Fleet Routing: A Case Study

Point A to Point B,

A Better Way

Executive Summary

Optimized routing creates efficiencies and decreases costs

What

Optimization of fleet routes

When

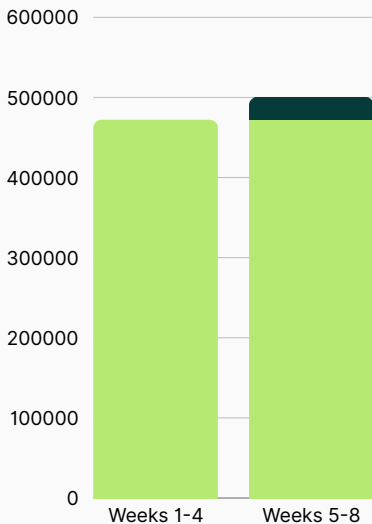Eight-week time period from May to July of 2023

Through optimized routing of NT Logistics, our customer was able to see an immediate positive impact on its fleet costs.
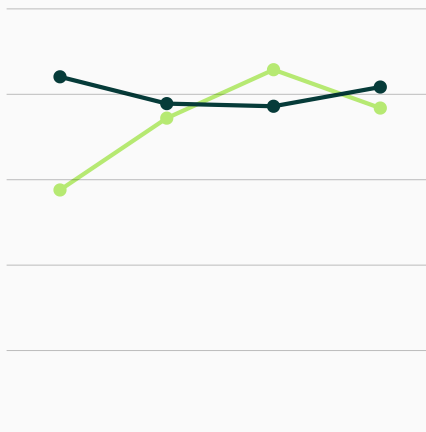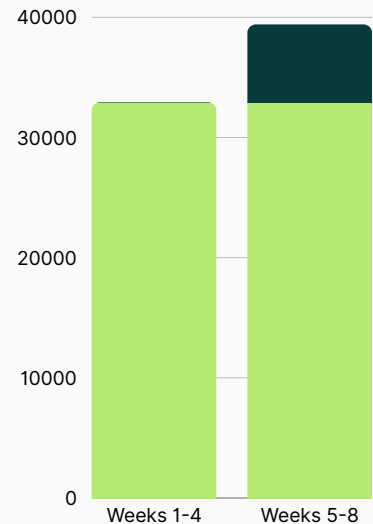
16% fewer trucks

8% reduction in stops

6% increase in total lbs

9% increase in lbs / stop

20% increase in truck weight

	Weeks 1-4	Weeks 5-8
600000		
500000		
400000		
300000		
200000		
100000		
0		

	Weeks 1-4	Weeks 5-8
40000		
30000		
20000		
10000		
0		

The Background

Purpose and Definition
Behind the Case Study

Purpose

The primary purpose of this analysis was to highlight potential opportunities for improvement within a medical supplier's network via optimum sequencing of orders for this data set over this specific date range. The main areas NT Logistics focused on for potential improvement was making all delivery windows, and still running the least amount of miles.

Optimization Defined
A network is optimized when the practical least landed cost of delivery is achieved for the entire data set or set of orders shipped for that period of time, and each order is delivered in a window acceptable to the end customer. To accomplish this analysis, eight weeks of real, "as routed" data was extracted from the TMS system and then manipulated through two additional scenarios using our routing optimization software. Once the routing scenarios were completed, the output was visually inspected to ensure that the software's output was feasible from a practicality standpoint.

Scope and Parameters

How the Case Study was Defined
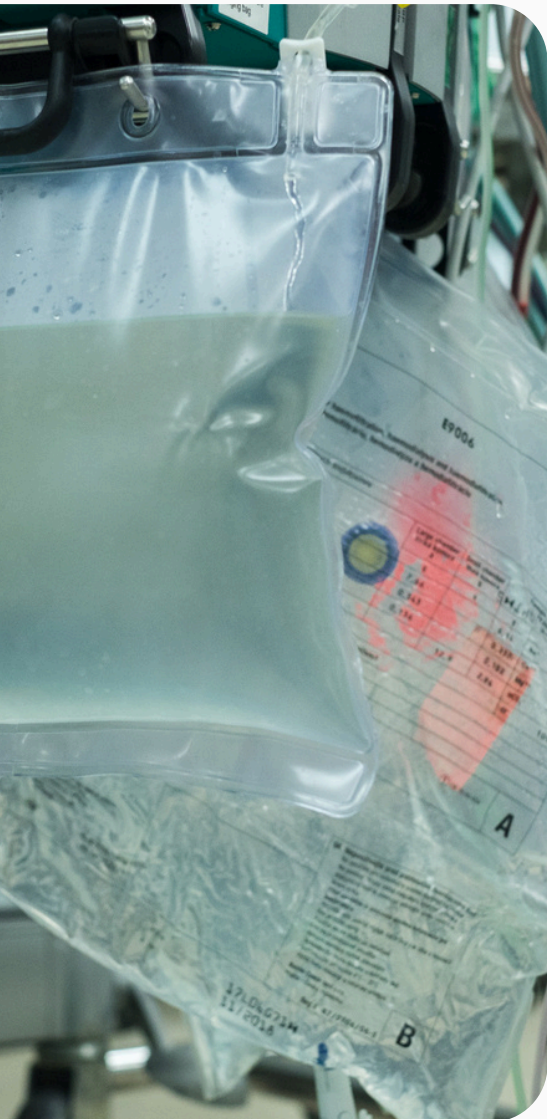
Study Parameters

The boundaries of this analysis where divided into two distinct scenarios:

(1) four weeks (5/19/23-6/9/2023) of raw TMS shipments data as executed

(2) the following four weeks (6/16/23-7/723) - including the same shipments - re-routed with maintained delivery requirements as to the specific day that orders are usually ready.

This analysis would take the current usage of routed trucks (as well as orders) and rearrange the distribution in attempt to find not only a more efficient way to allocate multi-stop truckload shipments but would also help to establish a benchmark for the most optimal state of distribution for our customer.

The Data

The Data

The comparison below outlines the differences between the first four weeks of data and the second four weeks of data once optimal routing begun.

	# Trucks	Total lbs	Total stops	Avg lb/ truck	Avg lb/stop
Week 1	14	443,586	144	31,685	2,880
Week 2	16	476,241	123	29,765	3,721
Week 3	15	501,724	117	33,448	4,288
Week 4	14	456,821	119	32,630	3,839

	# Trucks	Total lbs	Total stops	Avg lb/ truck	Avg lb/stop
Week 5	12	487,824	116	40,652	4,205
Week 6	15.5	603,050	147	38,906	3,891
Week 7	9	338,689	88	38,601	3,860
Week 8	14	571,945	130	40,853	4,085

	# Trucks	Total lbs	Total stops	Avg lb/truck	Avg lb/stop
Results	16% fewer	6% increase	8% reduction	20% increase in weight	9% increase

Contact us for further inquiries

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