**Public Transport**

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*This article is about passenger transportation systems. For other uses, see Mass transit (disambiguation).*



New York City Subway, the world's largest rapid transit system by length of routes and by number of stations

The Moscow Metro is one of the busiest metro systems in the world and is the busiest in Europe.



MTR in Hong Kong



RER A in Paris is one of the world's busiest lines, with over 1,200,000 passengers per day.



LRTA in Manila, the overpass-like railway.

**Public transport** (North American English: **public transportation** or **public transit**) is a shared passenger transport service which is available for use by the general public, as distinct from modes such as taxicab, carpooling or hired buses which are not shared by strangers without private arrangement.

Public transport modes include city buses, trolleybuses, trams (or light rail) and passenger trains, rapid transit (metro/subways/undergrounds etc) and ferries. Public transport between cities is dominated by airlines, coaches, and intercity rail. High-speed rail networks are being developed in many parts of the world.

Most public transport runs to a scheduled timetable with the most frequent services running to a headway (e.g.: "every 5 minutes" as opposed to being scheduled for any specific time of the day). Share taxis offer on-demand services in many parts of the world, and some services will wait until the vehicle is full before it starts. Paratransit is sometimes used in areas of low-demand and for people who need a door-to-door service.

There are distinct differences in urban public transit between Asia, North America, and Europe. In Asia, mass transit operations are predominantly run by profit-driven privately owned and publicly traded mass transit and real estate conglomerates. In North America, mass transit operations are predominantly run by municipal transit authorities. In Europe, mass transit operations are predominantly run by state-owned companies.

Public transport services can be profit-driven by use of pay-by-the-distance fares or funded by government subsidies in which flat rate fares are charged to each passenger. Services can be fully profitable through high ridership numbers and high farebox recovery ratios, or can be regulated and possibly subsidized from local or national tax revenue. Fully subsidized, zero-fare (free) services operate in some towns and cities.

For historical and economic reasons, there are differences internationally regarding use and extent of public transport. While countries in the Old World tend to have extensive and frequent systems serving their old and dense cities, many cities of the New World have more sprawl and much less comprehensive public transport.

The International Association of Public Transport (UITP) is the international network for public transport authorities and operators, policy decision-makers, scientific institutes and the public transport supply and service industry. It has 3,400 members from 92 countries.

**History**



Early trolley car in Newton, Massachusetts

Conveyances designed for public hire are as old as the first ferries, and the earliest public transport was water transport: on land people walked (sometimes in groups and on pilgrimages, as noted in sources such as the Bible and *The Canterbury Tales*) or (at least in the Old World) rode an animal. Ferries appear in Greek mythology – corpses in ancient Greece were buried with a coin underneath their tongue to pay the ferryman Charon to take them to Hades.

Some historical forms of public transport include the stagecoach, traveling a fixed route from coaching inn to coaching inn, and the horse-drawn boat carrying paying passengers, which was a feature of European canals from their 17th-century origins. (The canal itself as a form of infrastructure dates back to antiquity – ancient Egyptians certainly used a canal for freight transportation to bypass the Aswan cataract – and the Chinese also built canals for water transportation as far back as the Warring States period which began in the 5th century BCE. Whether or not those canals were used for for-hire public transport remains unknown; the Grand Canal in China (begun in 486 BCE) served primarily for shipping grain.)

The omnibus, the first organized public transit system within a city, appears to have originated in Paris, France, in 1662, although the service in question failed a few months after its founder, Blaise Pascal, died in August 1662; omnibuses are next known to have appeared in Nantes, France, in 1826. The omnibus was introduced to London in July 1829.

The first passenger horse-drawn railway opened in 1806: it ran between Swansea and Mumbles in southwest Wales in the United Kingdom. In 1825 George Stephenson built the *Locomotion* for the Stockton and Darlington Railway in northeast England, the first public steam railway in the world.

**Types**

**Airline**

*See also: Airline and Bush airplane*

An airline provides scheduled service with aircraft between airports. Air travel has high up to very high speeds, but incurs large waiting times prior and after travel, and is therefore often only feasible over longer distances or in areas where lack of ground infrastructure makes other modes of transport impossible. Bush airlines work more similar to bus stops; an aircraft waits for passengers and takes off when the aircraft is full of luggage.

**Bus and coach**



TransMilenio buses in Bogotá, Colombia



Masivo Integrado de Occidente (MIO) in Cali, Colombia



Trolza trolleybus in Moscow – operating the world's largest trolleybus system

Main article: Public transport bus service

Main article: Coach (scheduled transport)

Bus services use buses on conventional roads to carry numerous passengers on shorter journeys. Buses operate with low capacity (i.e. compared with trams or trains), and can operate on conventional roads, with relatively inexpensive bus stops to serve passengers. Therefore buses are commonly used in smaller cities, towns, and rural areas, as well as for shuttle services supplementing other means of transit in large cities. Bus rapid transit is an ambiguous term used for buses operating on dedicated right-of-way, much like a light rail. Trolleybuses are electric buses that employ overhead wires to get power for traction. Online Electric Vehicles are buses that run on a conventional battery, but are recharged frequently at certain points via underground wires.

Coach services use coaches (long-distance buses) for suburb-to-CBD or longer-distance transportation. The vehicles are normally equipped with more comfortable seating, a separate luggage compartment, video and possibly also a toilet. They have higher standards than city buses, but a limited stopping pattern.

**Train**



3 different types of Trains (U-Bahn, S-Bahn and Regional/Longdistance trains) in Hamburg, Germany



Left: Tokyo's Yamanote Line, one of the world's busiest commuter rail lines. Right: Chicago Transit Authority control tower 18 guides elevated Chicago 'L' northbound Purple and Brown lines intersecting with westbound Pink and Green lines and the looping Orange line above the Wells and Lake street intersection in the loop.

Main article: Passenger rail transport

Passenger rail transport is the conveyance of passengers by means of wheeled vehicles specially designed to run on railways. Trains allow high capacity on short or long distance, but require track, signalling, infrastructure and stations to be built and maintained. Urban rail transit consists of trams, light rail, rapid transit, people movers, commuter rail, monorail suspension railways and funiculars.

**Commuter, intercity, and high-speed rail**



A SEPTA Regional Rail train in Cheltenham, Pennsylvania, a form of commuter rail.

Commuter rail is part of an urban area's public transport; it provides faster services to outer suburbs and neighboring towns and villages. Trains stop at stations that are located to serve a smaller suburban or town center. The stations are often combined with shuttle bus or park and ride systems. Frequency may be up to several times per hour, and commuter rail systems may either be part of the national railway or operated by local transit agencies.

Intercity rail is long-haul passenger services that connect multiple urban areas. They have few stops, and aim at high average speeds, typically only making one of a few stops per city. These services may also be international.

High-speed rail is passenger trains operating significantly faster than conventional rail—typically defined as at least 200 kilometres per hour (120 mph). The most predominant systems have been built in Europe and Japan, and compared with air travel, offer long-distance rail journeys as quick as air services, have lower prices to compete more effectively and use electricity instead of combustion.

**Tram and light rail**

Main article: Tram



tram of Toronto, which operates the largest streetcar system in North America

Trams are railborne vehicles that run in city streets or dedicated tracks. They have higher capacity than buses, but must follow dedicated infrastructure with rails and wires either above or below the track, limiting their flexibility.

Light rail is a modern development (and use) of the tram, with dedicated right-of-way not shared with other traffic, (often) step-free access and increased speed. Light rail lines are, thus, essentially modernized interurbans.

**Rapid transit**



SkyTrain automated rapid transit system in Vancouver, Canada

Main article: Rapid transit

A rapid transit railway system (also called a metro, underground, or subway) operates in an urban area with high capacity and frequency, and grade separation from other traffic.

Systems are able to transport large amounts of people quickly over short distances with little land use. Variations of rapid transit include people movers, small-scale light metro and the commuter rail hybrid S-Bahn. More than 160 cities have rapid transit systems, totalling more than 8,000 km (4,971 mi) of track and 7,000 stations. Twenty-five cities have systems under construction.

**Personal rapid transit**



people mover vehicle of Morgantown Personal Rapid Transit

Main article: Personal rapid transit

Personal rapid transit is an automated cab service that runs on rails or a guideway. This is an uncommon mode of transportation (excluding elevators) due to the complexity of automation. A fully implemented system might provide most of the convenience of individual automobiles with the efficiency of public transit. The crucial innovation is that the automated vehicles carry just a few passengers, turn off the guideway to pick up passengers (permitting other PRT vehicles to continue at full speed), and drop them off to the location of their choice (rather than at a stop). Conventional transit simulations show that PRT might attract many auto users in problematic medium-density urban areas. A number of experimental systems are in progress. One might compare personal rapid transit to the more labor-intensive taxi or paratransit modes of transportation, or to the (by now automated) elevators common in many publicly accessible areas.

**Cable-propelled transit**



Metrocable gondola lifts of Medellín, Colombia

*See also: Aerial tramway, Gondola lift and Cable car (railway)*

Cable-propelled transit (CPT) is a transit technology that moves people in motor-less, engine-less vehicles that are propelled by a steel cable. There are two sub-groups of CPT – gondola lifts and cable cars (railway). Gondola lifts are supported and propelled from above by cables, whereas cable cars are supported and propelled from below by cables.

While historically associated with usage in ski resorts, gondola lifts are now finding increased consumption and utilization in many urban areas – built specifically for the purposes of mass transit. Many, if not all, of these systems are implemented and fully integrated within existing public transportation networks. Examples include Metrocable (Medellín), Metrocable (Caracas), Portland Aerial Tram, Roosevelt Island Tramway in New York City, and London's Emirates Air Line.

**Ferry**



water taxi (*vaporetto*) of Venice, Italy

Main article: Ferry

A ferry is a boat or ship, used to carry (or *ferry*) passengers, and sometimes their vehicles, across a body of water. A foot-passenger ferry with many stops is sometimes called a water bus. Ferries form a part of the public transport systems of many waterside cities and islands, allowing direct transit between points at a capital cost much lower than bridges or tunnels, though at a lower speed. Ship connections of much larger distances (such as over long distances in water bodies like the Mediterranean Sea) may also be called ferry services.

**Auto rickshaws**

Main article: Auto rickshaw



auto rickshaw in Guayaquil, Ecuador

Auto rickshaws carry people and goods in many developing countries. Also known as a three-wheeler, Samosa, tempo, tuk-tuk, trishaw, auto, rickshaw, autorick, bajaj, rick, tricycle, mototaxi, baby taxi or lapa in popular parlance, an auto rickshaw is a usually three-wheeled cabin cycle for private use and as a vehicle for hire. It is a motorized version of the traditional pulled rickshaw or cycle rickshaw. Auto rickshaws are an essential form of urban transport in many developing countries, and a form of novelty transport in many Eastern countries.

**Operation**



Timelapse video of Downtown Seattle from atop a Community Transit double-decker bus

**Infrastructure**

All public transport runs on infrastructure, either on roads, rail, airways or seaways. The infrastructure can be shared with other modes, freight and private transport, or it can be dedicated to public transport. The latter is especially valuable in cases where there are capacity problems for private transport. Investments in infrastructure are expensive and make up a substantial part of the total costs in systems that are new or expanding. Once built, the infrastructure will require operating and maintenance costs, adding to the total cost of public transport. Sometimes governments subsidize infrastructure by providing it free of charge, just as is common with roads for automobiles.

**Interchanges**

Main articles: Transport hub and Intermodal passenger transport

Interchanges are locations where passengers can switch from one public transport route to another. This may be between vehicles of the same mode (like a bus interchange), or e.g. between bus and train. It can be between local and intercity transport (such as at a central station or airport).

**Timetables**

Main article: Public transport timetable

Timetables (or 'schedules' in North American English) are provided by the transport operator to allow users to plan their journeys. They are often supplemented by maps and fare schemes to help travelers coordinate their travel. Online public transport route planners help make planning easier. Mobile apps are available for multiple transit systems that provide timetables and other service information and, in some cases, allow ticket purchase.

Services are often arranged to operate at regular intervals throughout the day or part of the day (known as clock-face scheduling). Often, more frequent services or even extra routes are operated during the morning and evening rush hours. Coordination between services at interchange points is important to reduce the total travel time for passengers. This can be done by coordinating shuttle services with main routes, or by creating a fixed time (for instance twice per hour) when all bus and rail routes meet at a station and exchange passengers. There is often a potential conflict between this objective and optimising the utilisation of vehicles and drivers.

**Financing**

The main sources of financing are ticket revenue, government subsidies and advertising. The percentage of revenue from passenger charges is known as the farebox recovery ratio. A limited amount of income may come from land development and rental income from stores and vendors, parking fees, and leasing tunnels and rights-of-way to carry fiber optic communication lines.

**Fare and ticketing**



A contactless ticket validator used in Oslo, Norway



The Access card is a smart card for public transportation tickets in Stockholm, Sweden.

Most—but not all—public transport requires the purchase of a ticket to generate revenue for the operators. Tickets may be bought either in advance, or at the time of the journey, or the carrier may allow both methods. Passengers may be issued with a paper ticket, a metal or plastic token, or a magnetic or electronic card (smart card, contactless smart card). Sometimes a ticket has to be validated, e.g. a paper ticket has to be stamped, or an electronic ticket has to be checked in.

Tickets may be valid for a single (or return) trip, or valid within a certain area for a period of time (see transit pass). The fare is based on the travel class, either depending on the traveled distance, or based on zone pricing.

The tickets may have to be shown or checked automatically at the station platform or when boarding, or during the ride by a conductor. Operators may choose to control all riders, allowing sale of the ticket at the time of ride. Alternatively, a proof-of-payment system allows riders to enter the vehicles without showing the ticket, but riders may or may not be controlled by a ticket controller; if the rider fails to show proof of payment, the operator may fine the rider at the magnitude of the fare.

Multi-use tickets allow travel more than once. In addition to return tickets, this includes period cards allowing travel within a certain area (for instance month cards), or during a given number of days that can be chosen within a longer period of time (for instance eight days within a month). Passes aimed at tourists, allowing free or discounted entry at many tourist attractions, typically include zero-fare public transport within the city. Period tickets may be for a particular route (in both directions), or for a whole network. A free travel pass allowing free and unlimited travel within a system is sometimes granted to particular social sectors, for example students, elderly, children, employees (*job ticket*) and the physically or mentally disabled.

Zero-fare public transport services are funded in full by means other than collecting a fare from passengers, normally through heavy subsidy or commercial sponsorship by businesses. Several mid-size European cities and many smaller towns around the world have converted their entire bus networks to zero-fare. The only European capital with free public transport is Tallinn. Local zero-fare shuttles or inner-city loops are far more common than city-wide systems. There are also zero-fare airport circulators and university transportation systems.

**Revenue, profit and subsidies**

Main article: Subsidy

Governments frequently opt to subsidize public transport, for social, environmental or economic reasons. Common motivations include the desire to provide transport to people who are unable to use an automobile, and to reduce congestion, land use and automobile emissions. Other motives may include promoting business and economic growth, or urban renewal in formerly deprived areas of the city. Public transit systems rarely operate without government support. Some systems are owned and operated by a government agency; other transportation services may be commercial, but receive special benefits from the government compared to a normal company.

Subsidies may take the form of direct payments for financially unprofitable services, but support may also include indirect subsidies. For example, the government may allow free or reduced-cost use of state-owned infrastructure such as railways and roads, to stimulate public transport's economic competitiveness over private transport, that normally also has free infrastructure (subsidized through such things as gas taxes). Other subsidies include tax advantages (for instance aviation fuel is typically not taxed), bailouts if companies that are likely to collapse (often applied to airlines) and reduction of competition through licensing schemes (often applied to taxis and airlines). Private transport is normally subsidized indirectly through free roads and infrastructure, as well as incentives to build car factories and, on occasion, directly via bailouts of automakers.

Land development schemes may be initialized, where operators are given the rights to use lands near stations, depots, or tracks for property development. For instance, in Hong Kong, MTR Corporation Limited and KCR Corporation generate additional profits from land development to partially cover the cost of the construction of the urban rail system.

Some supporters of mass transit believe that use of taxpayer capital to fund mass transit will ultimately save taxpayer money in other ways, and therefore, state-funded mass transit is a benefit to the taxpayer. Some research has supported this position, but the measurement of benefits and costs is a complex and controversial issue. A lack of mass transit results in more traffic, pollution, and road construction to accommodate more vehicles, all costly to taxpayers; providing mass transit will therefore alleviate these costs. (Perhaps, although right-wing think tanks disagree)

**Safety and security**

Main article: Public transport security



A LASD deputy and a police dog patrol a LA Metro light rail train.

In the United States expansion of public transportation systems is often opposed by critics who see them as vehicles for violent criminals and homeless persons to expand into new areas (to which they would otherwise have to walk). According to the Transportation Research Board, "violent crime is perceived as pandemic .... Personal security affects many peoples' [sic] decisions to use public transportation." Despite the occasional highly publicized incident, the vast majority of modern public transport systems are well designed and patrolled and generally have low crime rates. Many systems are monitored by CCTV, mirrors, or patrol.

Nevertheless, some systems attract vagrants who use the stations or trains as sleeping shelters, though most operators have practices that discourage this.

Though public transit accidents attract far more publicity than car wrecks, public transport has much lower accident rates. Annually, public transit prevents 200,000 deaths, injuries, and accidents had equivalent trips been made by car. The National Safety Council estimates riding the bus as over 170 times safer than private car.

**Impact**

**Environmental**

Main article: Sustainable transport



The Bus Rapid Transit of Metz uses a diesel-electric hybrid driving system, developed by Belgian Van Hool manufacturer.

Although there is continuing debate as to the true efficiency of different modes of transportation, mass transit is generally regarded as significantly more energy efficient than other forms of travel. A 2002 study by the Brookings Institution and the American Enterprise Institute found that public transportation in the U.S uses approximately half the fuel required by cars, SUV's and light trucks. In addition, the study noted that "private vehicles emit about 95 percent more carbon monoxide, 92 percent more volatile organic compounds and about twice as much carbon dioxide and nitrogen oxide than public vehicles for every passenger mile traveled".

A 2004 study from Lancaster University concluded that there was no environmental benefit to be gained from persuading car or plane travelers to switch to trains. Environmental group Friends of the Earth were skeptical of the findings, claiming the results are not in line with previous studies. The study showed that trains had failed to keep up with the advances that the automotive and aviation industries had made in improved fuel efficiency. Express trains travelling from London to Edinburgh consumed 11.5 litres more fuel per seat than a modern diesel car. A representative from *Modern Railways* magazine is reported as having said:

*"I know this will generate howls of protest, but at present a family of four going by car is about as environmentally friendly as you can get."*

Studies have shown that there is a strong inverse correlation between urban population density and energy consumption per capita, and that public transport could facilitate increased urban population densities, and thus reduce travel distances and fossil fuel consumption.



A hybrid electric bus in Toronto

Supporters of the green movement usually advocate public transportation, because it offers decreased airborne pollution compared to automobiles. A study conducted in Milan, Italy in 2004 during and after a transportation strike serves to illustrate the impact that mass transportation has on the environment. Air samples were taken between 2 and 9 January, and then tested for Methane, Carbon Monoxide, non-methane Hydrocarbons (NMHCs), and other gases identified as harmful to the environment. The figure below is a computer simulation showing the results of the study "with 2 January showing the lowest concentrations as a result of decreased activity in the city during the holiday season. 9 January showed the highest NMHC concentrations because of increased vehicular activity in the city due to a public transportation strike."

Based on the benefits of public transport, the green movement has impacted public policy. For example, the state of New Jersey released *Getting to Work: Reconnecting Jobs with Transit*. This initiative attempts to relocate new jobs into areas with higher public transportation accessibility. The initiative cites the use of public transportation as being a means of reducing traffic congestion, providing an economic boost to the areas of job relocation, and most importantly, contributing to a green environment by reducing carbon dioxide (CO2) emissions.

Using public transportation can result in a reduction of an individual's carbon footprint. A single person, 20-mile (32 km) round trip by car can be replaced using public transportation and result in a net CO2 emissions reduction of 4,800 pounds (2,200 kg) per year. Using public transportation saves CO2 emissions in more ways than simply travel as public transportation can help to alleviate traffic congestion as well as promote more efficient land use. When all three of these are considered, it is estimated that 37 million metric tons of CO2 will be saved annually. Another study claims that using public transit instead of private in the U.S. in 2005 would have reduced CO2 emissions by 3.9 million metric tons and that the resulting traffic congestion reduction accounts for an additional 3.0 million metric tons of CO2 saved. This is a total savings of about 6.9 million metric tons per year given the 2005 values.

In order to compare energy impact of public transportation to private transportation, the amount of energy per passenger mile must be calculated. The reason that comparing the energy expenditure per person is necessary is to normalize the data for easy comparison. Here, the units are in per 100 p-km (read as person kilometer or passenger kilometer). In terms of energy consumption, public transportation is better than individual transport in a personal vehicle. In England, bus and rail are popular methods of public transportation, especially London. Rail provides rapid movement into and out of the city of London while busing helps to provide transport within the city itself. As of 2006–2007, the total energy cost of London's trains was 15 kWh per 100 p-km, about 5 times better than a personal car. For busing in London, it was 32 kWh per 100 p-km, or about 2.5 times that of a personal car. This includes lighting, depots, inefficiencies due to capacity (i.e., the train or bus may not be operating at full capacity at all times), and other inefficiencies. Efficiencies of transport in Japan in 1999 were 68 kWh per 100 p-km for a personal car, 19 kWh per 100 p-km for a bus, 6 kWh per 100 p-km for rail, 51 kWh per 100 p-km for air, and 57 kWh per 100 p-km for sea. These numbers from either country can be used in energy comparison calculations and/or life cycle assessment calculations.

Public transportation also provides an arena to test environmentally friendly fuel alternatives, such as hydrogen-powered vehicles. Swapping out materials to create lighter public transportation vehicles with the same or better performance will increase environmental friendliness of public transportation vehicles while maintaining current standards or improving them. Informing the public about the positive environmental effects of using public transportation in addition to pointing out the potential economic benefit is an important first step towards making a difference.

**Land use**



Traffic jam in São Paulo, Brazil

Urban space is a precious commodity and public transport utilises it more efficiently than a car dominant society, allowing cities to be built more compactly than if they were dependent on automobile transport. If public transport planning is at the core of urban planning, it will also force cities to be built more compactly to create efficient feeds into the stations and stops of transport. This will at the same time allow the creation of centers around the hubs, serving passengers' daily commercial needs and public services. This approach significantly reduces urban sprawl.

**Social**

A developed country is not a place where the poor have cars; it's where the rich use public transport —Enrique Penalosa, former mayor of Bogotá

An important social role played by public transport is to ensure that all members of society are able to travel, not just those with a driving license and access to an automobile—which include groups such as the young, the old, the poor, those with medical conditions, and people banned from driving. Automobile dependency is a name given by policy makers to places where those without access to a private vehicle do not have access to independent mobility.

Above that, public transportation opens to its users the possibility of meeting other people, as no concentration is diverted from interacting with fellow-travelers due to any steering activities. Adding to the above-said, public transport becomes a location of inter-social encounters across all boundaries of social, ethnic and other types of affiliation.

**Economic**



Tram tunnel in Bratislava (Slovakia) - a connection of embankment with a city centre.

Public transport allows transport at an economy of scale not available through private transport. Advocates of public transport claim that investing in mass transit will ultimately reduce the total transport cost for the public. Time saved can also be significant, as less cars can translate to less congestion, and faster speeds for remaining motorists. Transit-oriented development can both improve the usefulness and efficiency of the public transit system as well as result in increased business for commercial developments.

Because of the increased traffic and access to transit systems, putting in public transit frequently has a positive effect on real estate prices. For example, the Washington DC Metro system has increased land desirability around its stations, and The Hong Kong metro MTR generates a profit by redeveloping land around and above its stations. Much public opposition to new transit construction can be based on the concern about the impact on neighborhoods of this new economic development. Few localities have the ability to seize and reassign development rights to a private transit operator, as Hong Kong has done.

Investment in public transport also has secondary positive effects on the local economy, with between $4 and $9 of economic activity resulting from every dollar spent. Many businesses rely on access to a transit system, in particular in cities and countries where access to cars is less widespread, businesses which require large amounts of people going to a same place may not be able to accommodate a large number of cars (concert venues, sport stadia, airports, exhibitions centres,...), or businesses where people are not able to use a car (bars, hospitals, or industries in the tourism sector whose customers may not have their cars). Transit systems also have an effect on derived businesses: commercial websites have been founded, such as Hopstop.com, that give directions through mass transit systems; in some cities, such as London, products themed on the local transport system are a popular tourist souvenir. Research in the Washington, DC area shows that public transport does a better job of providing high-skill residents with access to high-skill jobs than it does mid-skill residents to mid-skill jobs and low-skill residents to low-skill jobs.

However, public transport projects frequently have very large upfront costs, requiring large investments from either local government or private investors. Initial estimates of project cost and timescale are frequently underestimated, and nearly all public transport requires government subsidies and/or direct government support in order to remain operational.

The existence of a transit system can lower land values in some cases, either through influence on a region's demographics and crime rate (actual or perceived), or simply through the ambient noise and other discomforts the system creates.

**Regulations**

**Food and drink**

Longer distance public transport sometimes sell food and drink on board, and/or have a dedicated buffet car and/or dining car. However, some urban transport systems forbid the consumption of food, drink, or even chewing gum when riding on public transport. Sometimes only types of food are forbidden with more risk of making the vehicles dirty, e.g. ice creams and French fries, and sometimes potato chips.

Some systems prohibit carrying open food or beverage containers, even if the food or beverage is not being consumed during the ride.

**Smoking**

In Australia, Canada, India, New Zealand, Norway, Switzerland, the United States, and most of the European Union, smoking is prohibited in all or some parts of most public transportation systems due to safety and health issues. Generally smoking is not allowed on buses and trains, while rules concerning stations and waiting platforms differ from system to system. The situation in other countries varies widely.

**Noise**

Many mass transit systems prohibit the use of audio devices, such as radios, CD players, and MP3 players unless used with an earphone through which only the user can hear the device.

Some mass transit systems have restricted the use of mobile phones. Long distance train services, such as the Amtrak system in the US, have "quiet cars" where mobile phone usage is prohibited.

Some systems prohibit passengers from engaging in conversation with the operator. Others require that passengers who engage in any conversation must keep the noise level low enough that it not be audible to other passengers.

Some systems have regulations on the use of profanity. In the United States, this has been challenged as a free speech issue.

**Banned items**

Certain items considered to be problematic are prohibited or regulated on many mass transit systems. These include firearms and other weapons (unless licensed to carry), explosives, flammable items, or hazardous chemicals and substances.

Many systems prohibit live animals, but allow those that are in carrying cases or other closed containers. Additionally, service animals for the blind or disabled are permitted.

Some systems prohibit items of a large size that may take up a lot of space, such as non-folding bicycles. But more systems in recent years have been permitting passengers to bring bikes.

In Sydney, it is illegal to carry spray cans or permanent markers on public transport, as they can be used to vandalise the vehicles and stations. This rule also applies to sharp instruments that could damage the train, such as screwdrivers that could be used to make "scratchitti", a form of vandalism where tags are carved into a window.

**Other regulations**

Many systems have regulations against behavior deemed to be unruly or otherwise disturbing to other passengers. In such cases, it is usually at the discretion of the operator, police officers, or other transit employees to determine what behaviors fit this description.

Some systemshave regulations against photography or videography of the system's vehicles, stations, or other property. Those seen holding a mobile phone in a manner consistent with photography are considered to be suspicious for breaking this rule. This is another issue that is challenged in the courts in the United States as a "Free Speech" issue. Almost all riders are equipped with cell phones which can take pictures or record what is happening on the lines. Riders are able to record the actions of transit police and transportation system employees.

**Sleeping**

In the era when long distance trips took several days, sleeping accommodations were an essential part of transportation. (On land, the lodging involved was often part of the infrastructure: the inn or ryokan, which did not move, sheltered travelers. People also slept on ships at sea.) Today, most airlines, inter-city trains and coaches offer reclining seats and many provide pillows and blankets for overnight travelers. Better sleeping arrangements are commonly offered for a premium fare and include sleeping cars on overnight trains, larger private cabins on ships and airplane seats that convert into beds. Budget-conscious tourists sometimes plan their trips using overnight train or bus trips in lieu of paying for a hotel. The ability to get additional sleep on the way to work is attractive to many commuters using public transport.

Because night trains or coaches can be cheaper than motels, homeless persons often use these as overnight shelters, as with the famous Line 22 ("Hotel 22") in Silicon Valley. Specifically, a local transit route with a long overnight segment and which accepts inexpensive multi-use passes will acquire a reputation as a "moving hotel" for people with limited funds. Most transportation agencies actively discourage this. For this and other reasons passengers are often required to exit the vehicle at the end of the line; they can board again in the same or another vehicle, after some waiting. Even a low fare in some cases often deters the poorest individuals, including homeless people.

**See also**

* [3D Express Coach](https://en.wikipedia.org/wiki/3D_Express_Coach)
* [Finnish models of public transport](https://en.wikipedia.org/wiki/Finnish_models_of_public_transport)
* [International Association of Public Transport](https://en.wikipedia.org/wiki/International_Association_of_Public_Transport)
* [Passenger load factor](https://en.wikipedia.org/wiki/Passenger_load_factor)
* [Patronage (transport)](https://en.wikipedia.org/wiki/Patronage_(transport))
* [Private transport](https://en.wikipedia.org/wiki/Private_transport)
* [Public transport bus service](https://en.wikipedia.org/wiki/Public_transport_bus_service)
* [Public transport route planner](https://en.wikipedia.org/wiki/Public_transport_route_planner)
* [Public transport timetable](https://en.wikipedia.org/wiki/Public_transport_timetable)
* [Sustainable transport](https://en.wikipedia.org/wiki/Sustainable_transport)
* [Transit district](https://en.wikipedia.org/wiki/Transit_district)
* [Transit pass](https://en.wikipedia.org/wiki/Transit_pass)
* [Transit police](https://en.wikipedia.org/wiki/Transit_police)
* This page was last modified on 14 August 2015, at 14:49.