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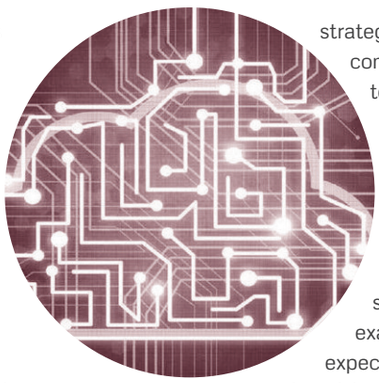
David considers multi-modal transport control centres

It is interesting to watch as an increasing number of tender opportunities are published by organisations around the globe looking to establish a multi-modal transport management centre. This isn't a new concept, there has been a number of co-located multi-modal control centres operating effectively for many years. The step change in today's thinking is that the individual transport stakeholders will deliver a truly coordinated response to travel disruption.



A brand new building incorporating all the individual modes is unjustifiable and not a sensible approach for all sorts of risk mitigating reasons. In the vast majority of locations, control centres will already exist for the individual transport domains, each with their native tactical operational systems delivering a business usual service for transport disruptions in that domain. The cost of replacing the functionality of these systems into an all-powerful new system can't be justified. How then do we achieve an integrated way of operating?

It is an assumption that the transport authority with overall responsibility for the coordination of transport across a region will establish a strategic operations location. From this location, the staff will manage responses to transport disruption as well as delivering a multi-modal travel information provision that focuses on getting the users to their intended destination with minimal disruption using all available transport options. To achieve this the institutional challenges must be overcome. The focus of delivering a single-minded service for individual transport domains will need to change. This may, in a number of cases, require changes to current contracting agreements. A simple example is a bus company who has to meet punctuality KPIs shouldn't be financially penalised for delaying its departure due to the late arrival of an incoming ferry. The need to put the users at the forefront of service delivery should be the highest priority.

From a technical perspective, the delivery of a coordinated multi-modal response to an unplanned incident on the transport network requires immediate notification of the issue and instant sharing between transport stakeholders. Some of the systems around today can deliver that functionality. However, it isn't always easy to achieve data exchange between legacy systems to deliver the required level of enhanced situation awareness for strategic operations. Integration platforms now coming onto the market make the approach to exchanging data with legacy systems easier than modifying existing software solutions to deliver an integrated multi-modal capability.

System-to-system integration isn't always able to deliver all the required information to support the making of strategic response decisions. Using an example where a bus breaks down, the expected time for its removal is one hour and it's 2 o'clock in the afternoon this isn't an issue that the strategic operators need to be aware of as its business as usual for the bus operator. This data is likely to be entered into the bus operator's management system and hence can be exported if required. As time passes the breakdown truck has been delayed getting to the scene, it arrived to find a broken axle which takes longer to deal with. Once the bus is hitched up an oil spill is discovered as is damage to the road surface. We have now gone from a routine breakdown to a major issue for the city centre road traffic managers as the impact will now stretch into the evening peak for that busy area of the city. All these issues can and are addressed regularly however the data about the late arrival of the breakdown truck, the broken axle, oil spill and surface damage were not entered into the bus operator's management system until much later.

What this demonstrates is that system-to-system data exchange can't be relied on in a multi-modal transport environment. We need to implement a way of supplementing electronic data with verbal exchange of supporting and more accurate data. Yes, this can be done by people on the ground entering data using a hand held device, using mobile CCTV images to share situational awareness but it is the speed and accuracy with which the data can be shared that makes the difference. Sharing accurate data quickly enables the other stakeholders to initiate actions relative to their transport domain that is fully supportive in minimising the impact on the transport network users.

What this demonstrates is a clear need for a software-based strategic system to underpin operations but wider institutional engagement will be an integral part of a successful multi-modal transport management approach. It may require changes to working practices but they should be agreed in light of the bigger objective which is the delivery of an integrated transport management facility for the benefit of its users.