

Operation Control Centre (OCC)



An Operation Control Centre is usually a single central space from where (part of) the (public) transport network operations and services are monitored, evaluated, recorded, analysed and influenced.

A customer wishing to change modes can only be provided with good (real-time multimodal) services if there is a strong integration of processes during operations.

In addition to achieving an integrated transport system and integrated fare structure, the sharing and coordinating actions between the various parties involved can greatly enhance the experience.

Staff dedicated to certain (vital) tasks are positioned close together to enable responsive face-to-face decision-making. In addition to operating the infrastructure, rolling stock and dispatching of staff, the OCC is the spider in the web for internal and external communication, safety and security, and the integration of other transport-related operations.

An operation control centre (OCC) is manned by staff overlooking operations. They can communicate with the outside world (e.g. drivers) to intervene in the event of unwanted situations following (un)expected events (changes, diversions, disruptions, incidents and accidents, breakdowns, security and safety issues, high demand, staffing problems, etc.).

The size of an operation control centre can range from very small, with one person simply monitoring one bus line, to larger teams with a hierarchy of leaders, covering a fully fledged transport network, including roads, buildings, police, firemen, security teams, and even the army.

The data and information derived from ongoing operations at an OCC is usually entered (and send out) via the ITCS (intermodal transport control systems) and/or other sources. Based on these and other external inputs, decisions are made to maintain and improve the optimal level of operation and services.

Good practice

Well-organised cities and regions also tend to have well-integrated transport systems. Having shared, or at least linked, operation control centres greatly contributes to the required integration and timely coordination.

The tool used by authorities and operators is called an Intermodal Transport Control System (ITCS), which is the backbone of data and information flowing to and from an Operation Control Centre – the intelligent coordination of transport and other services. Here, staff and vehicles are planned and dispatched, changes and disruptions are managed, customers are informed and real-time data is provided to third parties, statistics are monitored and analysed, and where fares are collected, the operators are paid at the end of the day.

There are OCCs as part of many systems. However, it is the extent of the integration with other modes and services that makes the difference for multimodal/co-modal (information) services.

In Stuttgart, Germany, for example, the central control centre of Stuttgarter Strassenbahnen (SSB) operates the following tasks:

control of the operating schedule; assurance of connections; handling / coordination of radio communication and various information systems; communication / support for the driver via radio communication; acceptance / forwarding of messages / information about operations; breakdown management; information management; service and security duties.

Dynamic passenger information is one aspect controlled at the centre. Benefits for the passenger are: indication of the waiting time until a train arrives; indication about length of the train; indication of the position in which the train will stop; indication of destination and route; information (e.g. about special lines, disruptions, preliminary information); personal support.

The SSB central control station works with: commuter central control station of DB AG (Transportleitung Personenverkehr, Karlsruhe); department for public policy; police department of Stuttgart; Stuttgart fire brigade control room; rescue service; traffic department (NWS) (breakdown management of light signal system); Stuttgart taxis

Potential interchange performance improvement

The OCC enables the real-time aspects to be shared. A bus driver can receive a message to wait an extra 5 minutes for a delayed connecting regional train. This information (after confirmation) can then be announced to the customers (on the train: “you will reach your bus connection...”, on the bus: “we will wait for...”, at the platforms)

Advanced features such as “guaranteed” connections can be included in the concessions. The ITCS can record, and the OCC can optimise performance. Penalties and rewards can then drive service improvements.

Without an OCC, much of this would not be possible (if the various operators do not communicate and decisions are not taken).

Resources

Due to the many possible configurations it is not possible to indicate a cost.

References

Transport operators and authorities, National associations (such as VDV), producers of ITCS and OCC (IVU, INIT, TRAPEZE, etc.), and specialised consultants (BLIC, etc.).

American Public Transportation Association – APTA (2012) Operations Control Centers
<http://www.apta.com/resources/standards/Documents/APTA-RT-OP-S-005-03.pdf>

NODES strategic objective	Contribution
Enhance accessibility and integration	+
Enhance intermodality	+
Enhance liveability	0
Increase safety and security conditions	+
Increase economic viability and costs efficiency	0
Stimulate local economy	0
Increase environmental efficiency	0
Increase energy efficiency	0