Fiona Bruce / Joe Kenny

Cost reduction and resource maximisation in the urban bus industry

A good investment

John Ryan, Regulatory Affairs Manager, Dublin Bus, Ireland

An UITP/EU sponsored Urban Transport Benchmarking Initiative took place from 2004 to 2006. The Public Transport Organisation and Policy Working Group considered the area of cost reduction and resource maximisation within the industry. The author was an active participant in the group and explains some of the initiatives raised.

Staff initiatives

Staff in an urban bus company typically account for approximately 70% of the total costs of the operation and drivers make up the majority of the employees. Even small improvements in productivity can yield significant efficiencies across the company. While commonplace throughout the EU, one-person operated buses have reduced staff costs by almost 50% without having had a major detrimental impact on service quality.

The correct 'driver establishment' level is fundamental to maximising efficiency. Driver numbers should be directly related to duty numbers; too low a ratio will increase overtime or affect service quality, too high a ratio will result in too many drivers.

"Slow or inconsistent bus speeds have multiple negative impacts including increased driver cost, poor fleet utilisation and low fuel economy"

Revenue Generating Time (RGT) is the length of time bus drivers are available to carry passengers, and this should be maximised to improve cost effectiveness. RGT can never reach 100% as terminus layover and 'recovery time' are needed to offset variations in bus speeds. RGT can be maximised by minimising bus movements to garages, between termini and excessive layover. Good bus scheduling, duty rostering, sensible route network design and getting good on-street bus priority will maximise revenue generating time.

Absenteeism rates among urban bus drivers often need dedicated management programmes and careful monitoring, welfare and employee assistance schemes and attention to likely background causes, such as for example cab ergonomics. These factors can assist in increasing availability to work.

An option often used to improve the utilisation of bus drivers is to subcontract parts of the network. Niche markets - especially where there are extreme service peaks or seasonal operations - can often be best served by specialist, local operators, for example schools services.

The role of the traffic supervisor has changed dramatically. Satellite tracked Automatic Vehicle Location systems mean that supervisors can view large numbers of buses "on screen". Software can assist with keeping the traffic supervisor alert to buses behind schedule and modern trunked radio systems allow individual or grouped calls to bus drivers. At particularly busy or congested areas, Close Circuit Television Systems mounted high above the street can relay real time images. Central control rooms can be set up with less staff and better controlling. These control centres can also become hubs for local authorities traffic engineers or local radio stations for traffic updates.

Back office clerical support staff numbers can be reduced due to a combination of factors. Less cash is being taken on buses arising from smart card technology and information / ticket sales are becoming more available through automated mobile phone and/or websites. Computerised payroll systems reduce administration time.

Engineering and fleet maintenance initiatives

Properly planned maintenance of the bus fleet makes good financial sense. Not only does this ensure buses are safe and reliable, but maintenance schedules agreed with and carried out to the manufacturers recommendations give warranties on the failure of major units or structures.

Retaining fleet maintenance in-house has strategic benefits. Multi tasked craft grades are now a necessity to deal with modern technologies as the distinction between mechanical, electrical and electronic units blur.

Some other aspects of engineering / fleet maintenance lend themselves to sub-contracting including bus/premises cleaning, bus painting programmes, tyre checking and fitting and in some instances recovery of broken down vehicles.

Good purchasing practices can reduce cleaning costs by purchasing seat moquette, side panels and floor coverings that are easy to clean and difficult to deface or vandalise. A policy of swift graffiti removal can often stop other taggers adding to it.

Accidents and claims

Some urban bus companies can pay up to 10% of total income on costs of accidents. The two main types are collisions with other vehicles/objects or customer on-bus accidents. An active risk management strategy limits the exposure to the costs of accidents.

Accident reduction programmes can include advanced driver training, route risk assessments and monitoring by either uniformed or plain clothes staff. Programmes targeting those most prone to accidents is effective.

A programme of reducing the cost of accidents (or allegations of accidents) is necessary. Early intervention and good accident and claim recording systems are important in this regard. Multiple digital CCTV units on buses are effective technological tools to assist in reducing actual, bogus and exaggerated claims. However, a robust system is needed to manage CCTV disks as footage is often overwritten after one or two days.

Litigation policies can reduce claims costs. Costs could increase if an urban bus company is known as a soft touch for bogus claims. A policy of taking everything to court - while costly - may have long term paybacks. Pursuing costs against claimants can have the double benefit of reducing costs and deterring others from claiming. There may also be benefits if large public companies or local authorities share information on claimants with claim histories.

Reducing bus operation costs

A core cost area for the operation of urban buses is the speed at which the bus operates. Slow or inconsistent bus speeds have multiple negative impacts

While commonplace throughout the EU, one-person operated buses have reduced staff costs by almost 50% without having had a major detrimental impact on service quality

including increased driver cost, poor fleet utilisation and low fuel economy. Where road space is deemed too valuable a commodity to give entirely over to buses, there are often innovative solutions; a simple 'bus only access' can give buses major priorities along many kilometres of a route. Road markings can often be designed in such a way that congestion is 'queued' where the road is wide, and buses can leapfrog this congestion to join the traffic at the points where it flows more freely. Quality Bus Corridors are schemes where there are up to 40 high capacity buses per hour at peak times operating in dense urban environments at speeds of up to 20 kilometers per hour. Such frequency and capacity can match the carrying capacity of light rail systems and offer additional benefits like reduced costs, reduced construction disruption, flexibility and responsiveness to demographic changes. Options for higher capacity vehicles are available and cost effective with modern tri axle double deck buses now capable of carrying seated loads of 125 customers.Ongoing roadside surveys and network appraisals can ensure bus planners have services where they are most needed and technologies can assist here too – electronic customer counters at entry and exit doors and software to analyse smartcard transactions.

Maximising revenue streams

Urban bus companies can often overlook the benefits available from revenue streams. Innovative revenue streams include making the best use of fuel duty tax rebates, property developments and the sales of 'air rights' where offices are built above bus garages or interchanges in exchange for either financial reward or the construction of transport facilities, contributions from major residential or business developers for front loaded transport services, on-bus and off-bus advertising streams, sponsorship of buses and the hiring of buses from the fleet at periods of low utilisation (weekends or summer months).

Where the necessary tax climate allows, commuters can purchase monthly or annual bus tickets and enjoy tax relief at the marginal rate of tax resulting in significant savings (in some cases by up to 48%). Such schemes give bus companies guaranteed income and increased ridership.

Benchmarking

Finally, while companies will no doubt have in-house initiatives to improve efficiency, a willingness to participate in benchmarking initiatives creates the climate for the exchange of ideas and good practices between companies with broadly similar objectives.

Contact:
John.Ryan@dublinbus.ie