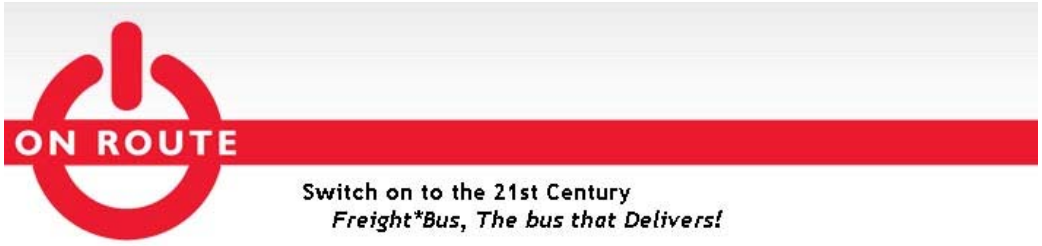
Stakeholders Sought For Development Of Radical New Bus & Urban Freight System Concept



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Press Release Author: **Hugh Frost**

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Press Release Summary:

• 'On-Route' is a radical new urban transportation system concept which would see a Freight*BUS™ optimise the carrying of passengers and freight, thereby tackling the problems of both congestion and pollution.

• The Freight*BUS has been designed with a zero-emission propulsion system able to accommodate either a battery fuel-cell system or small bio gas generator to maintain fully charged batteries. It also features other state-of-the art technologies such as distributed wheel motors and completely new inventions, like ceiling-suspended seating and a patent-protected pallet-less lifting and handling device. The ability to turn in its own length & 'crab steer' is great for tight fit bus stops & bus station manoeuvres.

• This avant-garde concept requires a whole new way of thinking about urban transportation systems; stakeholders are invited to help take this model to the next level.

Press Release Body: STAKEHOLDERS SOUGHT FOR DEVELOPMENT OF RADICAL NEW BUS & URBAN FREIGHT SYSTEM CONCEPT

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A multi disciplined design specialist has come up with a radical urban transport proposal, called **On-Route**, which he believes tackles the two biggest problems caused by city-centre transport today; congestion and pollution. **Hugh Frost's Freight*BUS™**www.freight-

bus.co.uk is an innovative new design that combines a passenger-carrying bus with that of freight haulage with the minimum of disruption to either service. It can be reconfigured in seconds by the conductor or driver to carry freight and passengers. Furthermore, passenger space & freight space can be easily adjusted to match demand.

Frost's proposal was submitted to **Transport for London (TfL)'s 'A New Bus for London' competition,'** which **Mayor of London Boris Johnson** launched earlier this year. Although the **Freight*BUS** was not the final winner of the competition, **Hugh Frost, designer and concept originator of the On-Route** system www.onroutebus.co.uk and the **Freight*BUS** still wishes to take his idea to the next level and is now looking for stakeholders to help him do this. These could be in the form of bus or commercial vehicle manufacturers who are interested in developing the **Freight*BUS** from conceptual state into a full-blown prototype; a municipality which would consider trialling the **On-Route system**, or stakeholder investors, such as venture capitalists that specialise in environmental transportation solutions.

"Taking London as an example, the most optimistic proposals put the average occupancy of its buses at 25%. However, our calculations show that for around four hours a day, their utilisation drops to as low as 20%," **Frost says.** *"Despite this, city authorities are tasked with increasing the numbers of vehicles, routes and service frequency to supposedly reduce congestion and improve services. My idea is to put our cities' buses to good use by using them to provide an alternative city freight system at times of low passenger capacity utilisation. This could reduce the numbers of freight vehicles on city roads by as much as 30%. By using the buses to carry freight in the evening and overnight, the utilisation of these vehicles would be maximised, offering maximum return on investment (ROI) and substantially increased revenue from the vehicles. However, in order to fulfil this dual role, the entire concept of buses, as we know them today, needs to be revisualised."*

With this in the mind, the **Freight*Bus** has been designed to allow varying combinations of passenger & freight space to match demand. In full passenger configuration, it provides seating for up to 90 passengers - that's 43 more than the bendy-bus and standing room for a further 40 passengers. With standing room only on the lower deck, it could accommodate 150 people with 52 seated. Meanwhile, in

its full freight configuration the Freight*BUS is designed to accommodate 35 freight pods (equivalent to 35 europallets).

Loaded with other State-of-the-Art Technology

The **Freight*BUS** combines a number of completely new ideas, patents for which have already been applied, combined with leading-edge technology that is already proven in automotive applications or is undergoing extensive on-road trials.

The design of **Freight*BUS** will readily accommodate battery or fuel cell technology. The 200mm deep space in the main floor of the bus will house batteries or fuel cells and the accompanying hydrogen storage tanks (if required). Indeed, it is envisaged that when fuel cell technology is affordable, that the fleet could be easily switched to this propulsion system, while keeping the drive motors and control systems in place. Similarly, its re-configurable interior design could even be broadly applied to existing vehicles built with combustion engines. However, it is the designer's view that the latest and emerging advances in battery technology will make the re-fit and the use of hydrogen and fuel cells unnecessary. **Freight*BUS** would also feature the very latest in other emission-saving technology , such as distributed wheel motors which can be as much as 50% more efficient that central motors.

With the latest battery technology, an 80% recharge is possible in around 1 minute. This could be done at bus stations or other major stops, with a recharge point built into key bus stops. These 1 minute recharges do not seriously affect battery life and can be performed within the duration of a standard stop. Alternatively, in the short term, the electric drive & battery storage system could be 'hybridised' with a small, efficient, clean burning LPG fuelled, 2 litre generator to top up batteries on the move. Adopting the all battery concept will enable off peak green energy to be stored in the vast reservoir of battery energy that would be created by large fleets of the Freight*Bus.

In respect of carriage versatility, seating is suspended from the ceiling and can be configured for almost any combination of passenger & freight space between these limits. This is achieved by designing the seating to be folded away. In fact, each 2 person seat (on both decks) can be folded into the ceiling in seconds. Seats are fixed to the ceiling through special anti-vibration mounts to improve ride quality. In terms of the vehicle's freight-carrying capabilities, a pallet-less lifting & handling device is key to easy loading/unloading. Indeed, a crucial

part of the interior design is a compact, low cost pod handling system, which has patent protection.

Route Consolidation

When looking at the idea of consolidation in relation to bus routes and passenger transport, Frost quickly realised that not only were there opportunities to improve bus routing & linking with other transport services and types using consolidation principals, but that there is an even bigger opportunity to use the buses for freight as well as passenger movement that would reduce the numbers of goods vehicles on city roads (especially light goods vans which are responsible for 15% of all UK carbon emissions from all forms of transportation) by as much as 50%. He remarks: "We looked at passenger & freight systems end to end and concluded that there is sufficient overlap to be able to build on and integrate existing infrastructure of both passenger & freight systems. However, it will be necessary to develop consolidation centres and cross-docks for freight movement, and hubs for passenger and freight delivery and collection. Many of these elements already exist and can be linked into existing infrastructure such as bus/rail stations & depots; haulage/sorting depots etc. Hubs would also be located at major bus stops, and concentrations of retail, commercial & light industrial units.

Frost points to studies which have already been carried out in London showing that the implementation of alternative freight systems, including the use of 'Consolidation Centres' in city areas can give exceptional results. One such study found a 68% reduction in construction vehicles entering the City of London for the project, an average journey time reduction of 2 hours, a circa 75% reduction of CO2 emissions, and a 10% reduction in local distribution journey times. The On-Route Bus supports the existing aims of the London Freight Plan as set out of in the Mayor of London's existing Transport Strategy.

For more details of the On-Route and Freight*BUS concept, seewww.onroutebus.co.uk

Hugh Frost

Web Site: http://www.onroutebus.co.uk

Contact Details: hugh@onroutebus.co.uk