

TRAMWAYS & URBAN TRANSIT



www.lrta.org
www.tautonline.com

FEBRUARY 2022 No. 1010

IS THERE VALUE IN A FARE-FREE FUTURE?



Why free travel for all isn't as easy as you might think...



Kraków

Progress and renewal of a Polish giant



Forchbahn

Swiss interurban's super-sizing plan

- > 565km added to China's metro systems
- > Karlsruhe's new central tram subway
- > Tramway openings in Lusail and Wuyi



£4.70

CONTENTS



NEWS 44

Chinese cities open 565km of new metro lines in December; Karlsruhe inaugurates EUR1.5bn tram subway; Leipzig, Görlitz and Zwickau join forces for rolling stock renewals; Wuyi launches the first stage of its new tourist tramway; EUR3bn for Italian rail projects; Puebla – Cholula tram-train service suspended; Five-year investment programme for Russia's regional tramways.

CAN 'FARE-FREE' REALLY BE FREE? 50

Morgan Lyons delves into the different perspectives of the value of transit, exploring the current fareless travel debates.

FORCHBAHN: FIT FOR THE FUTURE 54

110 years old in 2022, this Swiss interurban has ambitious modernisation plans, as Andrew Thompson discovers.

DEVELOPMENTS IN PHOENIX 57

With a new urban streetcar line about to launch and further LRT expansion underway, Vic Simons visits Arizona.



SYSTEMS FACTILE: KRAKÓW 60

Neil Pulling reviews developments on this extensive tramway in southern Poland.

WHERE NEXT FOR WELLINGTON? 68

Neil Pulling examines the latest mass transit proposals for New Zealand's capital.

WORLDWIDE REVIEW 70

Trial runs for Paris' T13 tram-trains; Alstom wins EUR500m București metro maintenance contract; Rostov-na-Donu agrees PPP tramway expansion programme; Thai Government to accelerate delivery of regional mass transit projects; UK Government extends emergency funding for Transport for London; New York withdraws its last long-serving R-38 Subway cars.

MAILBOX 75

Your views on post-pandemic tram prospects.

CLASSIC TRAMS: RUSSIA'S SURVIVORS 76

Mike Russell surveys some original and recreated heritage cars on Russian tramways.

TRAMWAYS & URBAN TRANSIT

The official journal of the Light Rail Transit Association



FEBRUARY 2022 Vol. 85 No. 1010
www.tautonline.com

EDITORIAL

EDITOR - **Simon Johnston**
simon@mainspring.co.uk

ASSOCIATE EDITOR - **Tony Streeter**
tony.streeter@mainspring.co.uk

WORLDWIDE EDITOR - **Michael Taplin**
miketap@mainspring.co.uk

NEWS EDITOR - **John Symons**
johnsymons@mainspring.co.uk

SENIOR CONTRIBUTOR - **Neil Pulling**

WORLDWIDE CONTRIBUTORS

Richard Felski, Andrew Moglestue, Paul Nicholson, Herbert Pence, Mike Russell, Nikolai Semyonov, Alain Senut, Vic Simons, Andrew Thompson, Witold Urbanowicz, Bill Vigrass, Francis Wagner, Thomas Wagner, Philip Webb

PRODUCTION - **Lanna Blyth**

Tel: +44 (0)1733 367604

production@mainspring.co.uk

DESIGN - **Debbie Nolan**

ADVERTISING

COMMERCIAL MANAGER - **Geoff Butler**
Tel: +44 (0)1733 367610

geoff@mainspring.co.uk

PUBLISHER - **Matt Johnston**

Tramways & Urban Transit

13 Orton Enterprise Centre, Bakewell Road, Peterborough PE2 6XU, UK

Tramways & Urban Transit is published by Mainspring on behalf of the LRTA on the third Friday of each month preceding the cover date.

mainspring

PRINT AND DISTRIBUTION

Warners (Midlands), Bourne, Lincs PE10 9PH, UK

LRTA MEMBERSHIP (with TAUT subscription)

Tramways & Urban Transit is sent free to all paid-up members of the Light Rail Transit Association.

LRTA WEBSITE AND DIARY

Tim Kendell

webmaster@lrta.org meetings@lrta.org

SUBSCRIPTIONS, MEMBERSHIP AND BACK ISSUES

LRTA Membership Secretary (Dept T06), 38 Wolseley Road, Sale M33 7AU, UK. Tel: +44 (0)117 951 7785
membership@lrta.org Website: www.lrta.org

FOR CORPORATE SUBSCRIPTIONS VISIT

www.mainspring.co.uk

LRTA REGISTERED OFFICE

8 Berwick Place, Welwyn Garden City, Herts, AL7 4TU, UK.
Private company limited by guarantee, No. 5072319 in England and Wales.

LRTA CHAIRMAN - **Paul Rowen**

chair@lrta.org

© LRTA 2022

Articles are submitted on the understanding they may also be used on our websites or in other media. A contribution is accepted on the basis that its author is responsible for the opinions expressed in it, and such opinions are not those of the LRTA or Mainspring. All rights reserved.

No part of this magazine may be reproduced or transmitted in any form by any means, electronic or mechanical, including photocopying, recording or by any information storage and retrieval system, without prior permission in writing from the copyright owner. Multiple copying of the contents of the magazine without prior written approval is not permitted.

COVER: In 2020 Luxembourg became the first country to offer free nationwide public transport. As travel restrictions have eased, tramway ridership is 30% up on pre-pandemic figures. Alan_B / CC BY-ND 2.0

Recognising the value of effective investment



What value do we place on public transport? The answer varies (often wildly) on your perspective, personal circumstances and location. Most of us would argue that an efficient, attractive alternative to the private car is a vital component of society, but in an age where every penny of the public finances is scrutinised, how is that value measured, quantified and justified?

These are the questions that Morgan Lyons tackles in one of this month's 'big reads', starting on page 50, as he explores the issues surrounding recent initiatives and debates on free travel. One might imagine that it is simply balancing 'what comes in' with 'what goes out'. However, while many would break it down to such basic economics, in reality life is rarely that straightforward and his thought-provoking commentary on whether it is possible – or even desirable – to make public transport free makes interesting reading.

Elsewhere in the issue, we offer another crop of current and planned projects from around the light rail world. From the modernisation of an historic interurban, to modern city circulators in the US, and expansion of one of the world's great tramways, there is plenty here for you to get your teeth into as we get into the new year.

Unusually, we also feature news of two modern tramway closures in our front section. One decision is based upon unrealistic ridership projections, the other surrounds poor reliability and seemingly unresolvable technical issues. Nevertheless, the case for LRT – in the right circumstances and planned, designed and implemented effectively – remains as strong as ever, something the contributors to this month's *Mailbox* debate.

As always, we value your opinions on anything you see on our pages. What are your hopes and ambitions for 2022?

Simon Johnston, Editor



IS 'FREE' TRANSIT REALLY FREE?

▲ Luxembourg's modern tramway opened on 10 December 2017. Its installation is at the heart of national policies to reduce car ownership; public transport across all modes has been offered for free since 1 March 2020. Mike Russell

Morgan Lyons explores the debates around fare-free travel as they grow in popularity - and urgency.

What's a transit pass worth? To the customer, it is (hopefully) worth what they paid for it and means they can get where they want

to go safely, conveniently and in comfort. To the transit operator, it represents a source of income. To developers and employers, it offers an opportunity to increase the attractiveness of their location. To the wider community where the transit system operates, it means mobility, access to work, cultural and leisure destinations, reduced congestion along busy travel corridors and a cleaner, greener way of life.

But what if that journey is then offered free to the customer? It is a great deal for the rider - we all like free things - but how does the operator recover lost revenue, and will it be able to support an assumed increase in demand and ridership? Finally, what does the community gain from having a new 'free' service?

This is a global conversation, but one that has been particularly active in the United States, as transit operators of all sizes consider ways to restore ridership to pre-COVID levels. In fact, several were looking at this before the pandemic as a response to demands to boost ridership as evidence to elected officials and outside observers - particularly the anti-transit crowd - of the value in public investment in such services. Ridership is

often the only value metric that matters to some, and many operators and advocates here are all too familiar with the "It's cheaper to give everyone a car than to build a transit system," canard.

That argument is a virus that cannot easily be killed; but it can be contained as planners try to manage mobility in both historically dense cities and emerging new urban areas. Transit opponents only look at the maths - the cost of transit - and want to pass this on

"Fare policy, where transit planners advocate focus, is economics plus politics."

to the rider. It is pretty simple in their view. Add the purchase price of the vehicle, plus the cost of ongoing maintenance and operation, then divide it over the number of riders or trips. That becomes the price of the ticket. In their minds: you want to ride transit, you pay for it.

Funny how, at least in the US, that argument does not extend to highways, sidewalks, libraries, public education, etc.

But fare policy, where transit planners and advocates focus, is economics plus politics. The price of operating the system is a given, but what do the community - and the people and institutions within it - gain from having safe and efficient mobility? For riders, operators, and cities, the answer here may not be the same - indeed, the answer can be quite different depending on a wide range of particular factors. Unsurprisingly, it is the politics that makes the decision difficult (and interesting).

The view from the seat

I do not believe I have ever encountered a passenger who thinks deeply about the things that make up their ticket price. The price is the price, and that is what one has to pay to ride. In a perfect world, the vehicle and waiting facilities are clean, the seat is comfortable, the ride smooth and timely, and fellow customers are cordial. Those are the elements of a *prix fixe* pass. Helping the environment, having a more liveable and mobile city are free extras. Do all those things and the ticket represents a fair value. They want a service, have the means to afford it and are willing to do so.

To those on lower incomes and without means, or those who see mobility as a fundamental right, the ticket price is poor value. They see a greater benefit in providing everyone

free access to transit. The price of a ticket is a barrier too high and prevents the largest possible number of citizens from getting where they need to go. In fact, Philip Washington, until recently the CEO of the transit system in Los Angeles, California (full disclosure, he is a friend), has called a fare-free system a “moral obligation.” Many share his perspective, and, on the surface, it has great appeal. How can anyone oppose cities providing a broad public benefit to their residents?

Enter politics.

The city view

Debating the benefits, value and components of citizenship goes back at least to the Greeks, 3000 years ago. What do I get for being a citizen? What is included? The answer has evolved from the early days and varies today according to local custom and tradition. But the fundamental perspective, that there is value in being a citizen, has not changed.

The ‘moral obligation’ argument is only recently coming to transit on a large scale. Students of policy and politics have seen it applied to voting rights, public education, and clean food, air and water for decades. Perhaps it is more of a statement of faith than facts, but the moral obligation position does get attention. While proving it may be a little slippery and too reliant on a personal perspective, there are other, more tangible metrics for demonstrating the value of increased transit use.

Consider traffic. How does a city centre continue to thrive – or even survive – if people cannot access it? They may be able to travel to it, but as more people do the corridors become busier and more congested, and travel time grows. In fact, it can take so much time to get there that it becomes easier to go somewhere

else. Meanwhile smart planners – public or private sector – are building alternatives elsewhere. These new locations may not have the same features and benefits as the city’s core, but they are modern, with different offerings, and getting to them is easier and more convenient. People with the ability to afford to change their travel patterns to get there do and those who cannot, do not.

In a perfect world, the city has anticipated or actively participated in the new development and has built the mobility infrastructure to support it. The infrastructure is added through highways or – ideally – expanded transit. Because it is further from the centre, it is more expensive to operate and maintain on top of the expense of construction and fleet expansion. Riders may

have to pay more to travel the greater distance. Welcome to fare zones or tariffs based on travel time.

Some city leaders are troubled by the possible inequity experienced by people living in the downtown areas, others are not. A third group has concerns, but hopes things will work out over time, or that others will step in to help address the issues. Welcome to the politics of city planning and the discussion of value.

There is no debate that people need to be able to get where they want and need to go. How they do it, and who pays, is up for discussion. Beyond the whole ‘rights’ or ‘benefits’ of citizenship, leaders must weigh competing visions for their cities. For example, how much growth is desired, and if so, where

WEIGHING UP THE BENEFITS

The debate over free fares is not for the faint of heart. It forces a community to make, often difficult, decisions around the value of transit. It also invites a revisiting of the type and scale of services offered to the residents. Finally, and maybe this is the first subject of debate, there are decisions to be made on how it will be paid for. Below are some common pros and cons gleaned from the global conversation:

Pros

- Passenger convenience and reduced dwell times can speed up the service.
- Removing fare collection reduces capital and operating expenses.
- Removes all fare-related roles. This reduces the overall staff count (collection administration and back office), but these staff can be redirected to other operational roles to improve the quality of service.
- Improves equity and economic parity.
- Incentivises public over private transport.
- Reduces pollution and congestion levels by removing individual car use.

Cons

- Loss of fare revenue.
- The question of ‘who pays’ depends on the importance of the farebox to overall revenues:
 - National, state or city income tax increases?
 - Developer taxes?
 - Sponsorship deals?
 - Educational institutions? (for example, student fees include fare passes)
- Increased ridership could actually slow service speeds.
- Additional vehicles may be required due to increased ridership (particularly relevant in an age of social distancing), plus additional staff to operate/maintain them.
- Does making transit free reduce its value in the eyes of customers (i.e. leading to more vandalism, anti-social behaviour, or issues with those experiencing homelessness)?



▲ Tallinn (Estonia) was one of the first capital cities to roll out fareless travel for its residents; the programme is sustainable through complementary measures such as small increases to local taxes and more substantial hikes in city centre car parking. Neil Pulling

OTHER VOICES

Advocates insist free fares boost ridership and critics dispute that. But there's no debate about the robustness of the conversation, as demonstrated in these selected quotes.

"Phil, what the hell are you doing [advancing a free fare programme]? You realise you're going to put pressure on every other agency in this country to go fareless." I replied by telling them: "That's exactly what I want to do!"

Phil Washington, former CEO, Los Angeles MTA

Free fares for residents of Tallinn "have stimulated the consumption of local goods and services. People go out more in the evenings and weekends and this is obviously transforming the local economy. It has also enhanced the labour market, widening the area where people can look for and take jobs beyond just walking and cycling distances."

Allan Alaküla, Head of Tallinn European Union Office

"The extension of free bus travel to all under-22s will improve access to education, leisure and work, while supporting the adoption of sustainable travel behaviours early in their lives."

Nicola Sturgeon, Scotland's First Minister announcing a free fare plan on buses in Scotland

"The introduction of free public transport is an important social measure. You could describe it as the social icing on the cake of the global strategy for a multi-modal revolution."

François Bausch, Luxembourg Deputy Prime Minister, announcing free public transport nationwide in March 2020

"The sector has a long history of partial free transport schemes where most initiatives seek to address social concerns through the deployment of social fares. *Ad hoc* schemes are also common to address environmental or mobility issues brought by large-scale events, such as vaccination campaigns. On the other hand, permanent full free fares schemes have grown in interest both by the media and local campaigns, especially with an eye to boosting ridership in a post-COVID context. Their implementation has important consequences for the planning, operations and investment of local public transport networks.

"It's crucial to carefully consider the stated objectives and their efficiency... which this measure is meant to achieve, in order to decide whether or not it is the most appropriate use of public funds and the long-term dependability of the revenue source."

Hilja Boris Iglesias, UITP Knowledge and Innovation Manager

"The one thing all of these (free fare) strategies have in common is they increase subsidies to transit. That's exactly the wrong prescription for an industry that is so obsolete that, according to researchers at the University of Minnesota, people living in the nation's 50 largest urban areas can reach more jobs on a bicycle than by transit in trips of 50 minutes or less."

Randal O'Toole, Cato Institute

"What the City of Boston is demonstrating is that we don't need dozens of studies and public meetings to advance free transit. The best method is to simply move forward with pilots, measure their success and then continue to expand the effort. The real winners of free transit are the thousands of riders who will also experience faster and more reliable bus services."

Stacy Thompson, Executive Director of the Liveable Streets Alliance, Boston, reacting to news of expanded free bus programme in Boston and surrounding cities



▲ Federal pandemic relief grants in the US are helping to fund Boston's move to fare-free bus travel on certain core routes. Interestingly, the iconic "T" light rail and subway services are not included in current plans. H. Pulling

and when should it happen? Additionally, how does the vision of leaders align with that of the majority of the populace? After all, these are the very people who have elected them to their positions.

US transit operators, usually smaller and often bus-only systems, began experimenting with free fares to boost ridership before COVID. Many more eliminated fares during the pandemic to minimise physical contact and eliminate the cost of processing those payments. This move gave additional energy to the social equity perspective. If transit is allowed to remain open because it is an essential service, the argument goes, should we not do everything possible to help people use it every day? The free-fare debate continues to pick up momentum as more businesses and services re-open.

Michelle Wu, the new Mayor of Boston, Massachusetts, made free fares a campaign focus. In late 2021 the city announced plans to continue and expand a free-fare pilot on three bus routes, and expects to use federal relief funds to cover at least part of the cost. Some nearby cities are eliminating bus fares in co-operation with Boston. Interestingly, the city's historic and extensive urban rail system is not part of the pilot. In fact, looking around the world, rail systems are often excluded from such initiatives.

However, Los Angeles has included rail services in its pilot, which although initially limited to school-age students, may well include low-income riders during its two-year run. The ambition is to eventually operate the entire county-wide system free to all.

LA, operator of the nation's second-largest public transport network, will learn a lot – as will other US systems considering free fares. It is reasonable to assume that ridership will grow to pre-pandemic levels and continue rising. That is surely good news. But LA Metro, and those watching with interest, will also be looking at how this changes the customer experience, particularly as many transit agencies were, again, pre-COVID, placing an increased emphasis on the quality of the ride.

City officials want to see how this affects overall mobility and traffic flow. Meaningful

"Consider traffic. How does a city centre thrive - or even survive - if people cannot access it? They may be able to travel to it, but as more people do the corridors become more congested and travel time grows."

improvements in air quality are also welcome, aligning with environmental policies accelerated in a post-COP26 world. It will also be interesting to see if employment strengthens. While joblessness is declining with the economic recovery, in some cases prospective workers are not returning because the expense of getting to and staying on the job, the cost of transportation, childcare, and the like, outweighs the salary paid. The ride may be free, and the savings real, but is that enough?

Transit expansion could also be influenced by this new environment. Many free-fare champions are urging systems to redirect funds marked for capital projects to either replace lost fare revenue or to use the capital funds differently; for example, more bus rapid transit and less rail. However, that may not be an option since funding for most capital projects in the US is mode-specific and cannot simply be moved from one project to another. Still, cities may be confronted with new decisions or the need to revisit old choices and decades-long commitments.

The bottom line: What does success look like to our city and what does it mean for our residents and their future? City leaders – elected, appointed, established volunteers – are always looking for ways to keep their communities vibrant and attractive to newcomers. In recent years, they have also been fighting first-ring suburbs to retain residents. These things also help bring in new businesses and developments. Elected officials

will also, reasonably, consider the photo-ops and vote-winning potential. Regardless, leaders need to have a shared understanding of success.

Making it work: The operator perspective

Simple mantras guide transit operators: we get people where they need to go, safely, efficiently and effectively. My personal favourite, taught to me by a colleague early in my career is: 'If we don't make pullout, bad things happen'. Put another way, public transport makes things work and helps society to function at its best. The free-fare debate adds a layer of complexity to what can already be difficult decisions. What is more important to customers: the price, quality, or frequency of the service?

As noted earlier, it is not hard to work out the costs of putting trams, LRVs, buses or trains into operation. Fixed costs are easily calculated, and it is not difficult to report the cost per trip or cost per passenger. The cost per trip, or in some cases the subsidy per passenger – since it is not expected customers would bear the full cost of riding – is a common performance metric.

Authorities looking to expand operations and capture a larger group of riders who own personal vehicles but choose transit for their travel are focusing more on the customer experience. It is believed these so called 'choice' or 'discretionary' riders, as opposed to 'transit dependent' riders, are less influenced by cheap fares, but are instead attracted by improved amenities and a higher-quality service. Advocates for the transit-dependent insist riders also want those things and frequently push back against the notion of 'choice' versus 'transit-dependent', arguing riders are just that, riders.

Still, policies of fare-free travel add a new balancing act. Even when a system has been built with a robust, dedicated and predictable revenue source that is designed to help keep



LA Metro is one of the biggest transit agencies in the US, with extensive bus, rail and light rail coverage. Metro approved a two-year fare-free pilot in 2021, starting with students and expanding to include low-income riders. Vic Simons

fares low, the loss of passenger revenue is significant. The system I am most familiar with, Dallas Area Rapid Transit (Texas), receives only about 15% of its annual revenue through passenger contributions – the bulk comes from a dedicated local sales tax. In the coming year, a rough assumption is that DART would have to replace in excess of USD50m were it to go entirely fare-free. That does not take into consideration the additional maintenance and operating costs that might be incurred with anticipated ridership growth.

Put this way, transit agencies and their customers have to know – and embrace – their priorities. Do they want to ride for free? If so, what might they be willing to give up?

It is not logical to assume operators could cover the increased costs permanently. Again, many agencies entering pilots are relying on limited, temporary funds to foot the bill. What are they, their funding agencies, and their communities willing to do in order that those changes can be made permanent? Also, what does free service mean for the rider experience? Are agencies able to maintain their equipment? Are they able to expand service frequency? A trip by public transport with a one-hour headway is really no trip at all. Can the agencies staff manage increased passenger loads? Customers may also wonder if the more crowded services are still safe.

Planning the next destination

Whatever is decided, it will fall to transit authorities and operators to bring the vision of others, along with their own, to life.

Even in the best of times, long-range transit planning is a challenging exercise. That is why comparatively few agencies publish plans which go beyond ten years. The events of the past two years, along with unprecedented new (albeit short-term) funding, have rocked many of those plans. At the same time new priorities are coming to the fore and are being vigorously debated. Perhaps the priorities are not new. We just could not see them until the crystal ball had a good shake. [TAUT](http://www.tautonline.com)

THE CASE OF FREE STREETCARS IN THE US

A number of the latest crop of modern US streetcar systems have been fare-free from the beginning. However, these short urban circulator services are arguably often as much about driving targeted economic and land development, with improved connectivity and modal shift as a happy by-product.



The KC Streetcar carried its five millionth passenger in September 2018 (less than two-and-half years after its inauguration). The urban rail project has been described as a catalyst for urban regeneration and a 'laboratory' for wider 'Smart City' initiatives. Hans Retallick

Examples include Kansas City, where the May 2016 streetcar opening was envisioned as a catalyst for the creation of 'Smart City' infrastructure. The system is therefore a fundamental component of wider public policy ambitions and is paid for by dedicated local taxes.

The new LRT system forms the backbone of high-speed public Wi-Fi, free along the 3.5km (2.2-mile) line, and opted-in smartphone users receive real-time promotions for offers at local restaurants and shops. This not only creates a further revenue stream, but also embeds the system as a part of the urban fabric for users. This strategy has helped leverage private sector partnership from some of the biggest names in telecommunications and networking technology.

Another approach is direct sponsorship. The initial 3.2km (2.1-mile) streetcar route in Milwaukee – or 'The Hop, presented by Potawatomi Hotel & Casino', to give the system its full name – is fare-free thanks to a multi-year sponsorship deal signed with the Potawatomi Hotel & Casino that supports the operating costs. The Native American-owned complex is a major employer in the downtown area and one of the largest entertainment sites in Wisconsin.

Both of these streetcar systems have extensions planned or underway.

ABOUT THE AUTHOR

Transitioning from a career as an award-winning journalist, Morgan Lyons was Vice-President, External Relations, at Dallas Area Rapid Transit in Texas before opening his own communications consultancy, Lyons Strategic.

He has served as Chair of the Marketing and Communications Committee for the American Public Transit Association, and as a member of the body's Board of Directors. He is presently a member of the Legislative Committee. Visit his website at www.lyonsstrategic.com