FROM RURAL RAILWAY HALT TO TOWN CENTRE, DIRECT

Is it a tram? Is it a train? It's both!

'PPM 80' COMMUNITY RAILCAR CONCEPT

- Clean and quiet
- Can run on railways
- Compatible with road traffic
- Amazing energy efficiency
- Simple maintenance

Parry People Movers

HOLDFAST CARPET TRACK

PARRY ASSOCIATES

Pre Metro Operations

HOLDFAST CARPET TRACK TRAMWAY CONCEPT

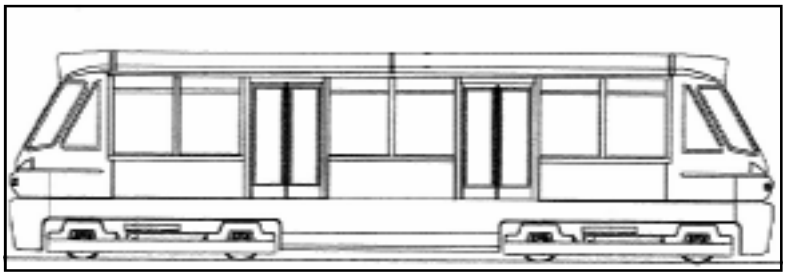
- Installed in the "blacktop" layer of road surface
- Pre-fitted "kit" of parts
- Technology transferred from tried and tested level crossing system
- Use of recycled tyre materials
- No requirement to move buried services

TURN UP AND GO

(the biggest turn-on for public transport patronage)

RAILCARS AND TRAMS

Changing times demand new solutions – in public transport as elsewhere. Road congestion and the embarrassing cost of rural rail are two distinct areas of current concern. Both problems can be significantly eased by the provision of scaled down rail vehicles– railcars and trams– at affordable cost. This has now been achieved thanks to important innovations in vehicle driveline and street track construction. The expected result is a major new market for light rail.



PPM 80 MAX AXLE LOAD 5t TARE WEIGHT 14t GVW 18t

Parry People Movers Ltd, a company formed in 1992 with a licence to develop a hybrid drive line using an energy store, is developing a range of derivatives from its successful 'PPM 30' and 'PPM 50' two axle rail buses and light railcars. The new PPM 80 matches the passenger capacity of large modern articulated buses and the smallest type of trains, the 'Class 153, Sprinter' units which were introduced in the 1980's. The new PPM 80 design introduces bogie running gear for increased speed and for smoother running on traditionally-constructed railways.

Designed for short distance services, below 10 miles, it makes ample provision for standing passengers with a maximum capacity of 80. Its prime mover driveline comprises proven automotive components using lp gas, hydrogen or 'green' diesel to provide the perception of clean, low noise operation, typical of modern trams.

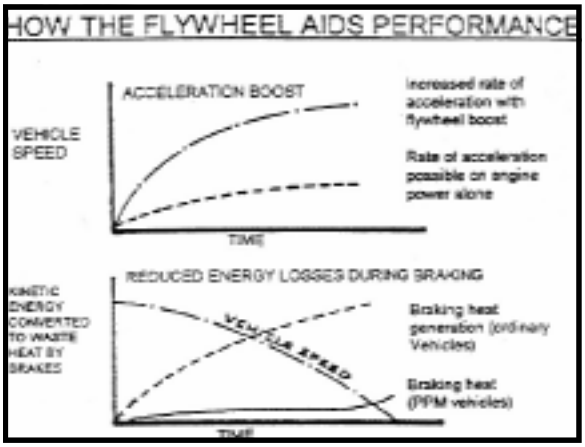
PPM 30 'retro' style District Tram

PPM 35 Railbus

PPM 50 internal headroom

Steel flywheel and casing

'Metro' style seat layout optional



ENERGY AND MAINTENANCE EFFICIENCY

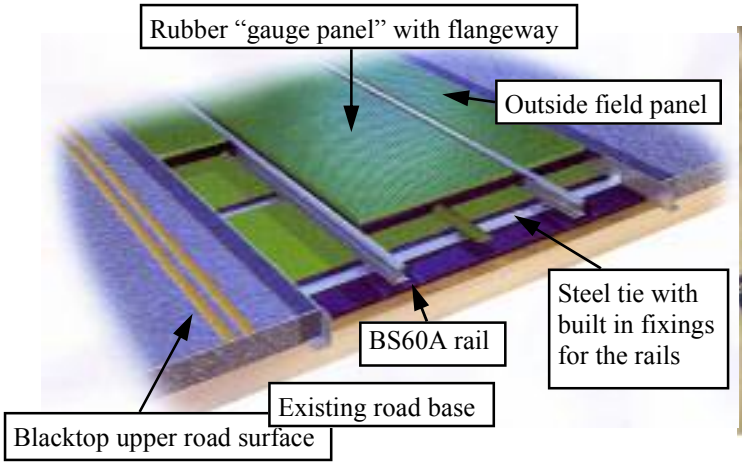
A remarkable improvement in energy management is secured by the use of a simple, but effective, engineering device – the flywheel. The flywheel allows the direct capture of brake energy (on slowing down or descent) and its re-use on pulling away and acceleration. And since acceleration is provided by the flywheel, the primary power unit can be small and operated within a narrow and optimal speed range. Experiences with smaller railcars indicate a fuel consumption for the 80 passenger vehicle of half that of the equivalent bus or dmu. The small power unit and relatively simple mechanics result in easy maintenance with modest equipment. Thus, while other rail vehicles have to make frequent service trips to often distant depots, PPM vehicles are maintained almost entirely on-site.

RAILWAY AND TRAMWAY TRACK

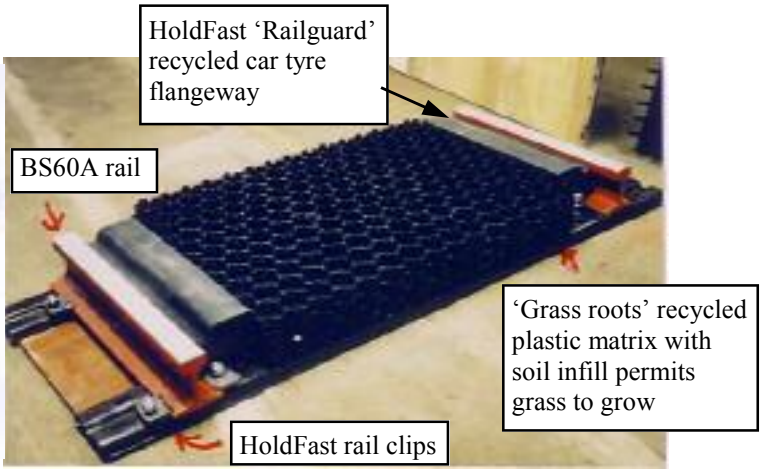
While rail construction is a multi-million pound business, involving the adapting of landscape to provide for high speeds and gentle gradients, tram track is potentially much cheaper because of the tram's ability to follow natural or street topography. This capability derives not only from the lower speed of the tram but also its high power-to-weight ratio, which allows much steeper gradients than a train could handle.

Conventional tram track is expensive, however, due to the need for continuous electrification, heavy track footings and the obligation to relocate buried services. But PPM vehicles are relatively light and do not need continuous electric supply. This means that track can be laid within the blacktop surface of the road on the existing road base. Buried services do not have to be removed and track can be easily relocated if required.

A proprietary track system, based on pre-formed components, has now been developed in close consultation between track engineers, rail manufacturers, vehicle builders and the designers of level crossings. A new company, Holdfast Carpet Track Ltd, has been formed to introduce two versions of this evolved form of tramway (illustrated below). The company is supported by Parry Associates, the originators of the PPM concept, and Holdfast, the level crossing specialists.



Carpet Track tramway in street



Green line tramway in grassed or gravelled areas

IMPLEMENTING AND OPERATING

Much of the pioneering work required in these areas has been done on pilot operations, notably on the Stourbridge Town Branch and in shadow public services on preserved railways, where, over the period 1998-2004, tens of thousands of passengers have been carried in safety and comfort.

A combination of established and new skills was needed to handle the issues arising where railway and tramway applications merge. These include specification, commissioning with civil and mechanical engineering design, health and safety management, driver training, technical support and passenger information systems, all playing a part in the whole implementing and operating concept.

In addition to the accommodation of heavy and light rail management and culture, the typical model involves many interfaces with bus operations, local bus companies being the most likely source of drivers and managers for new systems.

Delivering a vehicle to a line using temporary ramp

Pre Metro Operations Ltd is the fourth company in the group. PMOL's team is qualified to bridge the interface between heavy and light rail and bus operation. Under the current national plan for 'Community Railways' certain short branch lines will be converted to light rail type operation. PMOL will be the source of knowledge and skill to bring this about.

Route learning and driver training

RAIL TRADITION A FIRM BASIS FOR INNOVATION

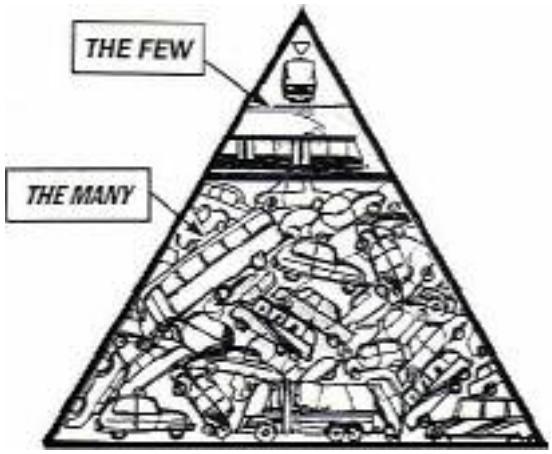
To introduce new concepts to an industry which dates back two centuries means that there is no shortage of valuable experience. The history of railways and tramways comprises periods of consolidation between spurts of innovation. The venture described here builds on the firm foundations of experience in steel-wheel-on-rail transit technologies stimulated by some of the most creative teams working in transport today.

- The Holdfast level crossing system is used by the rail industries of Britain, Europe and Australasia.
- PPM trams and railcars are approved for passenger service in the U K
- Parry Associates, the innovative company which is behind all aspects of the new light rail system have a world wide reputation for technical achievement.
- PMOL has assembled expertise from the three principal public transport sectors: railways, tramways and bus operation.

A NEW BEGINNING FOR TRAMWAYS AND FEEDER RAILWAYS

Only some 20 urban areas have the density of passenger movements to justify full scale supertram systems and it will take many years for funds to be released for those cities at the back of the queue. At least 200 towns centres and districts within cities are seizing up as traffic growth overwhelms road space and parking provision. The knowledge and facilities available through PPM, HoldFast Carpet Track, PMOL and Parry Associates can bring the benefits of light rail to such centres at an affordable price.

At the same time quiet railway lines which for years have been treated as economic 'black holes' are now recognised as a potential focus for rural regeneration after conversion to light rail operation.



TOGETHER BUT SEPARATE. The Community Railway concept which has now been launched by the SRA has the potential to re-invigorate rural rail and normalise its economics. On branches which are physically separate from the main line system, PPM lightweight 50 and 80 passenger cars, with high frequency and more stopping places, will revive passenger numbers, reduce the need for subsidy and ease congestion on the roads.

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