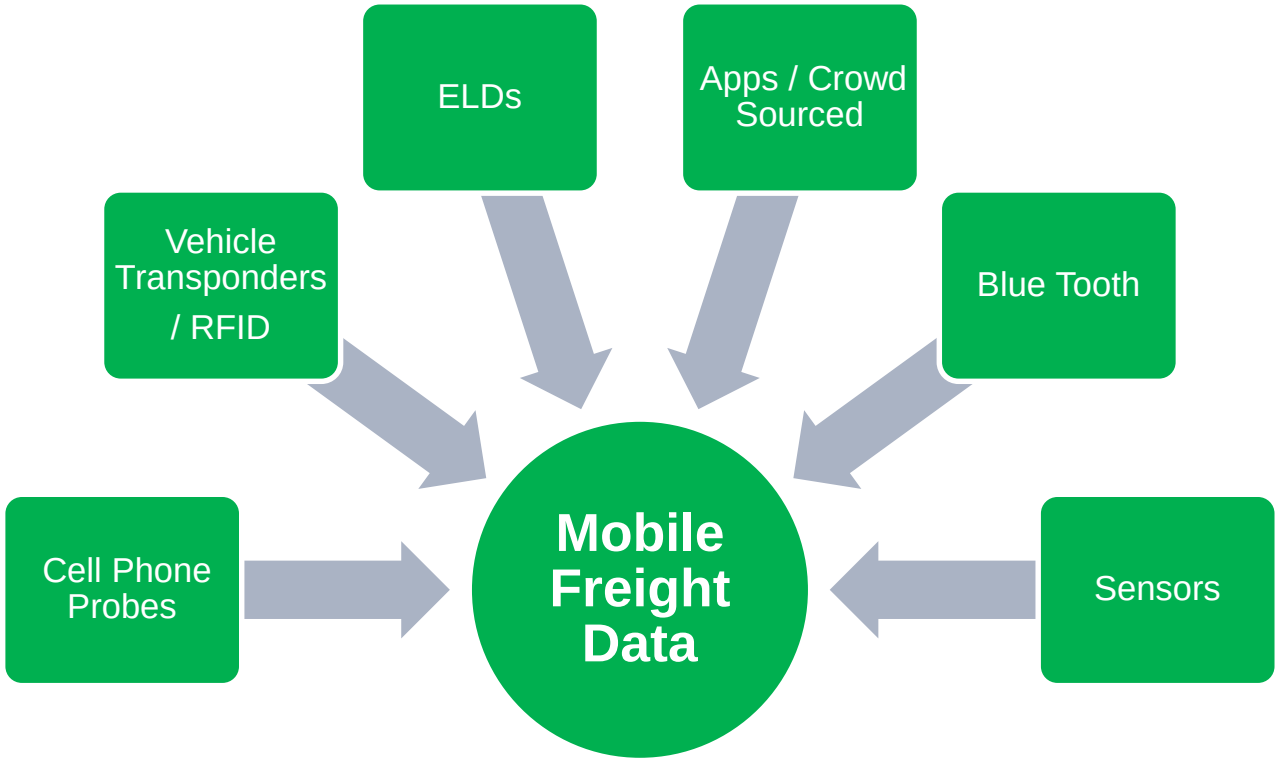
Overview

- **This presentation will highlight examples of how applications of mobile data can help improve efficiency in drayage operations**

What are the sources of mobile freight data?



Examples of Mobile Data Applications for Drayage

- **Port operations**
  - GeoStamp
- **Digital freight matching**
  - LoadSmart
  - Shipwell
  - Other startups
- **Identifying available parking**
  - TPMIS
  - Trucker Path
- **Planning for parking and the identification of unauthorized parking**
  - Maryland Statewide Truck Parking Study

GeoStamp – Real Time Data for Port Operations

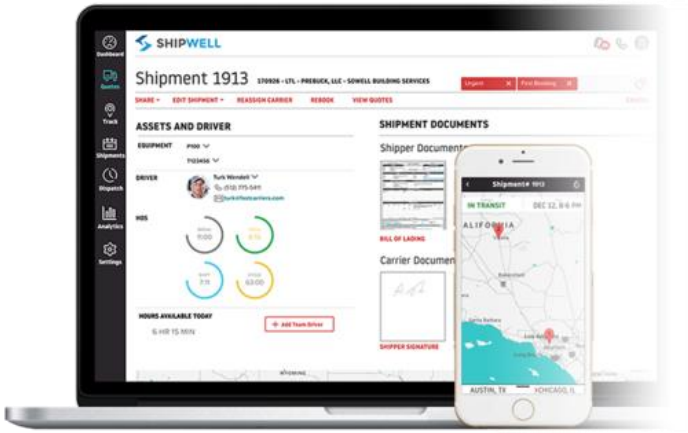
- GeoStamp partners with ports, terminals and carriers to provide real-time estimates of drayage truck turn times at ports and terminal yards
  - Port of Long Beach
- GeoStamp works with GPS providers and also has a mobile app
- Turn-time: the amount of time it takes a cargo truck to enter the port terminal, load or unload its cargo, and exit the port terminal
- Allows firms to geo-fence different areas in the port to identify where the waiting occurs:
  - Queue time
  - Terminal time
  - Customs windows
  - Chassis pits
- Turn time reports allow for improved invoicing.
- Ports and carriers use data to improve operations

Loadsmart – Smart Drayage Initiative

- Recently raised $19 Million to expand Smart Drayage Initiative
- Goal is to change the industry from a container-specific to a container agnostic model.
  - Loadsmart's product, called Drayage Instant Booking enables small- and medium-sized shippers to book a drayage truck in seconds via an application programming interface (API) for shippers
  - Uses "gray pool" model of drivers - specific driver isn't designated to pick up a specific container, but rather picks up the first available container within a pool of participating shippers.
  - Truck drivers get the best container available when they arrive at the port.
  - Reduces the time to get in and out of the port by at least 25% and will reduce container shuffles by 50% for port operators.

Shipwell – Use of ELD Data

- Shipwell improves supply chain visibility through established partnerships with a dozen Electronic Logging Device (ELD) providers
- Uses ELD device data to find best match for hauling loads with available capacity
- Truckers who opt-in can receive notifications for loads in their area. Allows one to determine HOS status of the driver and if it is a good match for the shipper.
- Provides shippers a drayage carrier network to automate the transportation of container freight



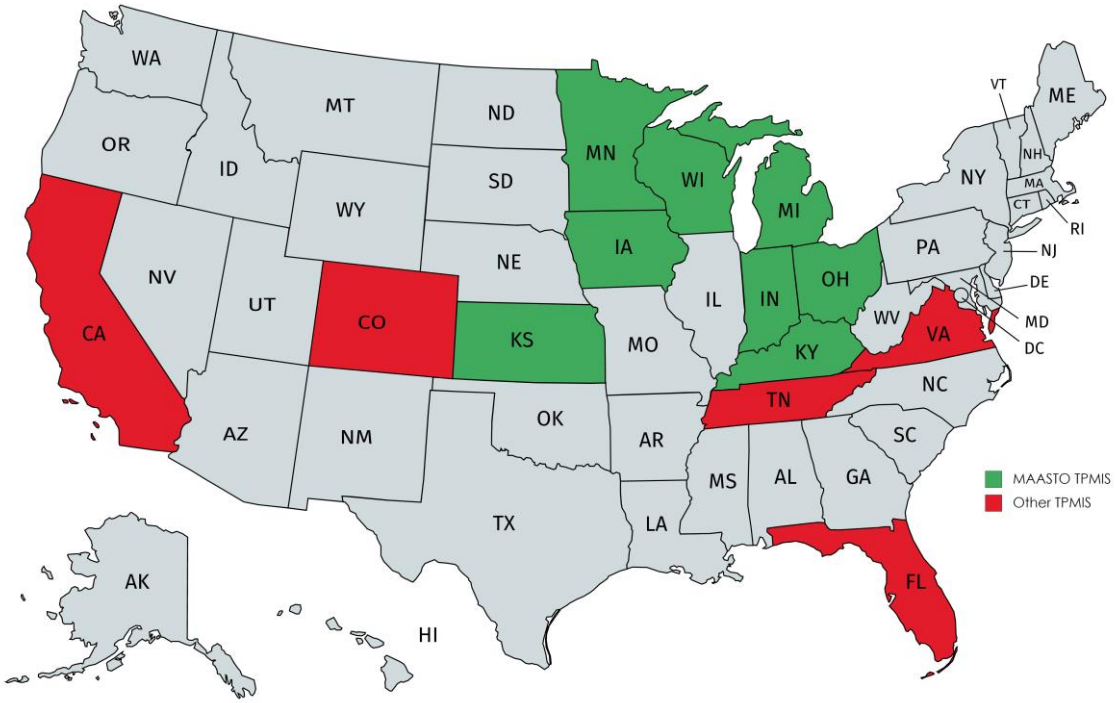
Other Startups Targeting the Drayage Market

- Los Angeles-based **NEXT Trucking** raised $124.3 million to provide import-related long-haul and drayage capacity
- **Dray Alliance** obtained $3.5 million in venture capital in early 2019
- **Terminal 49**, an Oakland-based digital drayage brokerage and visibility provider
- **Opus9 -** 3PL that recently launched digital freight matching platform for drayage – including instant quotes, automated booking and smart matching with carriers
- **E*Dray** lets shippers collaborate to build dedicated stacks at the ports of Los Angeles and Long Beach in Southern California and the Pacific Northwest ports of Seattle and Tacoma, from which any of their predetermined drayage providers can pull.

MAASTO Truck Parking Management Information System

- **Mid-America Association of State Transportation Officials (MAASTO)**
  - TIGER Grant for TPMIS in Eight MAASTO states include Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Ohio and Wisconsin
  - Allows system interoperability across state lines
- **Data from cameras, inductive loops and other sensors**
- **Information distributed via DMS, Smartphone applications, 511 systems and in-cab devices.**
  - Common API developed to exchange parking information
- **System launched January 2019**

State Truck Parking Information Management Systems

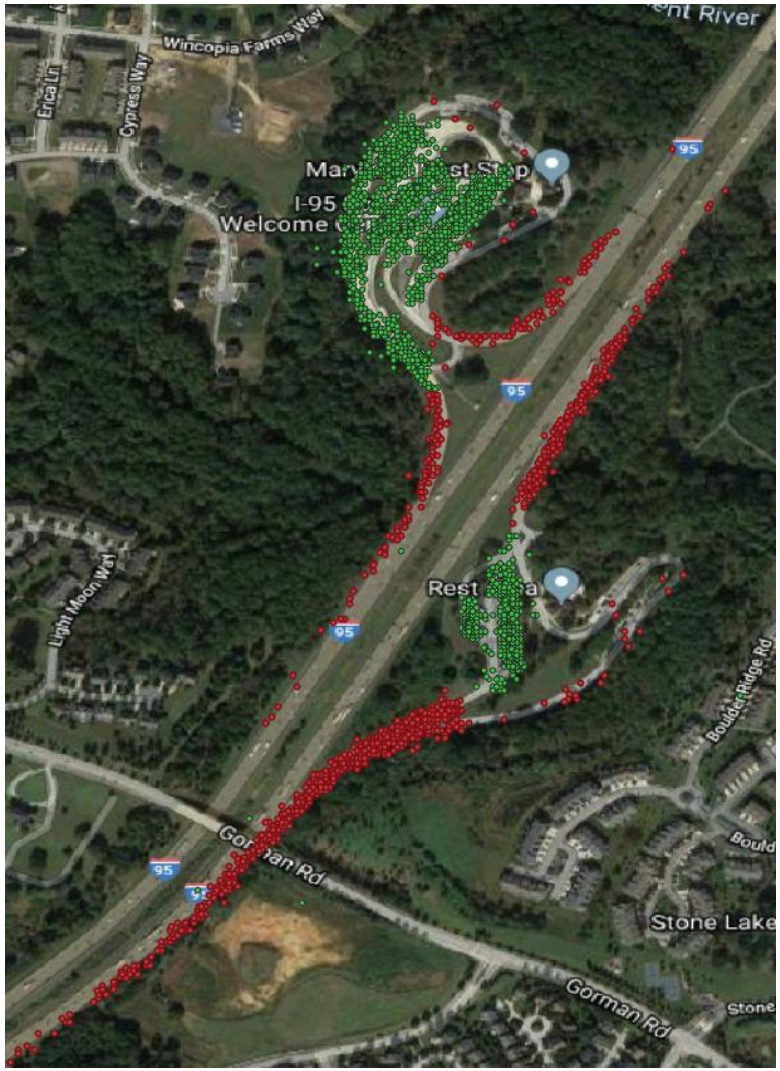


Crowd Sourced Data - Trucker Path Pro App

- **Trucker Path offers an App that aggregates information from long haul truck drivers**
  - Over 1.5 million downloads
  - Features over 6,000 locations where drivers can find available truck parking in real-time
  - Crowd-sourced app has over 400,000 monthly parking updates
  - Also provides a platform to distribute data from public TPIMS
  - Key information
    - Truck parking availability
    - Weigh stations
    - Low clearances
    - Truck dealerships
    - Other Retail

Maryland Statewide Truck Parking Study

- **Analyzed Four Months of INRIX GPS Data**
  - Used to Identify "Stop Events" - over 1.9 million Stops in Maryland
- **Process used to Classify Stop Events:**
  - Identify parcels associated with freight
  - Classify portions in MDOT Rest Areas as designated or undesignated
  - Cluster and manually classify remaining stop events
- **Truck Stop Events Over 3 Hours**
  - 1,300+ Undesignated Stop Events
  - 5,500 Designated Stop Events



I-95 Welcome Center

Conclusions

- **Proliferation of mobile data collection devices and falling costs to process data means that the future will be data rich**
- **Mobile data and digital freight matching have been slow to be applied in the drayage sector, but there are numerous new services coming on-line**
- **Many opportunities to improve efficiency and the environmental performance of the drayage sector through the application of mobile data and associated technologies.**

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