



**TRANSPORT  
SCOTLAND**  
CÒMHDHAIL ALBA

# Fair Fares Review

## Supporting Paper 4: International Benchmarking

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# Executive Summary

## Methodology

The International Benchmarking workstream was a desk-based exercise undertaken to collect data and evidence on policy interventions and examples of best practice adopted in other countries in relation to the delivery, funding, and integration of public transport services.

## Findings

### Public Transport Interventions adopted in response to the Cost-of-Living crisis and climate change / modal shift objectives

A common theme occurring across many of the interventions is that initial short term policy interventions have often end up being extended for a significantly longer period than was initially planned / announced, highlighting the importance of defined objectives, evaluation, and an exit strategy to manage stakeholder and public expectations being established prior to the introduction of any similar short-term measures in Scotland.

### Public Transport International Case Studies

Identifies 12 international city regions widely regarded by stakeholders as demonstrating examples of best practice in the delivery, funding, and integration of public transport services, and sets out roles and responsibilities, funding and fares models adopted, private car journey demand management measures implemented, and the extent to which transport and land use planning is integrated. Common features present across virtually all examples are:

- the presence of a single “guiding mind” public transport planning authority that brings together a range of public and private operators to provide integrated timetabling and ticketing across all modes of public transport
- the general absence outside of the UK & Ireland of universal schemes providing access to free public transport to those meeting age related criteria. Instead, the trend is for concessionary schemes that provide discounted fares for all modes of public transport for a wider range of people (age related, unemployed, low income, student, asylum seeker)
- high levels of public and user satisfaction in relation to public transport.

# International Benchmarking

## Findings

### Public Transport Interventions adopted in response to the Cost-of-Living crisis and climate change / modal shift objectives

This section summarises policy interventions adopted in response to the Cost-of-Living crisis and climate change / modal shift objectives, the costs and impacts of these interventions and lessons learnt for Scotland.

#### Northern Ireland – Indefinite blanket fares freeze on all public transport services from 28 February 2022

The [Northern Ireland Executive announced in February 2022](#) that fares would be frozen until further notice on all public transport services in Northern Ireland due to the Cost of Living crisis and inflationary pressures which at that time stood at 5.5% (Consumer Prices Index, 12 months to January 2022).

[On 25 October 2022 the Northern Ireland Executive confirmed](#) that the freeze on fares would continue for a further year.

However due to significant budget pressures the [Northern Ireland Executive was required to increase public transport fares](#) by an average of approximately 7% with effect from Monday, 6 March 2023. This was the first time in four years that public transport fares had increased.

#### Further information / context

The Northern Ireland Executive's Department for Infrastructure (DfI) delivers public transport services through an arm's length body, the [Northern Ireland Transport Holding Company \(NITHC\)](#). DfI provides revenue funding under a Public Service Agreement (PSA) to the Northern Ireland Transport Holding Company (NITHC). NITHC is a public corporation whose responsibilities include holding and managing property assets and the oversight, in terms of support, control and supervision, of its private limited

subsidiary companies, the principal ones being Ulsterbus, Metro (previously Citybus) and Northern Ireland Railways, trading jointly as Translink. It is expected to operate commercially and has a duty to operate in line with Ministerial policy.

## Timespan

This fares freeze was initially announced on an indefinite basis and subsequently announced to continue until a further review in October 2023. However, the fares freeze was subsequently ended ahead of this planned review point, with a fares increase effective from 6 March 2023.

## Costs

The costs to government of implementing this policy are not known. However during 2018/19, the last full year prior to the Covid-19 pandemic, [there were a total of 84.5 million public transport journeys undertaken in Northern Ireland](#).

## England (Nationwide) – Single bus journey fares capped at £2 per fare

On 3 September 2022 the [UK Government announced that all local single bus journey fares in England would be capped at £2 per journey](#) under a temporary three month scheme designed to encourage uptake of local bus services and support the sector's ongoing recovery from Covid. This followed on from a number of regional schemes offering a flat fare including Cornwall, South Yorkshire, Greater Manchester, Liverpool City Region and West Yorkshire.

On 17 February 2023 the [UK Government announced that the scheme had been extended until 30 June 2023](#) with up to £75 million of additional funding being provided.

On 17 May 2023 it was [announced that the scheme had been further extended until October 2023](#) and would then run for a further 13 months thereafter at a flat fare of £2.50, all supported by up to £200m of additional funding from DfT at the same time as a further additional £300m to support bus services more generally is being provided by DfT. It was later announced that the [£2 cap would remain in place until the end of 2024](#).

The DfT claim that the initial scheme will take at least 2,000,000 car journeys off England's roads and will save the average passenger 30% off the ticket price every time that they travel.

Transport Focus undertook public surveys in the first month following the launch of the scheme in England with awareness of the scheme being quite high at 53% and 32% of people saying they might use the bus more often as a result of the scheme being introduced and 7% saying that they are already using the bus more often due to the scheme.

[Further Transport Focus research published in March 2023](#) revealed that 56% of people are now aware of the fare cap, 25% of people have used the bus since the fare cap was introduced, 11% have increased their use of bus due to the fare cap and 80% agree that the fare cap will assist with the cost of living.

## Further information / context

Local bus services in England are predominantly operated on a commercial basis by private operators. The Department for Transport (DfT) provides funding to support bus services. Services in London and Manchester (some) are operated as franchises on behalf of Transport for London (TfL) and Transport for Greater Manchester (TfGM) respectively. Other English authorities are considering moving to a franchise model.

## Timespan

Initially announced as running from 1 January – 31 March 2023 – subsequently extended until 30 June 2023, and then extended again until end of October 2023. A further extension was announced to the end of November 2024 with the flat fare increased to £2.50. It was later announced that the £2 cap would remain in place until the end of 2024.

## Costs

Up to £60 million UK Government funding for the initial scheme with up to a further £75 million of UK Government funding being provided to support the extension to the end of June 2023– up to £135 million in total. A further up to £200 million to support the extension to the end of 2024.

## Republic of Ireland – Universal Public Transport Fares Reductions

The Republic of Ireland announced its first [nationwide reduction in public transport fares](#) since 1947 in spring 2022 in response to the Cost of Living crisis.

From mid-April 2022, fares on all non-Dublin city Public Service Obligation (PSO) services and on certain Iarnród Éireann (Irish Rail) services were reduced by an average of 20% including:

- All Bus Éireann PSO services
- Go-Ahead Ireland commuter services
- Local Link (rural bus services including door to door services)
- Irish Rail web-fares

From May 2022 fares were reduced by an average of 20% on all PSO services in the Greater Dublin Area, and on Iarnród Éireann services including on intercity services. This includes:

- Dublin Bus
- Go-Ahead Ireland
- Luas (Dublin tram network, publicly owned but operated by Transdev)
- DART (electric train network operating in Dublin, Malahide, Howth and County Wicklow)
- Commuter rail
- Iarnród Éireann

### Further information / context

The [National Transport Authority \(NTA\)](#) is a statutory non-commercial body, which operates under the aegis of the Department of Transport.

Established in 2009, the NTA is responsible for developing and implementing strategies to provide high quality, accessible, sustainable transport across Ireland.

One of the primary statutory functions of NTA is to develop and implement a transport strategy for the Greater Dublin Area, and the Authority is also closely involved in developing transport strategies in our regional cities.

NTA funds and oversees Public Service Obligation (PSO) public transport, ensuring that vital bus and rail services are available to communities in all parts of the country under the Transport for Ireland brand.

NTA is also the licensing authority for the commercial bus sector and Small Public Service Vehicles (SPSVs).

With respect of public transport, the [Department of Transport \(DoT\)](#) is responsible for the regulation of bus, rail and taxi:

- to secure the maintenance, renewal, and improvement of the appropriate transport network \*ensure the effective delivery of public transport services for current and future users to efficiently support economic competitiveness, social needs, sustainability and safety objectives

- to promote smarter travel and advance greater sustainability in passenger travel and freight transport

All railway services in Republic of Ireland are publicly owned and operated.

## Timespan

From Spring 2022 – end 2022

## Costs

Annual government funding for PSO and Local Link public transport services is 538 million EUR, equivalent to over £454 million at current exchange rates.

The [cost of providing the discounted adult public transport fares](#) from spring to the end of 2022 is 54 million EUR, equivalent to over £45 million at current exchange rates.

## England (various) – Fares Freezes

West Midlands Combined Authority has announced that [bus fares will be frozen at current levels across the region until 2025](#), under a new plan agreed with operators to assist new and existing passengers with the cost-of-living – saving the average commuter £250 a year.



The DfT has deferred the annual rail fares rise, normally due in January, until March in both 2021 and 2022 due to Covid-19. A similar deferral occurred in 2023, with a commitment to subsequent fares increases being held below July 2022 RPI rate. Regulated Rail fares have now been increased by 4.9% in England with effect from March 2024.

## Germany – 49 Euro Monthly Public Transport “Deutschland” Ticket

A [paperless ticket](#) that is the successor to the promotional 9 Euro monthly ticket that was launched in summer 2022 as part of a broader package of Cost of Living measures which included measures to constrain the costs of domestic energy and road fuel (German Federal Government Energy Cost Relief Package). Initially due to go live from 1 January 2023, implementation was delayed to May 2023. The subscription only ticket provides unlimited travel on all local public and regional public transport including bus, tram, metro train and S-bahn.

The ticket is not valid on InterCity Express, InterCity, EuroCity (international) or FlixTrain (private operator) services.

[Research undertaken by McKinsey](#) on the 9 Euro precursor indicates:

- More than 40 per cent of German respondents purchased the ticket in the first month following the scheme's introduction
- A further 20 per cent indicated that they intended to purchase the ticket in July
- 71% of people surveyed in the United Kingdom would be interested in purchasing flat rate public transport tickets similar to Germany's offering

[By mid-July it was reported](#) that 48% of the German population had purchased a monthly ticket and that rail journeys of 30km or more had increased by 42% in June 2022 compared with June 2019. Data showed a 58% increase in journeys of less than 300km compared with the same period in 2019, with journeys of 30-100km up by 58% compared with pre-Covid levels while a 64% increase was reported for journeys of 100-300km. Weekend travel also increased by 83%.

[Reports indicate](#) that whilst the measure commanded the approval of 80% of voters in Germany, complaints have been made that the scheme was unfair because rural communities without access to trains or public transport end up financing cheaper trips for urban populations as the scheme is heavily subsidized by the Federal Government. Research also indicates that the scheme had mainly encouraged people to undertake additional journeys that would not otherwise have been made rather than instigate significant modal shift from car.

It is worth noting that at the same time that Germany introduced this pass, it also [lowered the cost to the consumer of diesel and petrol](#) which may account for the reported persistence of private car journeys at the same level as prior to the scheme's introduction.

According to the Association of German Transport Companies (VDV), 42 million 9 € monthly passes were sold between 1 June – 31 August 2022. For context, Germany's total adult population is 69.5 million people.

Given the high take-up of the scheme on 13 October 2022 the German Federal Government announced the launch of a permanent successor to the scheme from 1 January 2023 with monthly tickets costing 49 EUR

### Further Information / Context

Germany has three tiers of government. While states and local authorities are responsible for local and regional public transport, the federal government provides states with additional funding for public transport. The federal government also owns Deutsche Bahn. States procure local and regional train services provided by its subsidiary DB Regio. Long distance bus services were banned until 2013 to protect the nationalised railway. Since then, the market for such services has grown quickly.

### Timespan

9 Euro ticket – 3 months: June, July, and August 2022

49 Euro ticket – Permanent from May 2023

### Costs

9 Euro ticket – 2.5 billion EUR paid by the German Federal Government

49 Euro ticket – The German Federal Government are providing initial funding of 1.5 billion EUR to finance the scheme. [It has been reported](#) that the total taxpayer subsidies required to fund the scheme are 3 billion EUR with local and regional authorities to pick up the remaining funding requirements

## Spain – Reduced cost and Free Public Transport Fares and Season Tickets

In response to Cost of Living pressures, in July 2022, the Minister of Transport, Mobility and Urban Agenda, Raquel Sánchez, set out details of Government grants to Autonomous Communities to [reduce the price of collective public transport under their competence by 30%](#) (metros, buses and trams). Government funding by way of grant payments supported the fares reductions of season tickets and multi-trip transport tickets by 30%, excluding the round-trip ticket, between 1 September and 31 December 2022. Autonomous Communities could choose to supplement the reduction up to 50% or 60%.

This followed the Government announcement which also included [a fare reduction of 50% for multi-trip tickets for rail services](#) provided by Renfe subject to Public Service Obligations (*Cercanías* (commuter services), *Media Distancia* (medium distance less than 300km) and Avant (high speed, shorter distance)), and multi-trip tickets for long-distance state owned bus routes, for the same time period. The package of aid support totalled up to €221 million, payable to administrations managing the different services.

A [subsequent announcement](#) declared a 100% rail discount on multi-trip ticket journeys on all multi-journey passes for Cercanías, Rodalies and medium distance public service trains operated by Renfe. [The 100% rail discount was subsequently extended to the end of 2023](#), with €700 million pledged by Government to cover costs.

A further announcement declared that long-distance, state-owned bus routes would also be [discounted by 100% to the end of 2023](#).

### Further Information / Context

[Spain is a constitutional monarchy](#), with the prime minister as head of government and the monarch as head of state. The prime minister presides over a council of ministers. A unitary state, Spain is composed of 17 autonomous communities and two autonomous cities with varying degrees of autonomy. Local government, comprising of Provinces and Municipalities, make up the third tier of government.

The [Ministry of Transport, Mobility and Urban Agenda](#) is responsible for the regulation and management of transport

at the national and trans-regional level. [Autonomous Communities](#) are responsible for implementing and managing national policy across their regional networks, as well as exclusive legislative / executive responsibility for building / management of regional transport infrastructure. At a local level, Provinces are responsible for securing coordination and provision of municipal services, and Municipalities are responsible for local public transport and collective public transport where there are more than 50,000 inhabitants.

## Timelines

Originally September 2022 to December 2022, then extended to end of 2023.

## Costs

Government pledges of up to €921 million.

## Austria – Klimaticket and 365 Euro Ticket

Launched on 31 October 2021, the [Klimaticket](#) was devised by Austria's Federal Government as a means to deliver modal shift from car, which accounted for 84% of all journeys undertaken in 2018, to public transport. The annual ticket provides unlimited travel on public transport across Austria and costs are as follows:

- 1,095 EUR regular individual
- 821 EUR aged 25 or younger, 65 or older, or disabled
- 1,205 EUR family ticket (up to 4 children aged between 6 and 15)

Employers can purchase tickets on behalf of employees and claim tax relief for so doing.

The [365 Euro annual public transport ticket](#) is valid for unlimited travel in the core zone of Vienna on the underground, trams and buses (with the exception of special rapid bus lines), trains operated by ÖBB (e.g. suburban trains) and on services operated by Wiener Lokalbahnen (as far as Vösendorf-Siebenhirten). The ticket is issued as a plastic card or mobile app

## Further Information / Context

Transport in Austria is regulated and managed at the national level by the Transport Directorate of the [Ministry for Climate Action, Environment, Energy, Mobility Innovation and Technology](#).

In recent years a number of integrated transport alliances (Verkehrsverbund) have been introduced at local and regional level that offer the passenger, under application of a uniform tariff system, the benefit of a joint ticket at a discounted rate ("network rate") covering all involved scheduled transport operators (rail, public and private bus operators, and municipal transport companies). Overall, there are currently eight such integrated transport alliances in Austria that from the territory covered mostly align with the federal state boundaries.

## International Case Studies – City regions

This section presents international case studies from a selection of city regions and summarises their approach to the delivery, management, and funding of public transport. This provides context for both the public transport offering and the 'system' through which it can be delivered.

### Vienna

Vienna is the capital, largest city and one of nine provinces of Austria, with a population of 1.8 million residents.

#### How is public transport in Vienna operated / controlled?

Though predominantly under public ownership, public transport in Vienna is mixed between public and private operators.

- The U-Bahn (underground metro system), trams and most bus routes are owned and controlled by the city council
- Some other bus routes, including demand responsive services are operated by private companies contracted by the city council

- The S-Bahn (suburban railway) and long-distance railway networks are operated by OBB (Austrian Federal Railways) which is state owned by the Republic of Austria.
- All modes are integrated in the Vienna region under the Wiener Linien (Viennese Lines) branding.

## How is public transport in Vienna funded

Pre-pandemic, operating costs were met by a ratio of [55% farebox revenue: 45% government subsidy](#).

A tax applies on large employers in Vienna – the Public Transportation levy – where large employers must pay 2 EUR per employee per week. Revenue raised is used to pay for expansion of the U-Bahn metro system. This raises around 70 million EURO per annum.

The Federal Government pays 50% of the up-front capital costs of expanding the U-Bahn network with remaining 50% costs being met by the city council (partly through the large employers Public Transportation levy).

The U-Bahn was only approved in the late 1960s and the network was doubled to 80km from 1990 to 2015. Expansion continues to this day.

## What is the fares structure / fares policy in Vienna?

Fares policy is set by Vienna City Council and implemented by the Vienna Verkehrsverbund Ost-Region (VOR).

As noted above, the 365 EURO annual ticket provides travel for 1 EURO per day for all adults (not within the concessionary categories) across all modes. 46% (822,000) of the city's 1.8 million residents has an annual public transport ticket.

24/48/72 hr tickets provide unlimited travel across all modes for 8.00/14.10/17.10 EURO respectively. A supplement is applied to all journeys to / from Vienna Airport. These tickets are more generally geared towards tourists / visitors to the city.

Employers in Austria are able to provide public transport tickets to their employees tax-free regardless of the ticket type (1-2-3 ticket, network ticket, route ticket, etc.), provided that the ticket is valid at least at the place of residence or work. This also applies to the Klimaticket discussed above.

## How is demand management applied in Vienna?

[Parking management and charges](#) now apply in all of the city's 23 districts.

All revenues from parking are ring-fenced for investment in Vienna's transport network including funds for public transport and road safety improvements including traffic calming.

[Parking fees have been increased](#) by 60% since 2012 thereby increasing the revenue derived from that source that is redistributed towards public transport.

Radio controlled traffic lights and priority lanes give bus and tram priority on the city's roads reducing public transport journey times.

### **How are fares and services in Vienna integrated?**

Fares, ticketing, and timetable / modal integration is delivered by the Vienna Verkehrsverbund Ost-Region (VOR) which was established in 1984 in order to coordinate and integrate public transport services and fares across the region.

VORs are common in Germany, Austria and Switzerland, bringing together the various bodies, operators and organisations involved in delivering public transport services in the relevant geographical area.

The planning and administrative costs of the Vienna VOR are paid by the Federal Government.

All tickets issued have VOR branding and a QR code which enables usage across all modes.

### **What concessionary travel scheme is offered in Vienna?**

There is no universal free travel offering for age related criteria other than children aged up to six years.

However, there are further targeted subsidies / ticket price reductions for specific groups in society:

- School students and apprentices commuter travel on public transport is fully subsidised
- Senior citizens (age 60 plus) annual ticket is 235 EUR
- School students annual ticket is 60 EUR
- Travel is free on all modes of transport for asylum seekers from Ukraine

### **What is the modal share in Vienna?**

The [STEP 2025](#) Vienna urban development plan sets the target to reduce modal share for car journeys to 20% by 2025.

[960.7 million journeys](#) were made by public transport in 2019 on Wiener Linien services across all modes.

## Singapore

The Republic of Singapore is an island country and city-state in maritime Southeast Asia. With a population of almost 5.5 million residents, it has the second highest population density of any country in the world.

### How is public transport in Singapore operated / controlled?

Though predominantly under public ownership, public transport in Singapore is mixed between public and private operators.

The Mass Rapid Transit (MRT) system is the backbone of Singapore's public transport system. Singapore has six MRT lines consisting more than 130 stations, with about 200km of rail spanning the island. It is complemented by the bus system, which provides connections between residential towns and MRT stations. The MRT and bus systems are brought together by the Integrated Transport Hubs (ITHs) – bus interchanges linked to MRT stations and commercial developments such as shopping malls. There are currently nine ITHs in Singapore.

The Government has also committed to building more MRT lines to alleviate the load on existing lines. [The Land Transport Authority's \(LTA\) Land Transport Master Plan \(LTMP\) 2013 included plans to further improve Singapore's rail connectivity to reach more housing and industrial areas, with an eventual aim to have eight in 10 households live near an MRT station by 2030.](#)

### How is public transport in Singapore funded

[Farebox revenue](#) accounted for 97% of public transport's operating costs prior to the pandemic.

The Land Transit Authority (LTA) in Singapore depends on government subsidies and fare revenues to cover operating costs and bond issuance to fund capital investment. [At the end of FY 2021/2022](#), it had bond liabilities of S\$9.5bn. In the year to the same date, fare revenue appears to cover less than half of its operating income (S\$648 million of a total S\$1,862 million) with payments from government (S\$2,926 million) equivalent to over 60% of its operating expenses (S\$4,759 million) also covering a large operating deficit.



## What is the fares structure / fares policy in Singapore?

The [fare structure](#) across bus and rail is distance based, rising in line with the distance travelled.

The fare remains the same regardless of whether people are travelling direct end to end on only one mode or vehicle or whether they are transferring to another vehicle to complete their journey.

However different fare structures apply in relation to the type of bus service used – Trunk or Express – with significantly higher fares applying on Express services. The premium charged for Express services is roughly 40% of the cost of the Trunk Fare.

Discounts are applied to any rail journeys made prior to the morning peak i.e. where a card is tapped in to start a journey before 07:45am.

## How is demand management applied in Singapore?

### Private vehicle ownership and registration

Drivers in Singapore need to obtain a [Certificate of Entitlement](#) which allows people to register, own and use a vehicle for ten years. Each year, the Land Transport Authority (LTA) allocate a quota of how many certificates can be allocated that year, and 1/12th of the certificates are put to auction each month. The price of each certificate rises alongside demand, therefore when demand is high the certificate may cost more than a car which can make driving inaccessible for those on lower incomes.

### Private vehicle usage

In 1998, the Land Transport Authority (LTA) implemented an Electronic Road Pricing system whereby drivers are charged for use of busier roads during peak times to reduce traffic. By using open road tolling, drivers do not need to slow down to pay tolls – battery powered units are installed into each car with integrated smartcards with a pre-paid value. Overhead gantries are placed above road level with sensors, and subsequently remove the value of a charge from a car's smartcard as they drive past.

Prices charged are also variable dependent upon the vehicle size.

[Revenues derived from this road pricing scheme](#) are roughly \$S150 million per year, 10 per cent of the local transport authority's income (compared to the 4% of TfL income raised by the London Congestion Charge in 2019).

The income derived from these auctions was higher than the total revenue raised by the LTA across all other funding streams meaning levies raised on transport are being used to fund other public services besides transport.

### How are fares and services in Singapore integrated?

The Singapore [Public Transport Council](#) (PTC), regulates public transport fares and ticket payment services. It also advises the Minister for Transport on public transport matters. Established in 1987 under the Public Transport Council Act (Cap 259B), the PTC operates within the ambit of the Public Transport Council Act and in accordance with overarching public transport policies.

The PTC strives to bring about a quality and affordable public transport system for the people of Singapore. We also work closely with the public transport industry players and public agencies like the Land Transport Authority (LTA).

Key statutory powers include:

- Regulating bus and train fares (taxi fares have been deregulated since 1 September 1998)
- Promoting and facilitating the integration of bus and train fares for efficient public passenger transport services and facilities
- Regulating ticket payment services for buses and trains
- Regulating penalty fees to deter fare evasion
- Regulating fare structure of P2P services
- Gathering public feedback on any matter relating to bus, train, street-hail, and ride-hail services in Singapore
- Advising the Minister for Transport on public transport matters.

### What concessionary travel scheme is offered in Singapore?

There are no groups of person who are entitled to free [concessionary public transport in Singapore](#).

However discounted concessionary travel is available to the following groups:

- Student (approximately half standard adult fare)
- Senior Citizen (approximately 2/3 standard adult fare)
- On Workfare Programme (lower income worker whose earnings are in the bottom 20% of the population) (less than half std adult fare)
- Persons with a disability (same rate as senior citizens)

## What is the modal share in Singapore?

[69.2% of journeys in Singapore](#) are undertaken by public transport, walking, cycling or taxi.

## London

### How is public transport in London operated / controlled?

Mixed between public and private ownership but co-ordinated by [Transport for London](#) (TfL) which is a public body responsible for implementing the Mayor for London's Transport Strategy.

There are three units, each with responsibility for different aspects of the organisation:

- Surface Transport
- Underground
- Crossrail

Surface Transport covers the following areas:

- Buses
- Overground
- Docklands Light Railway
- Roads
- Cycling
- River services
- Tram
- Emirates Air Line
- Victoria Coach Station
- Dial-a-Ride
- Taxi & private hire
- Walking

Underground covers the following areas:

- Underground
- Elizabeth line

## Crossrail Ltd

This joint venture between Transport for London and the Department for Transport built a new railway under central London. This will eventually connect Reading and Heathrow in the west, to Shenfield and Abbey Wood in the east.

The service has now launched as the Elizabeth line.

## How is public transport in London funded?

Fares are the single largest source of [TfL's income](#). Decisions on whether to change fare levels are made each year by the Mayor, after consultation with TfL. Other revenue streams are as follows:

- Demand management proceeds - Income generated from the Congestion Charge, Ultra Low Emission Zone and other road network compliance charges.
- Commercial activities - advertising, property rentals and property sales as well as third-party sponsorship for Santander Cycles and the IFS Cloud Cable Car. This includes advertising income derived from temporarily changing station names (e.g. Piccadilly Circus became Picardy Circus for 3 days to promote an Amazon Star Trek series).

Demand management and commercial revenues are around one third the amount TfL raise from fares.

In addition, grants are received from central and local government. The main sources are:

- Business Rates Retention - funded from a proportion of local business rates and paid to us from the GLA. This is the largest source of grant income to TfL
- GLA precept - funded from Council Tax receipts and set annually by the Mayor
- Crossrail funding from the GLA which goes towards completing the infrastructure for the Elizabeth line
- Other capital grants, for example from the Housing Infrastructure Fund. These grants fund specific projects where TfL have agreements with other funding bodies, including central government

## Borrowing

TfL has historically used borrowing to help finance investment in London's transport network within the authorised limit for external debt at all times, ensuring that any borrowing is prudent and affordable.

For every pound TfL receive, around 80% is spent on the everyday running costs of the network and around 20% on renewing and improving it for the future.

## What is the fares structure / fares policy in London?

Bus and tram have daily and weekly caps (£5.25 and £24.70 respectively)

Zonal fares apply for Tube, DLR, London Overground, Elizabeth line and National Rail services.

Fares policy is set by TfL.

## How is demand management applied in London?

### Private vehicle usage

Central London Congestion Charge

The Congestion Charge is a £15.00 daily charge if you drive within the Congestion Charge zone 7:00-18:00 Monday-Friday and 12:00-18:00 Sat-Sun and bank holidays. No charge between Christmas Day and New Year's Day bank Holiday (inclusive).

[The Ultra Low Emission Zone](#) (ULEZ) charge (£15.00 per day) also applies to vehicles that do not meet ULEZ standards.

[The London ULEZ was expanded](#) with effect from 29 August 2023 to cover all of London's boroughs.

[A penalty charge of £180](#) applies to breaches of these rules, reduced to £90 if paid within 14 days and increasing to £270 if not paid within 28 days.

### Commercial vehicle usage

The Low Emission Zone (LEZ) is designed to encourage the most polluting heavy diesel vehicles driving in the Capital to become cleaner. It covers most of Greater London and operates 24 hours a day, every day of the year. [Daily charges](#) range from £100 to £300.

## How are fares and services in London integrated?

TfL integrate fares, ticketing and schedules across the various modes.

## What concessionary travel scheme is offered in London?

[60+ London Oystercard](#) provides free travel on bus, Tube, tram, DLR, London Overground, Elizabeth line (excluding between West Drayton and Reading) and most National Rail services in London for residents of London who aged over 60.

Travel is not permitted before 0900 on Mondays to Fridays (except bank holidays).

A disabled persons Freedom Pass provides free travel on the above modes for eligible London residents with no timebound restrictions on when journeys can be made.

## What is the modal share in London?

[In 2021 public transport accounted for 21% of all journeys undertaken](#). This compares with the England-wide figure of 7%.

## Oslo

Oslo is the capital and most populous city in Norway. It constitutes both a county and a municipality. The municipality has a population of around 710,00 whilst the Oslo City Region including Akershus has a population of around 1.2 million residents.

## How is public transport in Oslo operated / controlled?

Public transport ownership / operations in Oslo is mixed.

Ruter AS is a common management company for public transport in Oslo and Akershus. It is owned by Oslo municipality (60%) and Akershus county authority (40%). They plan, coordinate, order and market public transport in the area. All operative service is contracted out and performed by various operating companies - all within the same ticket and price system.

The tram and metro system are operated by subsidiaries of the municipally owned Sporveien Oslo AS.

Bus routes are operated by a number of private operators under public service operator contracts. Ruter have been able to redesign contracts so city buses increasingly terminate travellers at stations instead with the aim of shifting bus and

tram commuters onto rail to avoid the congestion caused by multiple transport modes travelling side by side. They are able to design the network in this way since private operators are told what services the state / council wants, are paid a set fee to deliver them and then all the revenue comes to the local authority. Hence, Ruter have full control over the network.

Ferry services are operated by Norled and Oslo-Fergene under contracts to the Norwegian Public Roads Administration and Ruter.

Rail services are provided by Entur AS, owned by the Norwegian Ministry of Transport and Telecommunications.

Ruter provide additional subsidies to hold rail fares in the Oslo area to a lower level than comparable national rates.

### **How is public transport in Oslo funded?**

[Government operates at three levels in Norway](#), national, county and local. Counties enjoy most responsibility for public transport provision. The national government is responsible for national rail operations

The funding of scheduled local public transport provided by the counties comes from five main sources: County tax; Block grant from the Ministry of Municipalities and Regions; Urban environment agreements Reward scheme; Income from toll roads; and Income from ticket sales.

The image below illustrates how transport decision making and funding works in Norway.

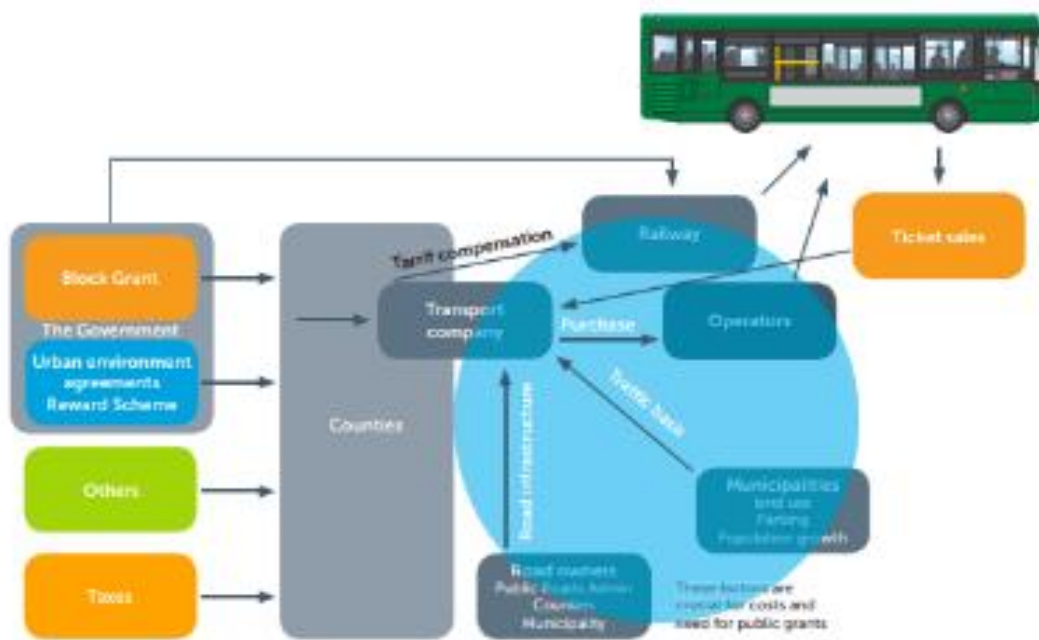


Figure 1: Transport Decision Making in Norway (Source: Norheim et al., 2016)

Proceeds from toll income - £0.8 billion Norwegian Krone (£62.25m in 2016).

The rate of [subsidy to farebox revenue](#) was around 50% prior to the pandemic.

### What is the fares structure / fares policy in Oslo?

Fares policy is set by Ruter. Fares are based on a Zonal ticketing structure.

A surcharge (20 Norwegian Krone) if tickets are bought on board, therefore passengers are incentivised to buy tickets in advance.

### How is demand management applied in Oslo?

#### Private vehicle usage

Oslo has a combined congestion charge and low emission zone – the cost of entering the city is dependent on vehicle and fuel type, as well as time and distance. All of Norway’s toll stations are automated, and drivers are encouraged to get an AutoPASS contract and install an electronic payment tag (can also be used in Denmark and Sweden).

When pollution is high, city officials implement a temporary emergency driving ban for diesel cars. Any violation of this ban results in a fine equivalent to 162 euros. The council’s website states ‘the purpose of the diesel ban is to improve air quality and also reduce the health burden’.



Over 700 parking spaces for private cars have been removed, to create space for other activities and increase disabled parking spaces alongside space for deliveries and traders. Additionally, approximately 1.3 sq km of road space has been made car-free and further areas of the city give pedestrians, cyclists, and public transportation greater priority than private cars.

### **Public Transport and Land Use Planning Integration**

Coordinated land use and transport planning is an important factor driving Oslo's development away from urban sprawl. Since the 1990s, there has been a professional and political consensus concerning urban densification as an overall strategy for urban development. A deliberate policy transforming old industrial areas into housing and densification around public transport hubs makes car-ownership unnecessary.

### **How are fares and services in Oslo integrated?**

All public transport in Oslo is part of the same ticket and price system, operated by [Ruter](#).

### **What concessionary travel scheme is offered in Oslo?**

Disabled persons and their companions travel free on Ruter services.

There is no age related free travel provision, however there are 50% discounts for those aged above 67 and 60% discounts for serving members of the military.

### **What is the modal share in Oslo?**

[Public transport accounts for 30% of all journeys undertaken in Oslo.](#)

## **Berlin**

Berlin is the capital and largest city of Germany both by area and population. Its population of around 3.645 million residents within its city limits make it the European Union's most populous city.

### **How is public transport in Berlin operated / controlled?**

Mixed, but mainly public ownership.

Berlin's local public transport network is under the planning control of the regional transit authority named Verkehrsverbund Berlin-Brandenburg (VBB), a common

undertaking of the two federal states (Bundesland) Berlin and Brandenburg, plus the counties (Landkreis) and cities of the Land of Brandenburg.

The VBB is the planning authority for regional transport, awards service contracts to private and public companies, and sets the fare tariffs. For transport lines and networks which do not pass a county's borders, the locality is responsible. This also means that the city-state of Berlin is the sole authority to award service contracts for networks and lines which do not pass beyond the city limits, but has to come to an agreement with the surrounding Land Brandenburg for regional rail and bus transport, i.e. the S-Bahn and regional trains.

### **U-Bahn (Urban subway system)**

The U-Bahn is operated by the Berliner Verkehrsbetriebe (BVG), the city owned municipal transport operator.

### **S-Bahn (suburban railway system)**

The S-bahn is operated by a subsidiary of Deutsche Bahn, the national rail operator which is stated owned under the control of the German government.

### **Tram**

Berlin's tram network comprises 22 tram lines serving 377 tram stops and measuring 293.78 kilometres (182 mi 44 ch) in length (two single tracks combined). All these services are operated by the Berliner Verkehrsbetriebe (BVG).

### **Bus**

Berlin has a network of 152 daytime bus routes serving 6.589 bus stops and with a total route length of 1.798 kilometres (1.117 mi). All these services are operated by the Berliner Verkehrsbetriebe (BVG).

Of the BVG-operated bus routes, 19 are designated as part of the MetroNetz, which provides a high frequency service in areas poorly served by the U-Bahn and S-Bahn.

### **Ferry**

There are six passenger ferry routes that are operated by the Berliner Verkehrsbetriebe (BVG) and use the common public transport tariff managed by the Verkehrsverbund Berlin-Brandenburg (VBB).

There are also a number of other ferry routes that are not managed by BVG, and do not form part of the VBB common fares tariff. These include passenger and car

ferries serving islands within Berlin's lakes, as well as a car ferry across the River Havel. The adjacent city of Potsdam operates a ferry that is within the VBB common tariff.

### How is public transport in Berlin funded?

Germany is another country with three tiers of government. While states and local authorities are responsible for local and regional public transport, the federal government provides states with additional funding for public transport. The federal government also owns Deutsche Bahn. States procure local and regional train services provided by its subsidiary DB Regio. [Long distance bus services were banned until 2013](#) to protect the nationalised railway. Since then the market for such services has grown quickly.

In 2008, 40% of €22.3bn in operational funding for public transport came from fare and advertising revenues, with the remainder coming from government. The public sector also disbursed a further €2.3bn in capital investment grants.

The federal government provides funding for infrastructure projects through a fixed annual budget. Funding is determined after assessing potential projects competing for funds on a BCR basis. Decisions about which projects to support ensure that each state receives a proportionate share of annual funding. This eliminates the possibility of a concentration of funding across the country similar to that favouring London within the UK. However, there may be concentration within the states (five of Germany's 16 states have larger populations than Scotland). Such funding usually covers more than half of the cost of an infrastructure project with local authorities and sometimes transport operators (whether publicly or privately owned) expected to provide additional funding.

Public private partnerships have also been used to fund infrastructure projects. These have usually been entered into by the federal government rather than lower tiers of government. Issuing bonds to raise funds explicitly for infrastructure projects appears to be uncommon.

Farebox revenue accounted for 70% of operating costs prior to the pandemic.

### What is the fares structure / fares policy in Berlin?

Integrated flat fares valid across all modes set by the [Verkehrsverbund Berlin-Brandenburg \(VBB\)](#). This covers the city of Berlin and approximately 15 kilometres (9.3 mi) beyond the city boundaries. The area is split into three zones. Zone A is the central parts of the city (inside the Ringbahn), and zone B is the outer parts of Berlin City. Zone C covers an area beyond the city boundaries.

Tickets can be purchased on a single journey, short trip (transfer permitted), 24 hr, seven day, or monthly basis and employers can purchase discounted tickets for employees.

## How is demand management applied in Berlin?

The Berlin Mobility Act, passed in 2018, is the foundation for Berlin's overarching urban planning strategy. This has been reflected in several of recently passed laws: the pedestrian law in January 2021, the urban development plan for mobility and traffic was passed in March 2021 and the cycling law in September 2021.

Among other things, the pedestrian law extends the amount of time the green light is lit on pedestrian traffic lights; provides safer routes to school for children, and enacts tougher action against illegal parking and dangerous driving. Each of the twelve Berlin districts must now develop corresponding pilot projects within three years.

### [The Acts sets out targets for modal share by 2030.](#)

From 1 January 2020, [Berlin's Low Emission Zone](#), bounded by the area within the S-Bahn ring, can only be accessed by vehicles with a green sticker which certifies compliance with certain emissions standards. Driving or parking in the low emission zone without a green sticker or an exemption permit is an offence and costs 100 Euros fine.

## How are fares and services in Berlin integrated?

Fares, ticketing and services are integrated across all modes by the [Berlin Brandenburg VBB](#) which brings together over 40 different transport operators under a common and integrated fares, ticketing and planning regime.

The Metronetz bus network provides a high frequency bus service in areas poorly served by the U-Bahn and S-Bahn.

## What concessionary travel scheme is offered in Berlin?

The [Berlin Sozialticket](#) provides unlimited travel on all public transport for 9 EUR per month for all in receipt of social welfare/ unemployment benefits.

Persons with severe disabilities and their companions travel [free of charge](#) on all services, whilst children aged 6-14 travel on a reduced fare.

## What is the modal share in Berlin?

Berlin has induced a 20 percent decrease in car travel and a 25 percent increase in active transport since 1998, through measures such as the introduction of a low-emission zone and investment in the cycling infrastructure.

Modal share:

Public transport accounts for 22% of all journeys undertaken in Berlin, which is lower than car (30%)

## Luxembourg

Luxembourg, officially the Grand Duchy of Luxembourg, is a small landlocked country in western Europe. It borders Belgium to the west and north, Germany to the east, and France to the south. Luxembourg is the only surviving grand duchy in the world. Its capital and most populous city, Luxembourg, is one of the four institutional seats of the European Union (together with Brussels, Frankfurt, and Strasbourg) and the seat of several EU institutions, notably the Court of Justice of the European Union, the highest judicial authority.

## How is public transport in Luxembourg operated / controlled?

Public transport ownership / control in Luxembourg is mixed between public and private operators.

### Bus

Mainly private operators operating under contract to the Luxembourg City Municipality (Autobus de la Ville de Luxembourg (AVL) or the Ministry for Transport with some services also operated by the publicly owned rail company, Société Nationale des Chemins de Fer Luxembourgeois (CFL) and some operated directly by AVL.

### Rail

Operated by the publicly owned CFL.

### Tram

Operated by Luxtram a public company with directors from the Municipality of Luxembourg and the Ministry of Mobility and Public Works and the Ministry of Energy and Spatial Planning

## How is public transport in Luxembourg funded?

There is [no farebox revenue](#) as public transport has been free of charge for all residents of and visitors to Luxembourg since 29 February 2020. This applies to all public transport services i.e. rail, bus and tram and the policy was introduced to address the very high levels of car ownership and usage in Luxembourg. This policy is estimated to add an additional 41 million EUR to government annual funding for public transport.

## What is the fares structure / fares policy in Luxembourg?

Not applicable.

## How is demand management applied in Luxembourg?

No significant demand management measures adopted

## How are fares and services in Luxembourg integrated?

Not applicable.

## What concessionary travel scheme is offered in Luxembourg?

Not applicable

## What is the modal share in Luxembourg?

[Car density](#) is 696 cars per 1,000 people as at 2020 and almost 9 out of 10 households have a car.

In May 2022 [car traffic volumes](#) were at roughly similar levels as in May 2019, prior to the introduction of the universal free public transport policy.

## Paris

Paris is the capital and most populous city of France, with an official estimated population of 2.161 million inhabitants in the city of Paris and 12.21 million in the wider Ile de France region. This makes it the fifth most populated city in the European Union and with an area of 105 sq km, the 30<sup>th</sup> most densely populated city in the world.

## How is public transport in Paris operated / controlled?

Mixed but mainly publicly owned and operated.

The majority of public transport services in the Greater Paris region are operated by The Régie autonome des transports parisiens (RATP) (Parisian Autonomous Transport Administration) which is state owned.

RATP operates the following:

### Paris Metro

A system of mostly underground rapid transit lines which run throughout the city, with some lines extending somewhat beyond the city boundaries. The Métro has 16 lines with 226.9 km (141.0 mi) of track and 308 stations.

### Rail

Parts of the RER Regional Express rail network in parts of the Paris region. The remaining rail services within the region are operated by SNCF which is also state owned.

### Bus

The Paris City Bus System which comprises 351 lines covering a total of 2,399 route miles, including the Noctilien night bus network.

Suburban bus services are operated by a consortium of 90 Optile affiliated private bus companies which operate 1,070 bus lines.

### Bus Rapid Transit

Two BRT lines.

### Tramway

8 of the 14 lines operating within Paris` tramway system totalling 63.3 route miles and 183 stops.

These services are all operated by RATP either in its own name or on behalf of and under contract to under its own name, on behalf of and under contract with Île-de-France Mobilités (IDFM), the Paris region public transport authority.

## How is public transport in Paris funded?

[Farebox revenue](#) accounts for 30% of total revenues with 52% of public transport costs being funded by the Versement Transport tax which is a local payroll tax levied on employers employing more than 11 people (tax rate between 1.4-2.6% of gross wages). The remaining 18% of public transport costs are met by government subsidy.

The philosophy behind this approach to funding, similar to that in Vienna, is that public transport is an asset for the Paris region and so should be funded by its workers, regardless of how often they use the network. Regardless of the extent to which they use the network, they will derive some benefit (e.g. better air quality, less congested roads etc).

## What is the fares structure / fares policy in Paris?

Integrated ticketing across all modes is delivered by Ile-de-France Mobilities, the public transport planning authority which brings together “everyone involved (passengers, elected officials, manufacturers, transporters and infrastructure managers) and invest and innovate to improve the services provided.”

The following [ticket types](#) are offered:

- Navigo Liberte – cheapest single journey ticket, funds taken by bank transfer the following month for each journey made.
- Day and weekly tickets provide unlimited travel on all modes in the relevant zones.
- Anti-pollution day ticket – valid for unlimited travel on all modes on days where air pollution levels exceed certain thresholds, this ticket offers a significant discount on the usual daily ticket (3.90 EUR instead of 8.64 EUR)

Employers also pay 50% of their employees Navigo Public Transport season ticket.

## How is demand management applied in Paris?

[Paris became the first city in France to introduce a Low Emission Zone \(LEZ\) in September 2015.](#)

The Paris LEZ covers the Ville de Paris municipality and excludes the Boulevard Périphérique. The zone’s aims were to improve air quality, reduce noise, and reduce traffic congestion.



The requirements for entry to the LEZ are being progressively tightened through to 2030 such that by 2030 only electric and hydrogen powered vehicles will be allowed within the LEZ area.

## How are fares and services in Paris integrated?

The Syndicat des transports d'Île-de-France, operating under the brand name, Ile-de-France Mobilites (IDF) is the public planning authority that controls and coordinates the different transport companies operating in the Paris region and the rest of Île-de-France region. It coordinates the operation of RATP, SNCF and the nearly 90 Optile-affiliated private bus companies

## What concessionary travel scheme is offered in Paris?

[Students and Under 26](#) Imagine R Junior Ticket provides unlimited travel on all modes for children aged up to 11 for 24.40 EUR per year

Imagine R School Ticket provides unlimited travel on all modes for those aged under 26 who are in education or training for 374.40 EUR per year. Further discounts apply for those in financial hardship.

Imagine R Student Ticket provides unlimited travel on all modes for students aged under 26 for 374.40 EUR per year.

Free ticket for young people in training provides unlimited free public transport for certain young people undertaking vocational training.

Navigo [Senior Ticket](#) – provides 50% off the cost of a monthly season ticket for all those aged 62 and over.

Navigo Amethyst Season Ticket – for disabled persons and veterans. Costs, if any, vary depend upon the rules set out by local administrative districts where cardholders reside.

[Solidarity](#) Free Ticket – unlimited free public transport for those in receipt of certain benefits and certain income levels. A further ticket offering a 75% reduction applies to those above the income levels to qualify for the free ticket and a 50% reduction monthly/ weekly ticket is offered to those in receipt of State Medical Assistance.

## What is the modal share in Paris?

Paris has 440 cars per 1,000 inhabitants

[Almost 70 percent of people living in the French capital use metro](#), buses or suburban trains to go to work, compared to 40.7 percent of employees in Lyon, the third most populous city in France.

## Helsinki

Helsinki is the capital, primate and most populous city of Finland. Located on the shore of the Gulf of Finland, it is the seat of the Uusimaa region in southern Finland and has a population of around 670,000. The city's urban area has a population of around 1.25 million making it by far the most populous urban area in Finland.

### How is public transport in Helsinki operated / controlled?

Established in 2009, the [Helsinki Regional Transport Authority](#) (HSL) oversees public transportation for the nine municipalities in the Helsinki area. Its network, made up of third-party operators, includes 11 railway lines, 2 ferry routes, 11 tram routes, 300 bus routes, 2 metro lines and 450 city bike stations. HSL employs approximately 400 people, and its activities are funded primarily by ticket revenue and municipal contributions

### How is public transport in Helsinki funded?

Both central and local government play a role in subsidising bus and rail travel in Finland. In 2015, 16% of rail transport turnover was funded through subsidy, including the 3% of turnover which was reimbursed through concessionary travel schemes. The respective figures for bus travel were 45% and 17%. 74% of rail subsidies came from central government and the remainder from local government. In contrast, only 18% of bus travel subsidies came from central government, with local government funding the vast majority.

[Unusually taxi travel is also massively subsidised](#). Total government funding for taxi services was very similar to that for bus services with almost all funding covering travel reimbursement. 23% of reimbursements were for educational trips (presumably conveying children in remote areas to school) and 77% for social insurance purposes (conveying people to consume health services). This is more than six times the subsidy for rail operations. 61% of taxi funding comes from local government and the remainder from national government. Recent deregulation of taxi travel may have changed the funding picture somewhat.

[Local authorities and regional authorities have a greater role in taxation and public expenditure in Finland than in Scotland](#). They tax the earned income of residents, impose property taxes and receive a share of national corporation tax. They also

have the ability to borrow through loans financed by Municipality Finance plc bond issues.

HSL's activities are funded by ticket revenue, municipal contributions, state aid and other income. In 2019, there were over 390 million boardings on HSL public transport services.

In 2019, [ticket revenue accounted for 51 per cent](#) (€383 million), municipal contributions for 47 per cent and other income for 2 per cent of operating income (total €748 million).

Total operating expenses were €753 million. Public transport operating costs amounted to €514 million euros, or 70 per cent of operating expenses.

[In 2021, a total of 237.58 million journeys were made on HSL public transport services](#) (figures below in millions):

- Bus: 106.35
- Metro: 55.97
- Commuter trains: 42.47
- Trams: 31.53
- Suomenlinna ferry: 1.26

In 2021, ticket revenue totalled €235.3 million; 53% via digital self-service channels (HSL app and HSL card online top up), 43% via HSL card (Season and value tickets) and 5% via other.

2021 operating income was €733.4 million, with ticket revenue accounting for €235.3 million. The biggest contribution (€388.5 million) came from municipal contributions, with other operating income accounting for €109.6 million (Other operating income consists of state subsidies, penalty fare revenue and rental income from drivers' rest facilities and from Travel Card equipment charged to operators).

2021 operating expenses totalled €706.0 million. This comprised of: €499.6 million operating costs; €140.9 million charges for the use of infrastructure; €32.8 other purchases; €24.9 personnel costs; and €7.7 rents and other expenses.

Public transport production costs by mode were (figures below in millions):

- Bus: €319.5
- Train: €80.4
- Tram: €53.8
- Metro: €42.5
- Ferry: €3.6

## What is the fares structure / fares policy in Helsinki?

A range of ticketing options exist from single tickets, day tickets, zone tickets and multi-user tickets. Tickets are valid across all modes for journeys within a specific zone(s).

Residents of HSL municipalities are eligible for [reduced rate season tickets](#).

## How is demand management applied in Helsinki?

Car ownership numbers in Helsinki have grown relatively slowly. According to [Statistics Finland](#), 45% of Helsinki residents live in households without a car. Car ownership elsewhere in the country has grown more quickly.

Parking policy is one of the key elements by which the city is promoting the use of sustainable travel modes and vehicle fleet renewal towards electric vehicles. The chargeable parking area, time and tariffs have been gradually extended in the city. Owners of electric vehicles can obtain the residential parking permit for half the price and in addition the charging time at on-street parking points is not counted as parking time.

The City of Helsinki's public transport system has been developed by focusing on rail traffic for decades. Local trains and metro transport are the basis of regional public transport, and significant investments have been made in them over the course of the past decades. A comprehensive bus route system complements the public services in areas without rails. The inner city features an extensive tramline network, which has been developed and expanded into new construction areas of land use. Transverse public transport connections have also been developed intensively in the last decade. It has been decided that the relatively slowly developed tramline network will be expanded significantly in the coming decade.

The City of Helsinki participates in the regional MAL-process (contract for land-use housing and transport), led by Helsinki Regional Transport Authority and covering 14 municipalities, which sets the common regional targets for the development of sustainable urban structure, rail investments and an efficient transport system. In addition to the regional investment programme for transport infrastructure, also public transport services and e.g. city-bike services are regionally administered.

The major investments in road traffic network during the past few decades have been targeted at transverse traffic on the ring roads and in Hakaniementie on the north side of the inner city, for example. Additionally, the street network has been expanded in land use development areas. Otherwise, the City of Helsinki's main network has not changed much in the past decades. Tram and bus lane traffic

arrangements are used to ensure the smooth operation of public transport utilising the street network. Public transport signal priority systems have long been used to reduce delays at intersections. The inadequate conditions for cycling have been improved, especially in the inner city. Following international examples, Helsinki moved on from the combined pedestrian and cycling paths to safer and more functional cyclist traffic solutions at the beginning of the millennium. This way, cycling is now considered its own mode of transport by separating it more clearly from pedestrian traffic and taking it closer to other vehicle traffic.

## How are fares and services in Helsinki integrated?

[HSL has partnered with Whim](#) to offer a Mobility as a Service (MaaS) solution for transport in the Helsinki region.

As of early October 2018 Whim had 60,000 active users per month in Helsinki, with users booking 1.8 million trips.

Tickets can also be purchased via an HSL app and smartcard.

The HSL region is split into zones, with [fare structures](#) dependent on the zone(s) within which the user is travelling.

## What concessionary travel scheme is offered in Helsinki?

If you are blind or visually impaired with a degree of disability of at least 50%, you can get a [free HSL card allowing travel in the HSL area free of charge](#).

If you are a wheelchair user, you do not need a ticket or an HSL card on HSL public transport. If you also want to use Park & Ride facilities, you need an HSL card with a valid season or value ticket. HSL issues free HSL cards to permanent wheelchair users, entitling to travel in the HSL area free of charge.

Other discount groups include:

- Students: If you are a full-time student, you can buy season tickets at a 40% discount using the HSL app or your HSL card. The discount does not apply to value, single and zone extension tickets.
- Children: Children under 7 years of age do not need a ticket. Children aged between 7 and 17 years can buy tickets at a 50% discount. School child HSL cards are for journeys to/from school. The card is issued by the child's home municipality.
- Pensioners: If you receive national or guarantee pension or a cash rehabilitation benefit from Kela (the Social Insurance Institution of Finland),

you can buy season, value and zone extension tickets at a 50 percent discount using your personal HSL card.

- 70+ passengers: If you are aged 70 or over, you can buy season tickets at a 40 per cent discount. The discount applies to season tickets purchased with a personal HSL card or with the HSL app.
- [People with reduced mobility](#): You can get a 50 per cent discount on tickets if your mobility is impaired owing to a permanent injury or chronic disease and you meet certain conditions.

## What is the modal share in Helsinki?

[Mode share](#) is: Private Car – 39%; Walking – 21%; Public Transport – 30%; Bicycle – 8%; Other – 2%.

## Hong Kong

Hong Kong, officially the Hong Kong Special Administrative Region of the People's Republic of China, is a city and a special administrative region in China. With 7.4 million residents in a 1,104 sq km territory, Hong Kong is one of the most densely populated territories in the world.

## How is public transport in Hong Kong operated / controlled?

Mixed between publicly owned and private operators.

### Mass Transit Railway (MTR)

Opened in 1979, the system is operated by [MTR Corporation Ltd](#), 75% of which is owned by the Government of Hong Kong. The system comprises 240.6 km (149.5 miles) of rail with 167 stations, including 98 railway stations and 68 light rail stops.

### Tram

Hong Kong Tramways is privately owned and operated by RATP Dev Asia.

### Bus

[Franchised bus services](#) are operated by five private companies under 10 year contracts granted by the Transport Department of the Government of Hong Kong.

The Transport Department also licences [Green and Red minibus services](#) (Green services are subject to fixed routes and fares and service frequencies are regulated by the Transport Department whereas Red services are not regulated).

## Ferry

There are [nine ferry operators](#) providing 20 regular licensed passenger ferry services to outlying islands and across the Harbour.

There remains two franchised ferry services operated by "Star" Ferry plying between Central and Tsim Sha Tsui as well as between Wan Chai and Tsim Sha Tsui.

The licensed and franchised ferry services are supplemented by "kaitos" which are licensed to serve remote coastal settlements.

In 2021, the total number of ferry passengers conveyed totalled about 35.5 million

## How is public transport in Hong Kong funded?

[MTR farebox revenue](#) totals over 170% of its operating costs.

More broadly, the existing model in Hong Kong allows MTR to develop the land around new stations, bringing financial benefits to the system. The government of Hong Kong grants the development rights of the land at pre-railway values, which allows MTR to tender the land for over-station developments and receive either a part of the property sale value or some rental income at the higher values accruing post-railway development.

This funding model used is known as Rail + Property (R+P). The Government grants land around a new station to the transport operator who then puts developments out to tender, with planning in place and the government having worked from the earliest stages with all parties to resolve potential conflict and interfacing issues prior to planning being granted.

The developers gain a return on investment from the sale of high-end residential apartments and rental incomes and may retain ownership of commercial or hotel space.

The revenue gained from the sale of the land and the associated development pays for the rail infrastructure provision and supports the operational costs in the early years as the development is implemented

And, in the longer term, MTRC benefits from having passengers living in close proximity to its station, and from revenues gained from retail and other uses of space it retains around the station.

[In Hong Kong in 2019](#), for every pound collected from tickets, there was £0.6 collected from either property rental and management or revenues outside Hong

Kong. This allows MTR to operate and expand without having government subsidies and provide relatively low fares – monthly passes cost the equivalent of between £42 and £66.

It should be noted that Hong Kong's population density is 100 times that of Scotland, implying that beyond ferry services to small populations on Hong Kong's outlying islands, MTR has a much smaller proportion of services serving sparsely populated areas. Moreover, a much higher proportion of journeys are taken by public transport. As well as its Hong Kong transport and property operations, MTR also operates various rail franchises around the world, including a 30% holding in the South Western Railway franchise. MTR will also operate Crossrail services in London.

[Transport for London \(TfL\) is pursuing a similar approach](#) for developing schemes above existing stations. In February 2023 its recently established property company, TTL Properties announced a joint venture deal with property developer Helical for over-station developments at Bank, Paddington and Southwark Stations.

All three sites have full planning permission for office developments with the joint venture company, of which Helical has a 51% share, purchasing the leasehold interest in the sites from TfL.

### **What is the fares structure / fares policy in Hong Kong?**

Tickets are standardised across all modes of public transport through the [Octopus card](#), a contactless smart card, which is mostly used to pay for rides on the MTR, buses, minibuses, ferries, trams and on a few taxis equipped with Octopus readers. It was introduced in 1997 as a payment method on the MTR. But since then, thanks to its popularity with locals and tourists, it was transformed into a payment system, which is used to collect fares on almost all modes of public transport, and also for payments in shops, department stores, supermarkets, fast food and retail outlets, bookstores, convenience stores, cinemas, public swimming pools, car parks, schools and other places provided with Octopus readers. Today, over 23 million Octopus cards are in circulation and the Octopus system handles over 12 million transactions a day, with the transaction value exceeding HK\$130 million.

### **How is demand management applied in Hong Kong?**

[Toll charges](#) apply to the use of certain road tunnels.

Transport and land use planning is closely integrated through the Transport Orientated Development / Rail + Property model followed by MTRC with major trip destinations such as hotels, shopping malls, cinemas etc. co-located at the site of railway stations.



## How are fares and services in Hong Kong integrated?

[The transport network is ordered](#) such that the railway forms the trunk / backbone of the network with other modes feeding in to supplement coverage.

## What concessionary travel scheme is offered in Hong Kong?

The [JoyYou concessionary travel card](#) enables eligible persons to travel at the discounted rate of \$2HK per trip. Eligible groups are:

- Hong Kong residents aged 60-64
- All persons aged 65 and over
- Disabled persons in receipt of social welfare benefits

## What is the modal share in Hong Kong?

[90% of commuter journeys](#) in Hong Kong are made by public transport.

## Zurich

Zurich is the largest city in Switzerland and the capital of the canton of Zurich. It is located in north-central Switzerland, at the northwestern tip of Lake Zurich. The municipality has a population of around 440,000 inhabitants, the urban area 1.3 million, and the Zurich metropolitan area 1.8 million. It covers an area of just over 1,700km<sup>2</sup>, giving it a population density of around 1,060 people per square kilometre.

## How is public transport in Zurich operated / controlled?

Mainly publicly owned.

### Rail

The S-Bahn railway is owned and operated by mainly public operators – Swiss Federal Railways (SBB), owned by the Swiss government, and a range of other operators owned by a mixture of various cantonal and federal governments – THURGO, SZU, SOB.

The S-Bahn has been expanded in several phases since 1990 in order to alleviate overcrowding and add capacity and now comprises a 236 mile network across 32 lines in the Zurich canton (a canton is a state with its own constitution, legislature, executive, police and courts) and some parts of neighbouring cantons including St Gallen, Zug and Thurgo.

The S-Bahn is the backbone of regional public transport: it provides strong radial service into Zurich and suburban stations serve as local public transport hubs. S-Bahn ridership has increased significantly since introduction of the first underground S-Bahn line through Zurich (1989) reaching [450,000 passengers per day by 2017](#).

## Bus

Vekehrsbetriebe Zurich (VBZ) is wholly publicly owned by the city of Zurich and operates urban, district (feeder) and regional bus routes across 55 different lines.

VBZ also operates tram, trolleybus and funicular railway lines in the city, and in 2017 the VBZ carried 325 million passengers on 14 tram lines (122.6 km), six trolley bus lines (53.8 km), 55 city, neighbourhood and suburban bus lines (109.8 km), and three inclined railways.

## How is public transport in Zurich funded?

Around 66% of operating costs are paid for by farebox revenue and additional income (e.g. advertising), 17% by the Canton of Zurich and 17% by the 162 municipalities within the canton.

## What is the fares structure / fares policy in Zurich?

Ticketing and fares are integrated across all modes with ownership of the fares policy residing with Zürcher Verkehrsverbund (ZVV) the public transport planning authority which is also responsible for service integration and co-ordination across all modes and which was established in 1990.

The Zurich Transport Network is divided into [fare zones](#). A network ticket enables you to travel on all means of transport within the relevant zones for the valid period.

## How is demand management applied in Zurich?

### Public Transport – Traffic Priority

Zurich has close to 400 signalized intersections, many offering public transport priority. The system relies on information from almost 4000 sensors spread throughout the city. Buses and trams are typically detected as they approach the intersections, triggering (when possible) a green light for their specific approach. The priority scheme is based on a “full priority” policy. In other words, public transport vehicles receive priority whether they are early, late, or on-time.

## Car Parking

Zurich places a limit on the total number of parking spaces through a fixed cap. When a new space is built off-street, an on-street space has to be removed and repurposed, e.g. to widen pavements, provide cycle space.

## Dedicated public transport lanes

The road network in Zurich includes a good portion of dedicated public transport lanes (either for trams only, for buses only, or a combination of the two). Within the city centre, for example, approximately 20% of the lane-km are dedicated to public transport, 75% are dedicated to private cars, and only 5% of the lane-km are shared by private and public transport.

## How are fares and services in Zurich integrated?

[Fares, ticketing and services](#) are integrated across over 30 different operators across all modes by the ZVV with 162 municipalities involved in the consultation of fares and timetabling and fundamental principles set by the Cantonal government

For the purpose of efficient cooperation, the network area is divided into eight market regions with eight so-called [market-responsible transport companies](#) – MVU for short.

The MVUs ensure that operations in the regions function, that timetables are adhered to and that budget targets are met. Subordinate to them are smaller and medium-sized concessionary transport companies as well as transport commissioners, who are primarily responsible for the services on certain routes. This [organisational form](#), which separates strategic and operational tasks, has proven to be economical, efficient and customer-friendly.

## What concessionary travel scheme is offered in Zurich?

[Disabled persons](#) who are resident in Switzerland may travel with a companion and / or guide dog free of charge provided they hold the relevant identity card for passengers with a disability (available from District Offices). Either the passenger or the accompanying person must be in possession of a valid ticket.

For leisure travel, persons resident in the Canton of Zurich who have limited mobility that makes it impossible or very difficult for them to reach public transport stops or board vehicles may avail the services of the Zürcher Stiftung für Behindertentransporte (Zurich Foundation for Disabled Transport), provided they

hold a relevant identity document. Within a radius of approximately 15 kilometres from their starting point, they can travel by taxi at a heavily reduced fare.

[Reduced fares](#) apply for children aged 6-16, young people aged up to 25 and children under six travel free of charge.

## What is the modal share in Zurich?

Prior to the Covid-19 pandemic public transport accounted for [41% of all journeys in Zurich](#), compared to 25% for the private car.

## Tokyo

Tokyo, officially the Tokyo Metropolis, is the capital and most populous prefecture of Japan. Tokyo's metropolitan area (including neighbouring prefectures as well as Tochigi, Gunma and Ibaraki) is the most populous in the world, with an estimated 37.5 million residents. The prefecture itself has a population of 14.1 million people while the prefecture's central 23 special wards have a population of 9.7 million.

## How is public transport in Tokyo operated / controlled?

Mixed between publicly owned and private operators.

[Toei Kotsu](#) (Tokyo Metropolitan Bureau of Transportation) is a local public enterprise operated by the Tokyo Metropolitan Government.

- [Toei Subway](#) – Operates 4 lines, serving 106 stations over a total length of 109km.
- [Toei Bus](#) – Toei buses operate mainly in the area surrounded by the JR Yamanote Line and Arakawa River in Tokyo, as well as parts of Edogawa Ward and parts of the Tama area. Operating routes total 765.1km across 129 services..
- [Toden Arakawa Line](#) – The sole remaining Toei tram service and one of only two operating in Tokyo. It operates across a 12.2km length route serving 30 stations.
- [Nippori-Toneri Liner](#) is an automated guideway transit (AGT) system which runs between Nippori Station and Minumadai-shinsuikoen Station (9.7 km / 13 stations).
- [Ueno Zoo Monorail](#) – The monorail connecting the east and west gardens of Ueno Zoo is the first monorail in Japan to be built experimentally as a new urban transportation system. Due to the deterioration of the vehicle over time, the service has been suspended since November of the first year of Reiwa.

## Rail / Subway

Tokyo has the [busiest mass transit system in the world](#) by annual ridership at 3.46 billion trips. Most of Tokyo's rail lines are privately owned / funded / operated except for Toei Subway (Toei Kotsu) and Tokyo Metro (owned / funded indirectly by Tokyo and national governments). In total there are [around a dozen different operating companies](#) of which the major private operator is Japan Rail.

## Bullet Train

The [Shinkansen](#) (bullet train) are operated by Japan Railways. Running at speeds of up to 320 km/h, the shinkansen is known for punctuality (most trains depart on time to the second), comfort (relatively silent cars with spacious, always forward-facing seats), safety (no fatal accidents in its history) and efficiency.

## Ferries

The [Tokyo Wan ferry](#) provides a service across Tokyo Bay in about 40 minutes from Kurihama to Kanaya. [Longer distance ferry services](#) operate to Tokushima and Kitakyushu.

## How is public transport in Tokyo funded?

In principle, Toei Kotsu's operation is based on an [independent profitability system](#) in which expenses are covered by fees received from customers.

Toei Kotsu also raises revenues from its electricity generation business that uses hydroelectric power generation using the flowing water of the Tama River, and manages three hydroelectric power plants: Tamagawa No. 3 Power Plant, Shiromaru Power Plant (Okutama Town, Nishitama District), and Tamagawa No. 3 Power Plant (Ome City).

Further income is derived from leasing of land and, buildings under elevated railways and installing stores and vending machines in stations. Advertising revenues are raised mainly from station facilities, subways, buses, Toden, and Nippori and Sajin Liner vehicles. and through advertising. In addition, in the telecommunications service, in order to install optical fibre cable equipment and base stations such as mobile phones, PHS, and Wi-Fi (wireless LAN), Toei provide telecommunications carriers with subway stations, trains, and other areas on the road, and receive installation and usage fees.

## What is the fares structure / fares policy in Tokyo?

A multitude of fare options and passes exist for the plethora of operators that make up Tokyo's public transport network. This includes options specific to non-Japanese passport holders i.e. foreign tourists.

Depending on the ticket type, it is valid on a single mode / operator, through to multi-mode / multi-operator basis.

Many of the ticket options can be loaded on to the "[IC card](#)" smart card which is useable across almost all trains, subways and buses in most of Japan's largest cities.

## How is demand management applied in Tokyo?

With 91% of the Japanese population living in cities, Japan has one of the highest rates of urbanisation in the world. This compares to 15% of the Japanese population living in cities at the start of the 20th century.

The historic narrow layout of Japanese streets and fragmented land ownership meant that during the expansion of city housing, housebuilders were required to develop on smaller plots of land compared to Europe and the USA. Twinned to this, post-war, the government's focus was on economic growth through energy and industry rather than creating boulevards through neighbourhoods so the layouts never changed.

The result of this is that 35% of Japanese streets are not actually wide enough to accommodate a car, and 86% are not wide enough for a car to stop without blocking the traffic behind it.

Added to this are numerous taxes and fees which further disincentivise car ownership:

- Biennial car inspections which can cost around 100,000 yen (higher costs for older vehicles)
- Annual automobile tax of up to 50,000 yen
- 5% tax on the purchase of a vehicle
- "[Shako Shomeisho](#)" (garage certificate) i.e. proof of place to park required to be allowed to purchase a car. For Tokyo parking costs can be between 32,000 – 36,000 yen per month. Fees are also applicable for certificate application and issue of badge
- Ban on overnight on-street parking (200,000 yen fine and vehicle uplift)
- <5% of Japanese streets with any street parking permitted

- 68% of flatted developments have no residents parking facilities
- Typical parking costs of 1,000 yen per hour
- Expressway toll roads which across Japan are the most expensive in the world, averaging about 3,000 yen per kilometre

The above factors result in a car ownership rate in Tokyo of 0.32 cars per household. This compares to a rate of 1.06 cars per household for Japan as a whole.

### **How are fares and services in Tokyo integrated?**

The rail network(s) for the primary public transport network, with buses generally operating to serve access to stations and the limited locations not served by rail.

### **What concessionary travel scheme is offered in Tokyo?**

Whilst different operators offer different concessions, generally a discounted fare of 50% is applicable for persons with disabilities (and companion) as on [Tokyo Metro](#).

### **What is the modal share in Tokyo?**

[Private car](#) – 12%; Public Transport – 47%; Walking – 24%; Bicycle – 17%.

## **Stockholm**

Stockholm is the capital and most populous city of Sweden as well as the largest urban area in the Nordic countries. Approximately 1 million people live in the municipality, with 2.1 million in the urban area, and 2.4 million in the metropolitan area.

### **How is public transport in Stockholm operated / controlled?**

Mixed between public and private operators.

#### **Rail**

The railway network in Sweden is partly privatised with separation of the rail infrastructure from train operators with competitive tendering for local rail service contracts.

There are six commuter railway lines in the Stockholm region totalling 125 stations.

Infrastructure is administered and owned by the Swedish Ministry for Transport while commuter railway services are operated by private operator MTR Nordic under

contract to Storstockholms Lokaltrafik (SL) [Greater Stockholm Public Transport] the transport planning authority which is owned by Stockholm County Council.

## **Bus**

There are over 500 bus lines in the Stockholm County area.

[Services are operated by private companies operating under contract to SL](#) which owns the depots and rents them to the contractors. Buses are generally owned by the operator with the standards which vehicles must meet set by the authority. Contract duration and the depreciation time for a bus are often different. Contracts are generally 10 years but buses could be in operation for both longer and shorter periods according to service conditions. Contracts generally stipulate both a maximum and a highest mean age, which means that relatively new vehicles must be replaced during the contract period in order to meet both conditions. Contracts are such that at least 50% of the remuneration is linked to passenger numbers carried throughout the duration of the contract thereby giving the operator an incentive to grow patronage.

## **Metro**

The Stockholm Metro comprises 100 station spanning 108 route km and is operated by MTR under contract to SL.

## **Ferry**

There are four commuter ferry (pendelbåt) lines in Stockholm, administrated by SL. Some are run by Waxholmsbolaget, a shipping company owned by Stockholm County Council, under SL supervision.

## **How is public transport in Stockholm funded?**

[Farebox revenue](#) accounts for 40% of all public transport operating expenses, public subsidy 42% and the remainder made up of funding from other sources.

[Subsidy for local and regional public transport](#) is derived from local and regional income tax.

## **What is the fares structure / fares policy in Stockholm?**

Fares are set by SL, the public transport planning authority.

Ticketing is delivered by contactless phone app/ smart ticket.



A single journey ticket (£2.86) is valid on all modes of transport for a period of 75 minutes from the beginning of the journey.

The following [tickets](#) are valid on an unlimited basis on all modes of transport:

- 24 hours – £12.10
- 72 hours – £24.20
- 7 days – £31.54
- 90 days – £206.10
- 1 year – £747.37

## How is demand management applied in Stockholm?

### Toll Charges

Toll charges are variable dependent upon the time of day when journeys into the chargeable area are made.

A significant expansion of the bus network and the purchase of new subway trains accompanied the introduction of the charge to provide both a “carrot and stick” approach towards driving modal shift from private car to public transport.

### Congestion Charging

Under the Swedish constitution the national Parliament has sole decision-making authority over congestion charging schemes revenue and costs, hence these decisions are taken at a national level as are decisions on the use of revenues.

The revenues raised from the Stockholm congestion charge are used for targeted transport infrastructure improvements.

### Integration of public transport and land use / planning

In Stockholm [high density housing developments](#) have been promoted adjacent to metro stations to integrate housing with public transport accessibility.

## How are fares and services in Stockholm integrated?

Fares, services, and ticketing integration is delivered by SL, the local public transport planning authority.

## What concessionary travel scheme is offered in Stockholm?

[Discounts](#) providing around 30% off the cost of an equivalent adult ticket apply for:

- Young people aged under 20
- Full time students
- Senior citizens aged 65 and above
- Children under the age of 7 travel free when accompanied by a full fare paying adult

## What is the modal share in Stockholm?

[32% of journeys are made by public transport](#), compared to 44% by private car.

## International Case Studies – Rural Communities

This section presents international case studies demonstrating the approach taken by other countries to the provision of rural bus services.

### Zurich Canton

The bus services in the rural regions of Switzerland are part of a [fully integrated public transport network](#), with bus and train timetables totally unified. In the Zurich Canton, [villages of 300 people or more are guaranteed at least an hourly bus service](#) linking them to regional facilities for employment, education, training, shopping and leisure. Where stronger demand exists as a result of multiple communities, buses run at least every half hour, and four times an hour for towns. Buses run seven days a week from 06:00 to midnight, operating on a 'clockface' timetable i.e. at the same time past the hour.

### Bern Canton

Covering an area of around 6,000km<sup>2</sup>, Bern Canton is around 3.5 times the size of Zurich Canton. It has a population of just over one million residents and a population density of 170 people per square kilometre.

[Guaranteed minimum public transport service frequencies](#) are enshrined in law, based on the size of communities. Small villages have at least four and up to 15 return services per day, whilst larger villages and towns receive 16-25 return services per day. The minimum settlement density to qualify for minimum service levels is 300 residents / jobs / training positions, of which 100 must be residents.

As with Zurich, rural bus services are integrated with the national 'pulse' timetable of regular clockface services ('Taktfahrplan') that covers all modes of public transport. Residents must be able to reach the nearest major centre without interchange or with at most one change.

Operators are required to charge 'socially acceptable' fares, with the canton seeking to recover as little as 15% for minibus services to small villages.

## North Hesse

With a population of around 1,000,000 and covering an area of 7,000km<sup>2</sup>, North Hesse in Germany has a population density of 143 people per square kilometre.

[All public transport across the region is governed by North Hesse Verkehrsverbände.](#)

The Verkehrsverbund has a target of bus services reaching every village across the region every hour. All communities with at least 200-250 residents are served by a minimum of an hourly bus service. There is a wider ambition to double public transport use by 2030.

Services are delivered through long-term directly awarded or tendered contracts, by a mixture of publicly owned and commercial operators.

32 million bus passenger trips per year are taken across the region, with services running at least twelve hours a day, seven days a week, and integrated rail and bus timetabling.



**TRANSPORT  
SCOTLAND**

CÒMHDHAIL ALBA

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