alk
A TRIMBLE COMPANY

Best Practices for Better Business

PART 3

TMS Integration for Customization and Tight Control

This document is designed to help companies that are actively researching commercial truck navigation solutions as well as companies ready to successfully implement their CoPilot Truck navigation solution.

CoPilot® Truck

ROUTING ➡ MILEAGE ➡ MAPPING ➡ NAVIGATION

Executive Summary

Reviewing Basic and Advanced Commercial Truck Navigation

- On average, a single truck wastes over **$1,190** per year on Out-of-Route (OoR) costs[1]
- Fines typically cost companies **$1,000** to **$40,000** per incident
- The average cost of a crash is **$265,000**, if a fatality is involved **$11M**[2]
- Toll costs are increasing **3% - 15%** year over year[3]
- Traffic costs the trucking industry **$50** billion annually[4]
- Companies who select fuel/rest stops saving **5% - 10%**[5]

Tighter Control and Review

- Implementing workflow processes eliminates driver keying errors at over **9%**[6]
- Traffic problems, local restrictions, new construction, and new addresses account for 1M new delivery points per year[7]
- U.S. builds an average of 13,788 center-line miles of new roads and widening 31,217 lane-miles per year[8]
- 10% (58,495) of the US bridges are structurally deficient[9]
- Driver turnover is a staggering 102% at large truckload companies (average cost of hiring a driver is $5000) and 89% at smaller carriers
- The trucking and transportation industry has a driver shortage of 35K-40K[10]

Ensure that what's planned in the back office is consistent with what's navigated, by using CoPilot FleetPortal to create and manage vehicle routing profiles that are sent directly down to CoPilot Truck. Maintain and track compliance to the navigated route with CoPilot FleetPortal and/or our Route Compliance add-on, in both real-time and post trip analysis.

[1] An Analysis of the Operational Costs of Trucking, a 2013 Update; American Transportation Research Institute

[2] 2015 Pocket Guide to Large Truck and Bus Statistics; USDOT FMCSA; April 2015

[3] Hit the brakes: Nationwide, toll road debt grows to almost $19 million a mile; Pennsylvania Watchdog.org, Melissa Daniels 9/19/2013

[4] Traffic Costs Truckers $50 Billion Annually as Infrastructure Spending Lags; Trucks.com; 4/25/2016

[5] Sokolis Group

[6] Soukoreff, R. W., & MacKenzie, I. S. (2003). Metrics for text entry research: An evaluation of MSD and KSPC, and a new unified error metric

[7] Postal Facts 2015; United States Postal Service

[8] Highway Statistics 2000 and 2013; Federal Highway Administration; American Road & Transportation Builders Association

[9] American Road & Transportation Builders Association 2016

[10] American Trucking Association 2015

Next Steps

After implementing basic and advanced navigation best practices you can still drive additional financial and operational gains for your company by automating many planning, dispatch, and navigation procedures removing human errors and measuring performance.
Tighter controls require extensive TMS integration that can feed the details necessary for address-to-address (geocoded) planning and turn-by-turn navigation rather than the traditional zip-to-zip implementations. ALK's PC*MILER has the ability to not only drive down to that level, but to support advanced planning and management tools with a wide range of data resources and integrations. CoPilot Truck runs on the same routing algorithm as PC*MILER, delivering the planned route and back-office approved route directly to the driver.

Workflow integration with your TMS is a good option, as it is less complicated to implement. However, it is recommended to align avoids and favors (local knowledge for preferred routing) in both PC*MILER and CoPilot Truck. PC*MILER offers additional advanced features like predictive traffic, Hours-of-Service (HOS) planning, least cost tolls, stop optimization, and Via Point Sets that help generate stops and waypoints needed to execute the optimized planned route .

Best Practices

Geocleansing with PC*MILER

- 6 digits of precision after the decimal place
- Address clean up

ALK highly recommends using geocodes for accuracy, which help to identify the truck entrance rather than the office entrance. For workflow implementations it is of the utmost importance to use cleansed geocodes for the best experience due to strict automated routing. ALK provides a FastPass Analysis to help you jumpstart geocleansing efforts by taking your customer address and geocodes and comparing them with ALK data to identify errors and geocode differences within your data. Typically an 80/20 rule applies where 80% of the data is good and 20% needs to be cleaned.
A FastPass Analysis delivers a starting point and focus for your cleansing process.

Route Modifiers

- Avoids/Favors

Customized Avoids and Favors functionality was created to apply to selected road segments, providing the capability to direct your fleet around problem areas Due to constant map updates the actual segments can change over time so it is recommended to convert them to the latest version of PC*MILER and the latest map data set. Some review and adjustment may still be required. The Avoid/Favor file can be exported from PC*MILER and imported into CoPilot FleetPortal for dissemination to all devices running CoPilot Truck.

Whether you have a workflow implementation or not, you need to use CoPilot FleetPortal to send Avoid/Favor data to CoPilot navigation so that routes generated will apply the custom data.

Route or Trip Creation

- Workflow with navigation

Workflow is a solution offered by telematics service providers, which when integrated with your TMS system, can send pre-sequenced stops down to the workflow application, in the truck, that launches CoPilot navigation. Workflow offers dispatchers more control over their driver/truck's execution. The entire set of stops is provided to CoPilot to create the full trip or individual stops, based on the truck/routing profile. This profile selection process supports changes of equipment (e.g. drop and hook) and changes in cargo (e.g. non-hazmat to hazmat flammable) for optimized routing based on new legal constraints/restrictions.

Route Compliance and Corrective Action

- CoPilot FleetPortal for Route Compliance reporting

CoPilot FleetPortal and the Route Compliance add-on provides clearer visibility of your fleet's planned and post-trip routing activity for deep analysis.   If you have purchased Route Compliance, CoPilot FleetPortal becomes more than just an administration tool. When the driver starts navigation, the CoPilot route will be sent to the portal. While on the route, GPS readings will be recorded every 5 minutes and if they go off route the GPS readings will be recorded every 2 minutes. CoPilot FleetPortal has a setting to send a notice to an email address (established by the customer) each time a driver goes off route.   The next communication is when thedriver reaches the stop. Once all stops are completed the actual route driven will appear with dashes/dots along the map with icons, that can be clicked on to show time and duration for when they left the route, how long they were off, and what mileage they drove.

Achieving ultimate route compliance can seem daunting if looking at the entire fleet. Use Groups to manage how you want to segment reporting and email notifications when drivers go out-of-route. Best practices are to establish certain groups for your reporting needs, but do not establish profiles for those groups. Set groups for establishing profiles to control your vehicle routing, allowing for one designated set of profiles and groups to make changes when necessary.

Review your route compliance options with your TMS and TSP to ensure you are obtaining what you want out of your route compliance reporting. Specifically, some systems (TMS and TSP) have less granular actuals (e.g. 15 minute intervals whether on or off route) and some provide real-time location reporting, normally as an extra option. ALK's Route Compliance add-on is focused on what the driver is being told and what they actually did while navigation is running.

The Road Ahead

The future is exciting for map data, data sources, and navigation enhancements. More sources for accuracy in weather predictions and forecasting ground conditions, traffic cameras, more traffic history, and vehicle cameras will allow companies to keep their drivers safer and make deliveries more predictable. ALK has built a strong foundation on which it will continue to grow as technology evolves.

Your Next Steps

- Start Geocleansing now
- Evaluate current navigation and desired enhancements
- Engage your TMS provider in workflow estimates

Great navigation requires the input of great details. By gathering the data customized specifically to a fleet and hauling criteria, the time spent on the road will be compliant and cost-effective. Utilize ALK to analyze your customer addresses and geocodes easily, helping to maintain the health and integrity of your address database and safely guide your fleet.

Identify the next tier of enhancements requiring TMS and PC*MILER features like heavy use of Avoids/Favors (local knowledge for preferred routing), predictive traffic, HOS planning, least cost tolls, stop optimization, Via Point Sets, custom routes, and others to execute an optimized planned route. A workflow implementation with Route Compliance is the preferred option.

Take the extra steps to customize your navigation solution to suit your company's needs. Contact us at bestpractices@alk.com to use our actionable checklist to get you started.

Additional Resources

1   Contact your ALK Sales Representative for the actionable checklist specific to this whitepaper
2   Navigation Best Practices Part I – Essentials for Commercial Truck Navigation
3   Navigation Best Practices Part II – Advanced Commercial Truck Navigation
4   Navigation Best Practices Part III – TMS Integration for Customization and Tight Control