



COLORADO

Department of
Transportation



AVL Systems in Light Fleet Vehicles

-Chris Volkert, Fleet Manager



Light Fleet Telematics – Verizon Network Fleet

- Used in the entire light fleet (3/4 ton and below)
- Integrated with WEX to provide fuel exception reporting to managers through a Sharepoint dashboard
- Reduced paperwork and time required for fuel control / accountability
- Exception reporting process alerts managers to potential issues with fuel purchases, idle time, location discrepancies, other violations





Policy / Procedure:



Automatic Vehicle Locator (AVL)

Light Fleet

Protocol

By CDOT Division of Highway Maintenance

July 29, 2015



Why:

2009-10: Fuel theft facilitated by CDOT employee and external co-conspirators

Using reproduced fuel cards to illegally procure fuel and re-sell it to truck drivers

Stolen from state / taxpayers - \$451K+

Existing fuel controls system was insufficient to detect / curtail loss in a timely manner



Light Fleet Telematics – Verizon Network Fleet

- Our system consists of:
 - VNF unit
 - Key Fob
 - WEX fuel card
 - Driver Pin #
 - WEX report
 - Sharepoint site





Light Fleet Telematics – Verizon Network Fleet

- Notifications:
 - Idle Time
 - Mechanical faults
 - Recalls
 - Location / Geo-fence
 - Driver behaviors as determined by leadership





Fuel Transaction Monitoring

- Key fob IDs driver to vehicle
- WEX card IDs vehicle to transaction
- AVL system correlates location of vehicle and ID of driver
- These data points confirm vehicle, driver, and credit card were all at the pump at the time of the transaction
- Unusual activity generates an exception report, which must be investigated and explained





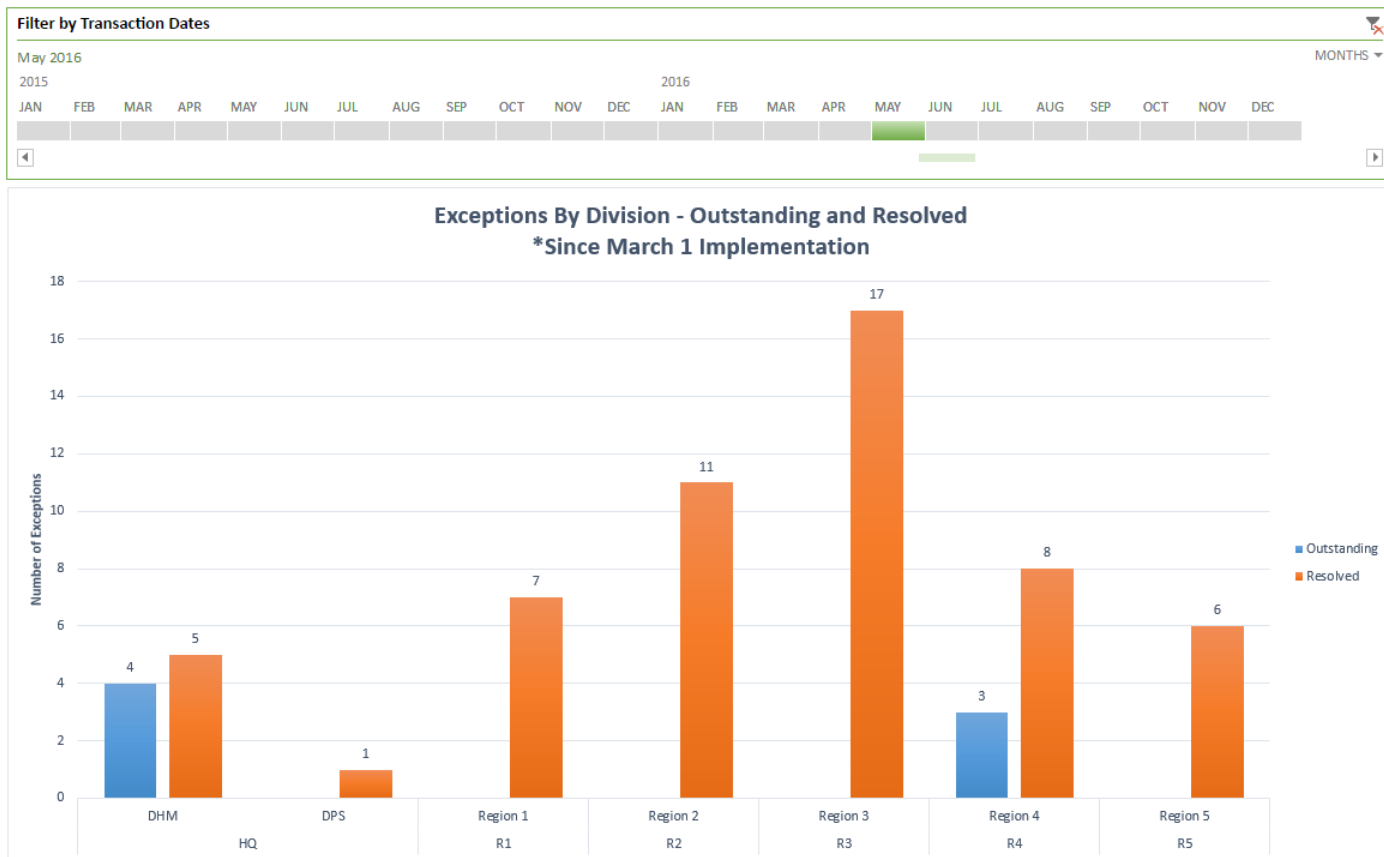
Light Fleet Telematics – Verizon Network Fleet

- Fuel Exception Reports:
 - Driver Count (excessive number of “swipes” or transactions in one day)
 - Non-fuel purchases (washer fluid, motor oil, 1 car wash per month okay)
 - Out of state transactions (without prior approval)
 - Exceeded tank capacity of vehicle in one transaction





SharePoint (Dashboard)



[Click here to view Statewide Resolved Exceptions detail report](#)

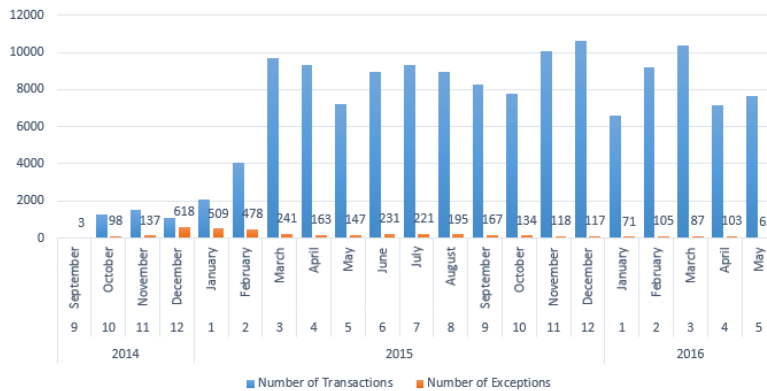


SharePoint (Dashboard)

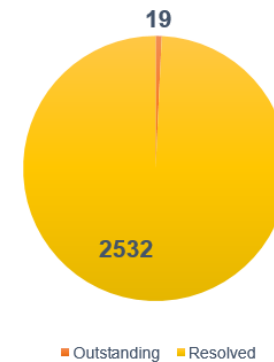
CDOT Fuel Card Tracking > Statewide Exception Report.xlsx

FILE X OPEN IN EXCEL DATA FIND

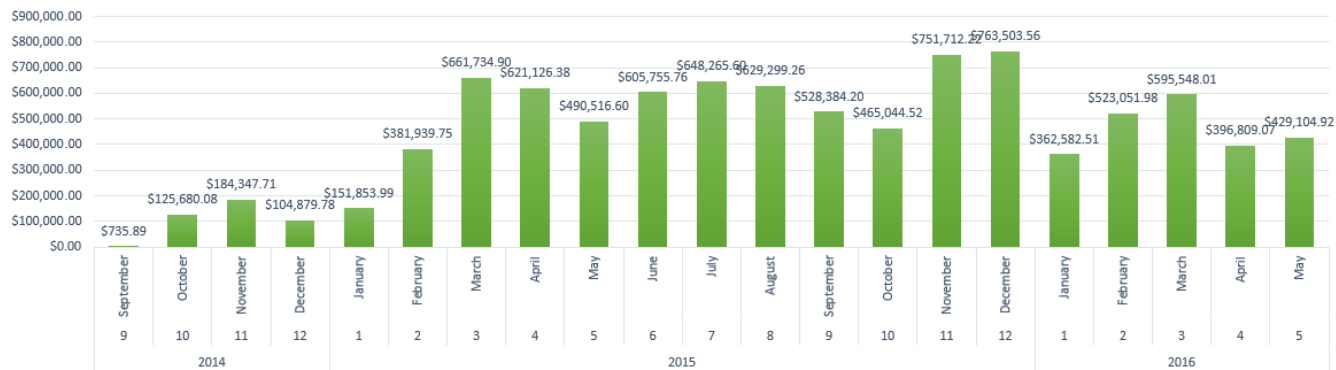
Transactions and Exceptions - Statewide



Exceptions - Statewide *Since March 1 Implementation



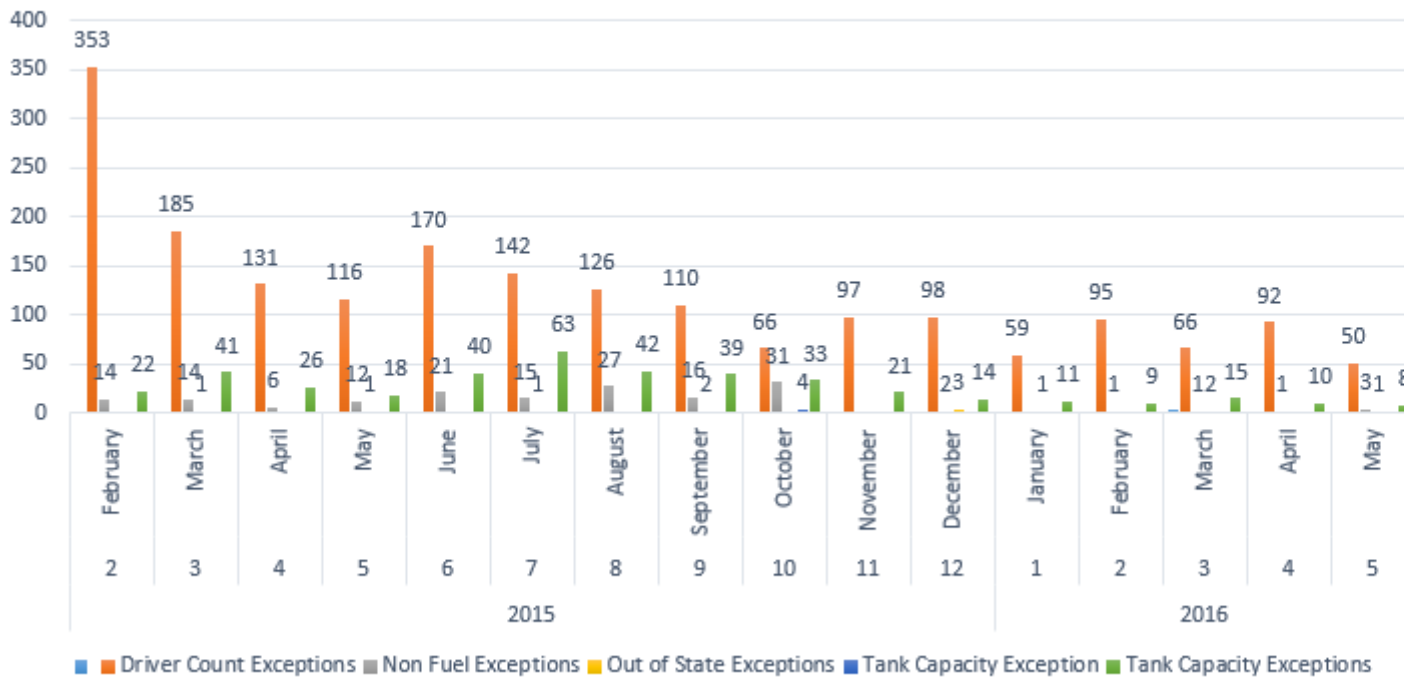
Costs - Statewide





SharePoint (Dashboard)

Exception Types - Month to Month



Drill Down by Division

- Aeronautics
- DAF
- DAS
- DHM
- DPS
- DTD/DTR
- DTM
- OTS
- Region 1
- Region 2
- Region 3
- Region 4
- Region 5



Benefits Realized:

- Fuel Exception Reporting is much easier, quicker, and fewer exceptions to investigate
- Reduced number of improper purchases with fuel cards
- Reduced idle time = less fuel used
- Positive impact on driver behaviors (speeding, improper use)
- Automatic capture of mileage
- Timely awareness of recalls
- Improved awareness of faults, more timely repairs
- Ability to geofence CNG stations, and monitor / encourage their use
- Has been used to protect our drivers from false / erroneous accusations by the public



Goals:

- Eliminate manual tracking of fuel usage (receipts, logs, manual reconciliation)
- Positively influence driver behavior / safety
- Increase maintenance readiness of fleet
- Reduce fuel consumption / greenhouse gas emissions 20% by 2020
- Optimize utilization of fleet



Questions -