

Transport Equipment as a Service in WA

Creating a public transport infrastructure is expensive with the high upfront capital costs. There is a suggestion that Public Private Partnership (PPP) should be a way to reduce the cost to government. Here I am proposing a different model : Transport Equipment as a Service (TEaaS). This model is also more environmentally friendly.

I explain this concept with the example of an existing service below. A more elaborate description can be found in the enclosed document which are extracts in English from a book in Dutch about the Circular Economy (Rau & Oberhuber, 2017, pp 88-89, pp100-101; Turntoo, 2018). The authors suggest that in order for the world to become sustainable we have to move from the current linear economy to Circular Economy. Part of the rethinking is to have goods as a service.

At Amsterdam Schiphol airport one of the passenger halls during an overhaul the lighting has been changed. At an airport many lights are turned on 24/7. It is also common to refurbish commercial buildings after 15 years which equate to about 130,000 hours. Normally LED lights last about 50,000 hours. That means during this 15 year period the lights have to be changed twice, with still 20,00 hours left when the future refurbishment starts. For this hall Philips was contracted to supply "Light as a Service" which means all costs of equipment, maintenance and the cost of electricity are borne by Philips and at the end of the contract Philips takes back the lamps that they then can use as a resource. So it is in Philips best interest that the lights are free of problems for 15 years and the energy consumption is as low as possible. Guess what, Philips has now developed a LED light that last 130,000 hours, that is the whole contract period. During the contract period the airport pays Philips a fixed amount monthly to cover the cost. When Philips improves its efficiency it increases its profits.

The above concept can be used for transport infrastructure projects like urban trains and light rail rolling stock. So the government should approach companies like ABB, Siemens, Alstom and Bombardier with the TEaaS scheme. The government already knows how much a train or tram network costs and what the operating costs are, so that it can negotiate a fair price for the service. And Transperth pays a fee for the service provided.

So what is there in it for the equipment providers (EPs)? A fixed income stream, but they are responsible for the provision of the infrastructure, running costs, maintenance costs and at the end of the project the EP has back the equipment as a resource for other projects. Therefore it will be in their best interest if the equipment lasts long, needs minimal maintenance and is as energy efficient as possible. In that way they can make money.

I understand that a change over to TeaaS cannot be done now, but I suggest that the government start working on this model in order to save money and be more environmentally responsible

Yours sincerely

N.B. For completeness I have listed below some references about the Circular Economy

Geissdoerfer, et al. (2016) : **Circular Economy a New Sustainability Paradigm** ; *J Cleaner Prod.*

Leising, Eline et al (2017) : **Circular Economy in the Building Sector : Three Cases and a Collaboration Tool** ; *J Clean Prod.*

Rau, Thomas (2013) : **Circular Economy** ; https://www.youtube.com/watch?v=zrb2v_f0ZYY

Rau, Thomas & Oberhuber, Sabine (2017) : **Material Matters Het Alternatief Voor Onze Roofbouwmaatschappij (in Dutch)** ; Bertram de Leeuw Uitgevers , Haarlem NL.

Turntoo (2018) : **Looking at earth from a distance, it becomes clear that man is a temporary guest in a closed system: earth** ; <http://turntoo.com/en/>