The Business Case for an Airport Personal Rapid Transit (PRT) Application

1. Ultra PRT Overview

The Ultra personal rapid transit (PRT) system is an innovative on-demand transport solution primarily used for shorter 'last leg' connectivity with the ability to deliver passengers point-to-point over a network particularly in developed urban environments where space constraints are an issue where other forms of transport cannot operate, or in constrained environments such as airports and campuses due to our compact infrastructure and low capital costs.

Conventional forms of public transit require passengers to collect in groups, wait until a large vehicle with a fixed schedule arrives, and travel on a predetermined route stopping for additional passengers on the way. In contrast, Ultra offers personal transport with no waiting, taking passenger's non-stop to their chosen destination.

Using small, driverless electric vehicles that run on guide ways, the lightweight and flexible nature of the system enables it to be retrofitted into a range of environments and provide transportation that is environmentally friendly and operationally efficient.



2. Airport Business Case

Following two years of successful operation of the Heathrow Airport PRT system, the following case outlines the mix of financial and non-financial benefits of a small to medium airport PRT system. A PRT system can be overlaid onto an existing airport or be designed into new terminal or airport infrastructure.

The indicative analysis below is based on a PRT system which links 3 non-proximate premium car parks, with three airport terminals, covering 4km of track circulating 63 PODs and operating for 22 hours per day and 365 days a year.

2.1 Financial Benefits & Costs

Simply put the following incremental revenues and costs demonstrate how an airport PRT system is typically self-financing.

Income	£4.5m
Cost	(£1.0m)
Capital Lease	(£3.5m)

Above this, additional revenues may be derived from improvements to the passenger experience hence attracting more airline passengers or reduced waiting times increasing dwell in the airport terminal, so spend per head also increases; these benefits hasn't been quantified below and will depend on the specific airport.

A detailed breakdown of the above revenue streams and costs are outlined below.

Revenue/Cost	Description
£3.2 Million	Increased parking income due to higher charges for the new on-demand service with shorter connect times and increased passengers who opt to use these products, taking mode share away from taxi services and forecourt drop offs.
£2.8 Million	Elimination of shuttle bus services (to non-proximate car parks and car rental centres) Will reduce operating costs, road congestion and environmental pollutants
£1.3 Million	Advertising and sponsorship income for the system
(£3.5million)	Lease charges for Infrastructure and pods
(£3.8million)	Running costs and intellectual property lease

2.2 Non Financial Benefits

Passenger Experience:

For passengers travelling through your airport, surface access creates the first and last impression of the airport. By installing a PRT system your passengers will experience a vastly improved service levels and passenger satisfaction. In turn, this will help attract more airline passengers and improve the reputation of the airport through this 'on demand' futuristic transfer experience, whilst reducing congestion on your existing road network.

Below are some examples of what Passengers have said about the Heathrow POD on Twitter:

- Heathrow pods. possibly the best mode of transport ever
- I'm back on the T5 pod. I love it!
- Love the Terminal 5 Heathrow Pods!

Environment Benefits:
Ultra POD's produce no on-site emissions, overall provides a 50% reduction in carbon emissions over buses, and 70% over cars, meeting Kyoto 2050 sustainability targets today.
At Heathrow the 2 km journey from the T5 Business Car Park to the Terminal is saving 200 tonnes of CO_2 annually.

Road Congestion:
Using the Heathrow T5 application as an example, the pod system has replaced the 70,000 bus journeys per year in transport passengers to and from the T5 Business Car Park which has reduced road congestion around terminal 5.