Control Towers – to centralise or not?

SpringTide's John Bryant looks at some of the considerations that should be taken into account when deciding what processes to put in place for vehicle scheduling.

Background

Vehicle despatch planning is a varied process with every possibility of requirement from single despatch point and full loads to multiple despatch points and multi-drop loads.

An additional complexity is that combinations of the extremes can exist within an organisation: there may be a requirement to source a local delivery network from national or regional distribution centres in full loads and then distribute to customers using multi-drop vehicles.

As well as the outbound journeys, other factors need to be considered including return trips of inbound stock, returned stock and returnable packaging.

Vehicles may be managed in house or via 3PL or 4PL contracts, or using a combination of all three. Where an organisation has 3PL/4PL transport arrangements in place, a further decision is whether to outsource planning as well as the physical Transport.

At this point it is probably necessary to distinguish between "Route planning" and "Load planning". Route planning is the activity of assigning vehicles to planned loads and Load planning is the aggregation of orders to generate a load.

Route planning can be a relatively straightforward activity that does not generally require complex systems, especially if work is essentially out and back. Combining Route and Load planning usually necessitates the use of specialist software, with trained staff to apply the tool.

Amongst the most common reasons for outsourcing are cost reduction, flexibility and 3PL functional expertise. It is for this third reason that if Route and Load planning is required, it

would be outsourced to the provider. If only Route planning is required, the factors listed below will also impact upon the decision as to who "owns" vehicle scheduling.

Whether in-house or 3PL, the number of planning locations must be evaluated.

Factors driving use of Control Towers or local planning

Kuehne and Nagel1 have defined the role and scope of a Control tower:

> *"The primary purpose of a Control Tower is to organize transport in the most cost efficient way, while they meet time constraints and comply with defined standards...Furthermore the Control Tower provides near time status information about shipments and corresponding commercial orders, retrospective reporting about performance indicators and engineering service to enable continuous improvement.*
>
> *Logistics Control Towers may oversee networks that use a multitude of service providers and require complex transport organization, such as border crossing, multiple regions, multiple modes, merge-in-transit or divert-in-transit. If not well organized, such complex transport requirements could result in high cost, high inventory or low on-time levels.*
>
> *Control Towers take advantage of order and transportation management software applications and facilitate data exchange between carriers, logistics service providers and senders and receivers of goods."*

Typical objectives for a Control Tower may include[2]

- improvement in vehicle utilisation and therefore reduction in fleet size
- proactive selling of the unused space (multi-customer consolidation, backhauls)
- reduction in miles travelled to lower costs and support the company's green policies
- enabling the logistics organisation to act as a lead provider for many customers in a consistent manner
- offering the customer the benefit of being part of a wider network to manage unpredictable demand, such as from e-fulfilment channels
- implementation of a platform for further innovation that can be easily deployed to all customers; the factors, discussed below, that affect where to plan vehicles and whether to set up a Control Tower or retain local planning, are a series of trade-offs.

Local expertise versus economies of scale

Motives to retain planning at a local level include

- a greater knowledge of local geography (whether inter- or intra-country)
- local relationships with regional hauliers

- proximity to production process, and greater ability to respond to issues
- local relationships with customers, supported by local customer services and planning

whilst those advocating a regional or national approach to planning might cite

- reduction in overall headcount costs
- a greater level of software skills (for the planning tool)
- lower transport costs as national agreements can be negotiated
- improved and consistent service standards and operating procedures delivered by a national provider
- centralised and consistent reporting function
- improved order visibility.

The order cycle: organised or chaotic?

The order cycle impacts upon both the mechanics for planning and may also affect the location where it is optimally carried out.

Where the order cycle is well organised and the vast majority of orders have sufficient lead times for planning, then a regional/national centre becomes more attractive.

Where order taking is somewhat chaotic, and short lead times are the norm, then it might superficially seem more desirable to plan at local level. However, a counter argument could be that if communication channels are effective, a regional/national organisation can offer an equally good service at a lower cost. In addition, if order taking is centralised or electronic, customer service decision making and planning may be improved with a regionalised solution.

Number of despatch points

An increase in the number of despatch points would suggest a national/regional solution in terms of the greater economies of scale. Scalable effects include

- lower headcount
- fewer software licences
- reduced hardware requirement
- reduced interface activity between order taking and planning software
- lower training costs.

Summary

A national- or regional-based planning approach can offer lower transaction costs, improved customer service and potentially lower transport costs. However, this approach will not suit all organisations, and the contingent factors outlined above should be examined before deciding whether to centralise or retain vehicle scheduling at local level.

A key decision to make is the scope of any proposed Control Tower, in terms of both geographic spread and also the activities carried out.

Sources
1 Kuehne and Nagel - http://www.kn-portal.com/integrated_logistics/logistics_control_tower/
2 OBS Logistics - http://www.obs-logistics.com/cms-assets/documents/38788-12752.control-tower-management.pdf