

Transportation Optimization for Improved Private Fleet Management

CHALLENGE:

A leading dairy (the “client”) was performing inbound transportation planning for its private fleet and dedicated carriers using several unrelated tools. Their workflow was reliant on manual processes, moving data back and forth between an order management system and a fleet telematics tool from unrelated providers. This arrangement, while problematic for any transportation program, was especially troublesome for this client due to the high perishability and ever-shifting demand for milk production. Moreover, the specific grades, types and qualities of milk – each with its own specific delivery requirements – added another layer of complexity to the inbound transportation planning process.



As a result of the inadequate tools and processes dedicated to inbound transportation planning, the client was investing a high level of man hours in manually optimizing these inbound shipments. This practice relied heavily on the “tribal”

CUSTOMER

Leading Dairy Producer

CHALLENGE

- Difficulty aligning best routes with required pickup windows
- Variable grades of highly perishable product complicating planning
- Too many man-hours dedicated to load & route planning/optimization
- No integration between order mgt and fleet telematics tools

SOLUTION

- LoadFusion Optimizer built routes while simultaneously considering such multiple variables as milk types, pickup windows, equipment constraints, driver HOS and more
- LoadFusion integrated with fleet telematics and order mgt systems
- Modeling environment established to test plans without disruption to operations

RESULTS

- Driver and equipment utilization improved
- Route optimization saved 10% on transportation costs
- Demand planning saved an additional 8%
- Automation cut planning time by 90%
- Empty miles reduced
- Compliance with business rules, DOT regs and union work rules enforced

knowledge possessed by the client’s experienced staff. In spite of these labor intensive efforts, the high variability of product and production schedules continued to outpace the speed at which transportation could be optimized. The resulting drag on efficiencies translated to under-utilization of equipment and drivers which manifested in higher transportation costs.

SOLUTION:

The client engaged the LoadFusion Transportation Optimizer from UltraShipTMS to take control of all inbound transportation planning for its private fleet of tanker vehicles.

LoadFusion was configured to capture the numerous, detailed inputs relevant to the client’s transportation planning process including:

- Farm pick up request (histories, schedules, frequencies, etc.)
- Quantity of milk produced at each farm
- Specific pick-up window(s) preferred by each farm
- Protein/hormone levels of delivery-ready milk product
- Daily demand levels at client plants
- DOT regulations
- Union work rules
- Number of trucks in the fleet

The LoadFusion tool was also set up to capture real-time information from client’s fleet telematics system and their order management system, pulling data from both systems into the optimizer. It became immediately apparent when seeing all the data in a single view, that there were peak periods wherein equipment utilization and capacity would be strained. (Figure A).

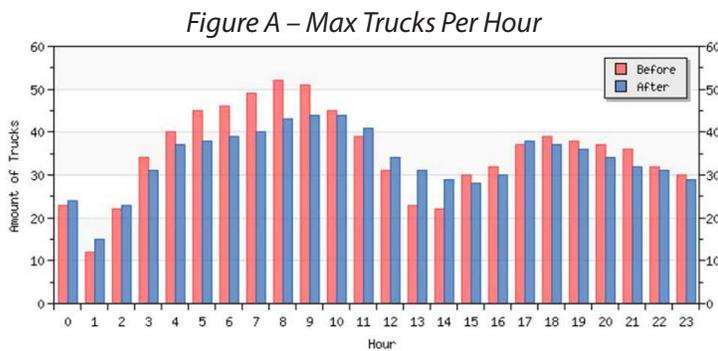


Figure B

	Route Statistics	
	Before	After
Trucks	95	78
Total Empty Miles	6,110.00	6,110.00
Total Empty Legs	329	329
Total Loaded Miles	6,322.20	6,322.20
Total Loaded Legs	381	381
Total Miles	12,432.20	12,432.20
Total Weight	15,190,696	15,190,696

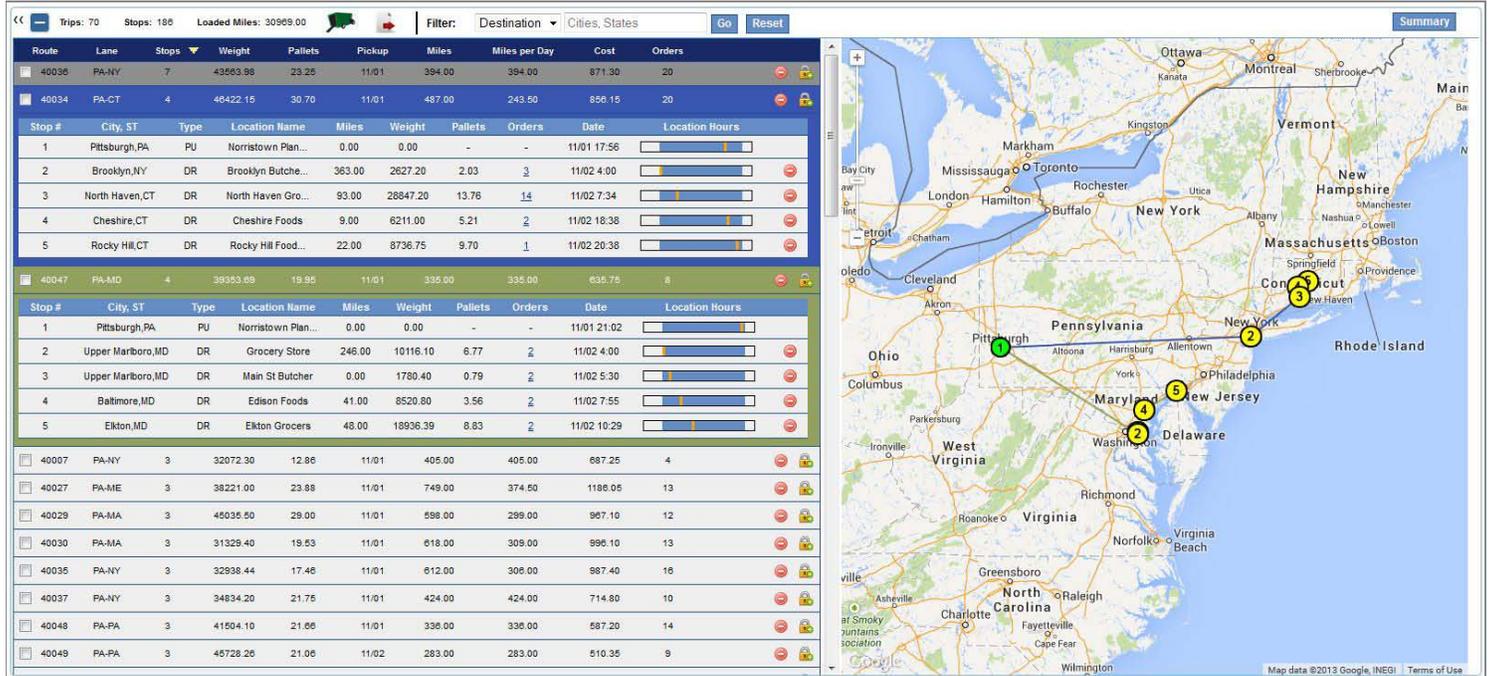
Route optimization alone saved this client 10% on transportation and an additional 8% via improved demand planning for a total optimization savings of 18%.

The optimizer’s ability to perform complex calculations accounting for all the variables allowed planners to run unlimited modeling scenarios, testing hypothetical changes to pick-ups and deliveries; without disrupting day-to-day operations. Transportation planners were now able to easily review farm schedules to identify potential modifications to farm pick-up request times. They were also able to model hypothetical driver shift changes and equipment substitutions to zero in on the most efficient utilization of these resources.

With the supply side of the program shaping up nicely, the LoadFusion algorithm was focused on demand planning functions. By leveraging the demand level data from the client’s order management system, and cross referencing it against historical production, client transportation planners were able to balance order demand with the specific types of supplies available at multiple farms, sourcing product from the location with lowest transportation costs.

RESULTS:

Over the course of a few months, the client was able to arrive at the optimal plan for using the fewest trucks, logging the fewest miles and the fewest number of drivers to pick up the maximum volume of product to meet their customer demands. Route optimization alone saved this client 10% on transportation and an additional 8% via improved demand planning for a total optimization savings of 18%. (Figure B).



The automated process enabled by the LoadFusion tool vastly boosted efficiency, cutting planning time down by 90% over the manual processes it replaced. Purchase order information from the order management system was quickly aligned with existing supply and shipments were then optimized using real-time vehicle positioning and hours of service data captured from in-truck telematics. As a result, the client was able to make the best decisions based on equipment and driver availability. Rapid fluctuation in product availability was no longer a cause for concern as the LoadFusion interface, with easy drag and drop capability, made late-breaking location changes easy to accommodate and quickly re-optimized.

Transportation planners saw a significant reduction in overall miles traveled (and empty miles) resulting in fuel savings. More efficient driver and equipment planning improved the

dairy's ability to pick up raw product on time, and enabled more consistent production scheduling. Plus, matching shifting demand more closely with supply ensured the company was consistently capturing the best transportation costs from the closest possible farm source. Improved compliance with business rules, DOT regs and union work rules protected the company from potentially costly fines and penalties. Overall, the solution reduced the number of trucks and drivers needed to move the same amount of freight.

Lastly, as is illustrated in figure A, the LoadFusion optimization successfully smoothed the demand curve, producing a more equalized distribution of trucks for pickup or delivery throughout the day.



UltraShipTMS offers award winning software-as-a-service solutions to leading shippers in food production, packaging, retail and other industries. UltraShipTMS and the LoadFusion transportation optimizer provide a single-source solution for optimization, transportation and settlement for in- and out-bound shipping across all modes of transport. Built and supported by a brilliant team of transportation industry veterans and software developers, UltraShipTMS is an emerging leader in the supply chain management industry.

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