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Forecasting for Schneider Electric

Background

Schneider Electric provides energy management and automation hardware, software and services. Schneider's Australian operations contacted Opturion to investigate the cost-effectiveness of their transport operation, and whether it would be beneficial to change to a different operating and cost model. Opturion provided Schneider with an analysis of 6 months of transport plans across five states, and allowed it to make a strong business case for changing their transport model. In this case study, we will go through the parameters and assumptions of this modelling exercise, and present some of the benefits.

Booking System

Schneider operates distribution centres(DC) in each Australian state and territory. From these DCs, electrical equipment is delivered to business customers using a 3PL provider. At the time of this project, the contract with the 3PL was due to expire, and alternative options were sought. In particular:

- The incumbent contract was based on a cost per drop and per kg model; it was suspected that that model was not very effective for Schneider.
- Schneider showed interest in more control over the transport execution, e.g. to allow it to give preferential time windows to particular customers.

In order to make a business case for change, Schneider contacted Opturion, as well as some other providers, to do a proof of concept on what an optimised transport plan would look like. After an initial one day analysis, Schneider decided to procure a more comprehensive analysis based on six months of delivery data. They decided to go with Opturion. One of the reasons for this was the Opturion platform, which provides the capability to respond quickly to changes in the operating model.

The analysis was based on the following model:

- A diverse fleet of vehicle types is available: 1 tonne and 2 tonne vans; 4, 6, 8 and 12 tonne taxi trucks; and semi-trailers;
- Each vehicle type has a set cost per hour, which varies by state and by whether it operates within or outside a metropolitan area;
- No stem and return mileage to be considered;
- Fatigue management as per Standard Hours (National Heavy Vehicle Regulator)

Furthermore, we considered the following scenarios:

- Metro deliveries only vs including outer-metropolitan
- Deliveries between 7am and 1pm vs between 7am and 3pm

In total, this results in (up to) 4 scenarios per state (only metropolitan orders for SA and WA).

Expectation and Analysis

There were certain expectations at the start of this exercise, some of which were confirmed by the analysis, but some of which were not:

- The cost to serve for outer metropolitan jobs was expected to be substantially higher than that of metropolitan ones;
- There was an expectation of using fewer, but larger, vehicles;
- There was an expectation of reducing costs by allowing deliveries up to 3pm.

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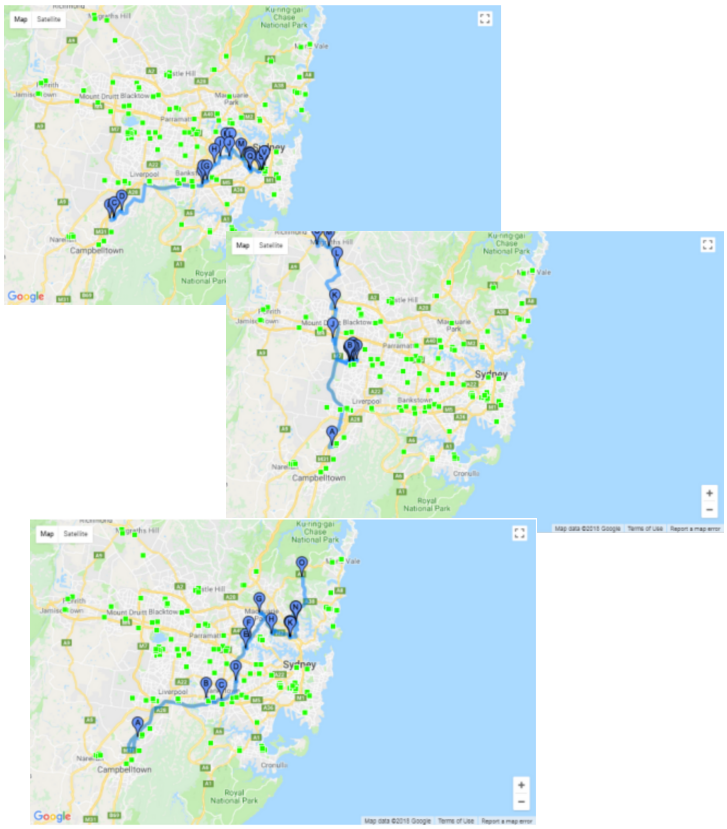
The analysis confirmed the first expectation (mostly for NSW and QLD, as it includes Newcastle to Wollongong; Sunshine Coast to Gold Coast). However, because vehicles do not need to return to base, it is often beneficial to have routes radiating outwards from the DC. Vehicle capacities, nor time windows, were much of a constraining factor in this case.



The results did show that there was substantial benefit in changing to a cost per hour model. There was an asaverage of 639 deliveries across 46 vehicles.

Results

The analysis and resulting business case led to Schneider putting out a tender for 3PLs to run their transport operation. In order to guarantee that delivery routes are as efficient as possible, they have mandated the use of the Opturion solution.

This case study shows that route and fleet optimisation is important for any business that requires transport and logistics services.

As 3PLs pass on their costs in one form or another (e.g. regardless of whether it is a cost per drop or cost per hour), it is essential that they operate in the most efficient way.

The delivery contract was won by Startrack and the Opturion optimiser is now creating daily run sheets to support the operation of their fleet.