

RESPONSE FROM PRE METRO OPERATIONS Ltd

ORR CONSULTATION ON SUSTAINABLE DEVELOPMENT & ENVIRONMENTAL DUTIES

Pre Metro Operations Ltd takes this opportunity to make its comments on the issues of sustainability and environmental impact. These are principally generic rather than specific to the questions posed in the consultation document.

We believe that considerable scope exists for radical approaches on a secondary tier of branch railways that connect with the major trunk routes of Great Britain's rail network. This includes the expansion of the rail network to include a greater number of "feeder" branch services, allowing a greater proportion of the population to access the national rail network. The technology used on these branches would itself have high environmental performance, and at the same time the presence of an attractive public transport option would reduce the environmental effects of road traffic, particularly the million or more car journeys made each day by rail passengers driving to stations.

Pre Metro Operations Ltd has undertaken the operation of the only example of "lightweight" rail, using a Parry People Movers railcar to provide public services between Stourbridge Junction and Stourbridge Town on Sundays. This experimental service has demonstrated greater passenger attractiveness and considerable savings in costs and in environmental impact compared to conventional heavy rail technology, without major infrastructure upgrade work such as electrification. The ability to increase capacity and attractiveness by stepping up service frequency, through quicker turnaround times and better acceleration and braking, has also been shown.

Because of the lightweight nature of the vehicle and the regenerative braking capability, its energy needs and carbon dioxide emissions are around 20% of those of a single-car heavy rail diesel unit operating the same service. The potential for radical reductions in energy use on those lines where lightweight rail operations can be implemented has therefore been demonstrated in passenger service.

It is incorrect to assume that regenerative braking is only applicable to electric traction. The Parry People Movers lightweight railcar used in experimental service on the Stourbridge Town branch is fitted with regenerative braking via a rotating flywheel energy store. Unlike electric traction applications, this technology is effective throughout the whole speed range, down to a complete stand, and therefore the friction brakes are not required in normal service conditions except as parking brakes. Brake pad wear and associated particle emissions, as well as maintenance needs, are radically reduced.

At least a dozen existing passenger branch lines are suitable for complete conversion to lightweight rail, with the simultaneous benefits of reducing costs, increasing passenger revenue and reducing environmental impact. This approach appears to be in complete accord with Network Rail's own aims, stated in the Initial Strategic Business Plan for Control Period 4, to achieve benefits from the use of lighter rolling stock. It will also be possible for lightweight and heavy rail to share sections of infrastructure, provided suitable separation methods are put in place, to provide extra capacity and more attractive timetabling.

We consider that the issue of railway re-opening, including re-introducing passenger services on freight-only lines, is becoming more and more current. The Eddington Transport Study identified that 89% of congestion occurs in urban and suburban areas, which are rising on the agenda for transport investment. A principal obstacle is the high cost and over-engineering of conventional rail technology compared to the transport needs in local situations. Lightweight rail is a means to overcome this, and is suited to urban and suburban applications, especially providing links to existing main lines. Provision of new, attractive public transport links will bring about modal shift from more polluting modes, particularly the private car.

It is imperative that Network Rail's own initiatives in this area and the potential for re-openings should be encouraged by ORR.

It is possible for significant enhancements of the public service offering on many regional railway lines to be made, at lower cost than conventional railway engineering would permit, by adopting the lightweight rail approach. The operation of lightweight rail services will simultaneously improve journey times, reduce energy use and cut infrastructure maintenance costs.

Transforming suitable railways in the above ways will both reduce costs and raise revenue as the lines become more useful to the communities they serve. Furthermore, re-openings are made more affordable and sustainable by adopting the lightweight rail approach.

The lightweight rail approach is a radical change that will improve both outputs and efficiency. At the current time, many smaller branch lines are inappropriately operated under heavy rail principles that are highly suited to intense, high speed operations but not to the opposite end of the railway spectrum. As the costs of improving services are so high under these conditions, it is often not possible for local railways to offer a decent service to the travelling public, and it is very difficult to justify expansion of the rail network. Pre Metro Operations' service experience has indicated a 45% saving in operating costs by the adoption of lightweight rail instead of heavy rail.

By adopting lightweight rail, the railway can be made still more competitive with other modes of transport. It makes possible more frequent services, more numerous boarding/alighting points and a "modern-image" transport system while removing the costs that are inappropriately applied. Improvements to the national transport system through re-openings can also be achieved in this way.

As noted by Network Rail, there is a "virtuous circle" which applies when rolling stock is lighter and infrastructure is maintained to a high standard. In these circumstances, the track is not damaged by unnecessarily heavy vehicles and the vehicles are not damaged by poor track quality - and it is under these conditions that the cost and environmental benefits of lightweight rolling stock can be optimised.

There are significant advantages, on shorter branches and re-opened links between communities and the main line rail network, in combining lightweight rolling stock and appropriately-maintained infrastructure with an increase in the number of boarding/alighting points giving greater accessibility to the rail network and further modal shift from road transport. In many cases, it will be appropriate for these points to resemble tram stops more than railway stations - this allows further reductions in construction cost and complexity to be realised and moves into other hands most of the ongoing costs of operating the facilities of car parks, rest rooms and paved surfaces that need to be kept tidy.

It is imperative that the desire for safety does not conflict with the development of a publicly-useful railway that offers value for money and reduces the overall environmental impact of all forms of transport. It is also essential that innovation is not obstructed by a fear of change driven by the same misapplied concern for safety. For example, the concept of lightweight rail is based on lighter vehicles, reduced levels of signalling and increased public access to the infrastructure. However, this does not mean that it presents unacceptable levels of risk - as is proved day in, day out, by the operation of tramway systems on similar principles.

It is of prime importance that means of assessing risks and their control measures exist for the assessment of innovative approaches. If existing rules are inappropriately applied, they act as barriers to innovation and to radical improvements in the environmental impact of rail transport.

Using the benefits of lightweight rail to bring about expansion of the rail network and modal shift away from road transport will improve the overall environmental impact of the transport sector.