Getting to and from Public Transport

Public Transport Design Guidance

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Bus dimensions for design

Corridor clearance

Bus layover and driver facilities

Getting to and from public transport

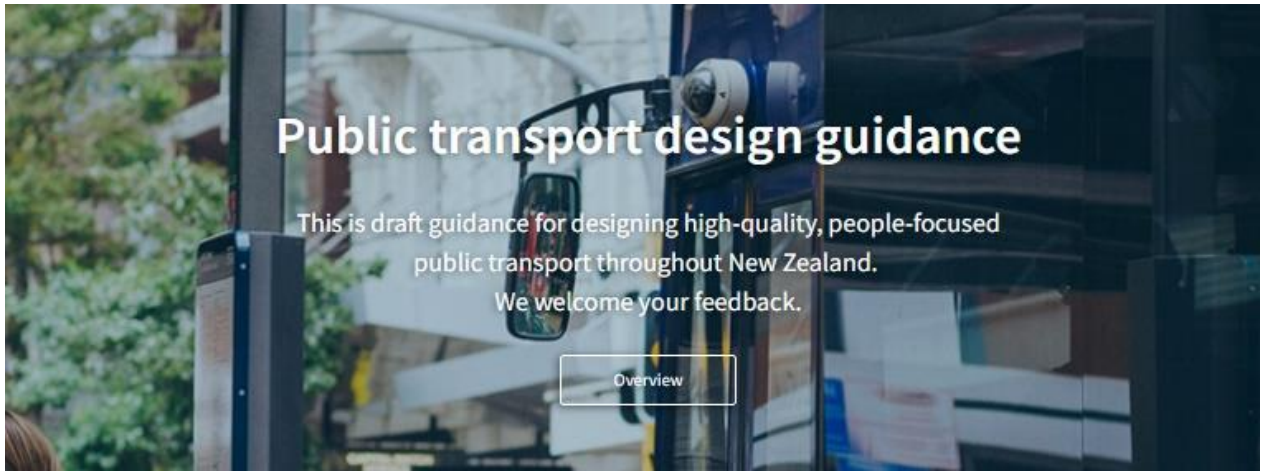
Bus stop

Public transport priority and optimisation

Battery electric bus charging infrastructure

Public transport interchanges

Training & capability



Bookmark the PTDG:
nzta.govt.nz/ptdg

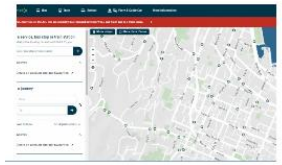
There are a lot of elements of public transport (e.g. ticketing, customer information, timetabling) but the PTDG focuses on **infrastructure**, and, primarily, for **buses**

This is draft guidance, and we welcome your feedback

Draft guidance - have your say

Topics covered

Roles and responsibilities



Understanding people and their journey choices

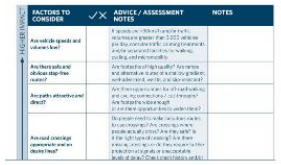
Planning for getting to and from the stop

Walking

People on bikes and micromobility

Feeder public transport services

Car connections



Quick checklist for getting to and from public transport

- Guidance is draft for comment – send us your feedback!
- This section includes quite a lot of hyperlinks to other, highly related guidance!

Introduction

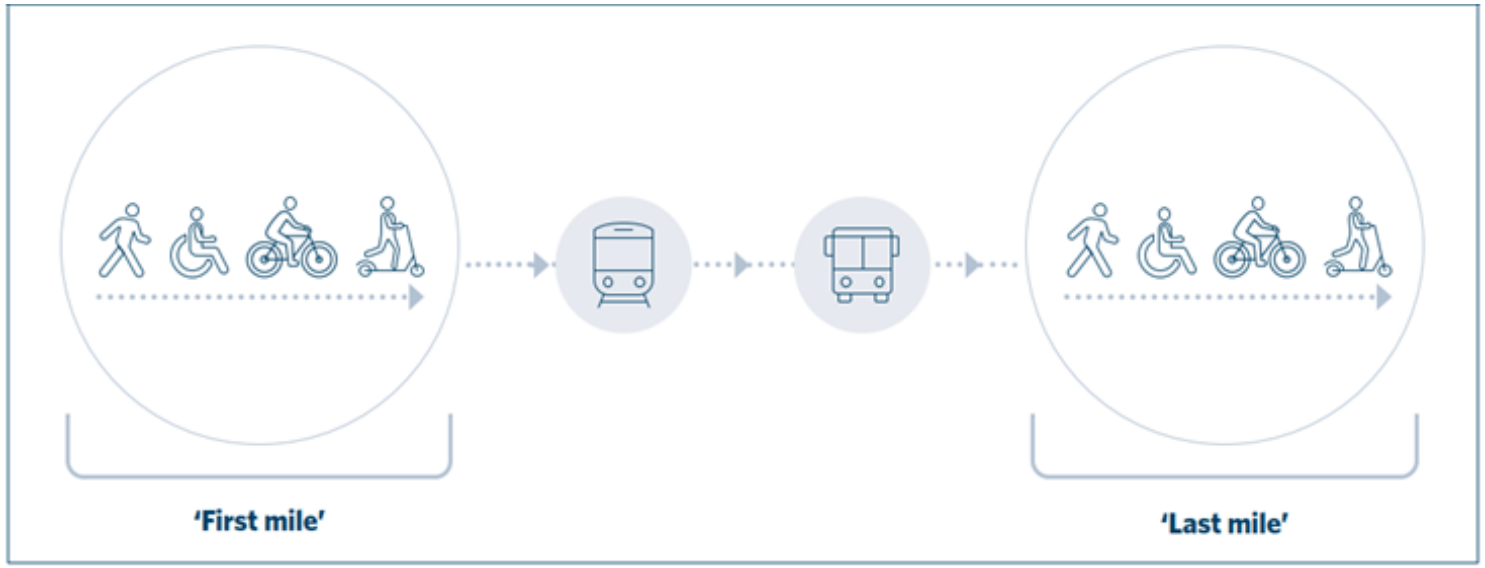
Getting to and from public transport (PT) is integral to every PT journey.

Key issues for people accessing PT include:

- **Distance** between origin/destination and the public transport stop.
- **Comfort and universal access** along the connecting route.
- **Availability and attractiveness** of access options such as taxi/rideshare, feeder buses, pick-up and drop-off, or Park and Ride
- Perceived or actual **safety and security** of accessing public transport are essential.

Planning for the whole passenger journey

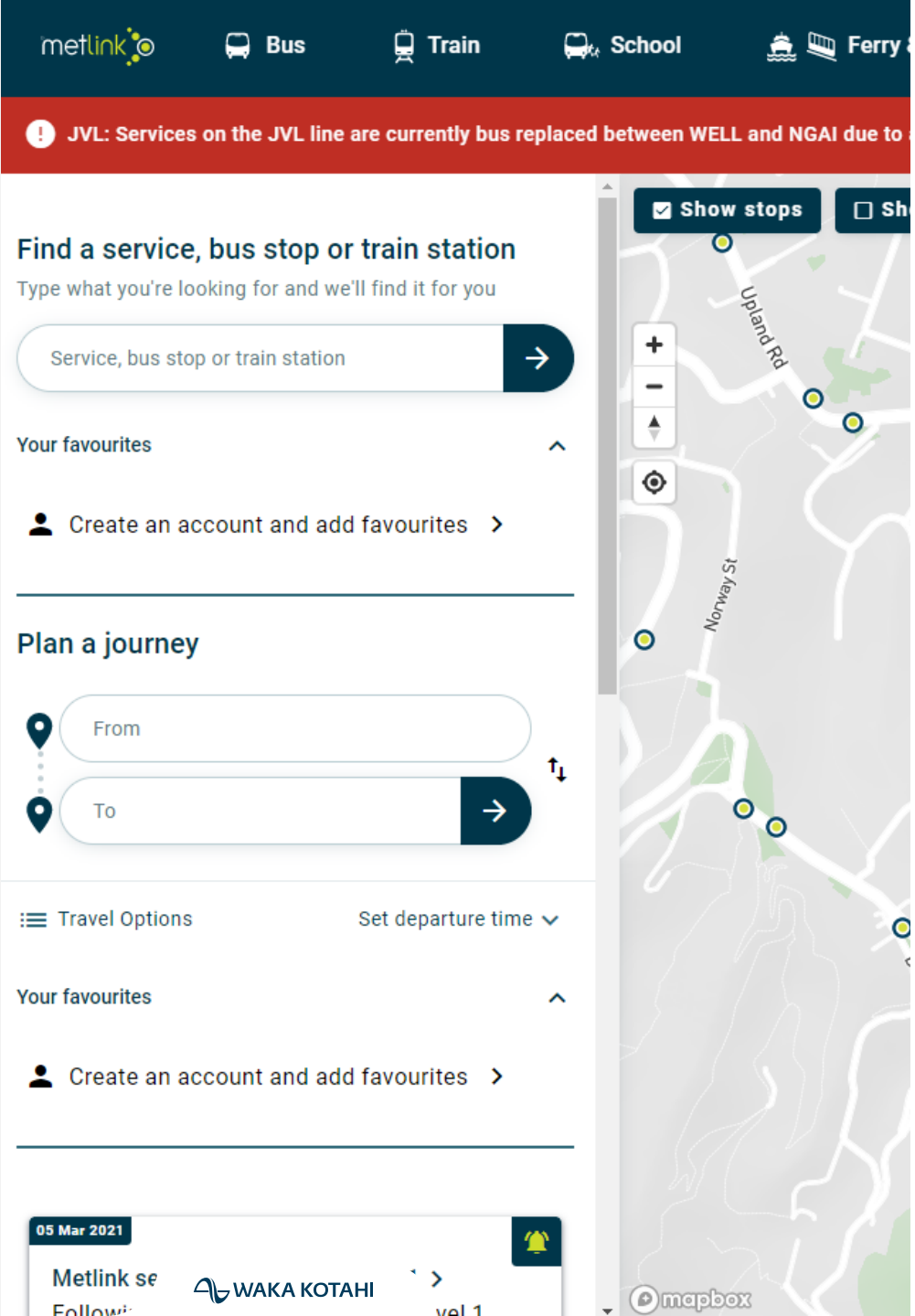
- **How** will people **get to and from** their public transport services?
- Is the whole journey **accessible for all** people?
- Is the whole journey **safe**?
- Is the whole journey **attractive, convenient**, relatively **seamless**, and **intuitive**?
- Is the whole journey **affordable**?



Roles and Responsibilities

Whole-of-journey planning requires collaboration among different organisations to facilitate better connections to and from public transport:

- **Private companies** that own and operate shopping malls or precincts
- **Education facilities** with large campuses, such as schools and tertiary institutes
- **Large health facilities** such as hospitals
- **Community facilities** such as sports grounds and libraries
- **Housing/commercial developers**.



Understanding People and Their Journey Choices

There are many different types of public transport users with different information needs. Variables include:

- Level of network familiarity – regulars, infrequent users, new users etc.
- Other requirements – e.g. for accessibility assistance.

Most people at some point plan ahead and gather information about a service before their trip.

Information sources for pre-journey planning typically include:

- Online sources
- Contact centre (telephone)
- Printed material
- Asking someone (friends, family) who uses the service regularly.

Understanding People and Their Journey Choices

Informing travel decisions

Providing better information in journey planning tools can help people make more informed travel decisions. This could include:

- The accessibility of infrastructure at stops, on vehicles and at interchanges
- Showing specific footpath and pedestrian crossing facilities
- Live service disruptions
- Stop and station security features
- Cycle facilities

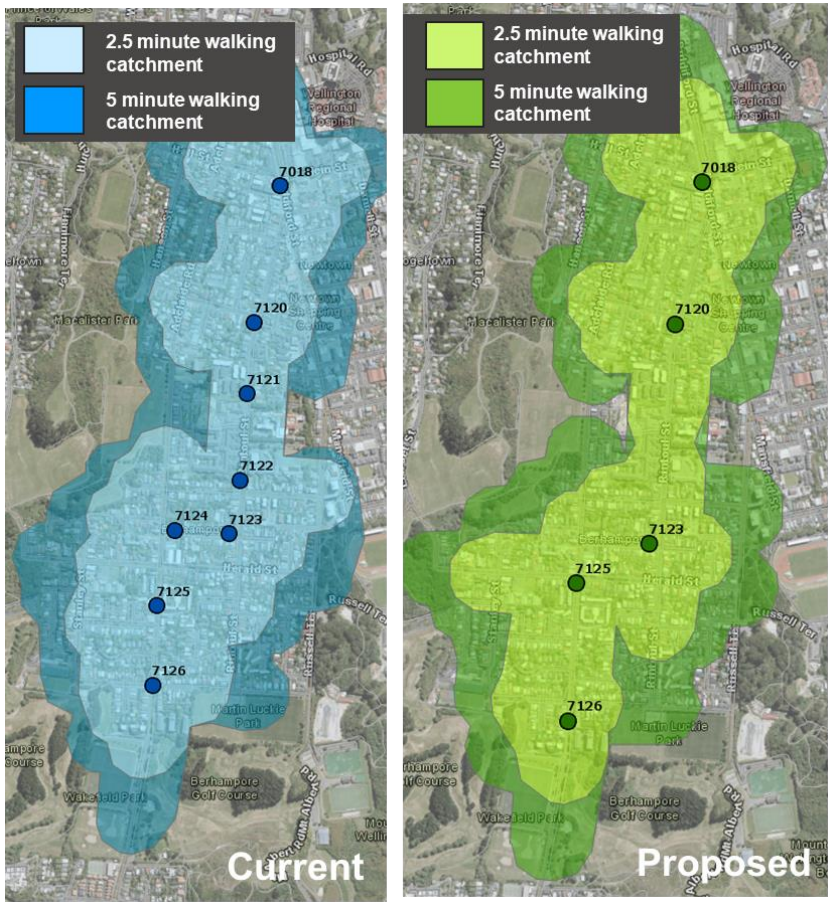
Planning for getting to and from the stop

Public transport network considerations

Stop access planning needs to take place alongside planning sites for stops, interchanges and land use.

Stop and interchange sites need to provide both efficient journeys for the passenger and networks that are efficient to operate and fund.

Improve stop access for active modes → Larger effective catchments → Potential to increase distances between stops → Faster, more reliable and efficient bus services



Berhampore case study from the walking sub-section

Planning for getting to and from the stop

Safety

Public transport is the safest mode of transport with the least number of deaths and injuries per kilometer traveled.

The most dangerous component of public transport journeys is getting to and from the stop or station, particularly for people walking or cycling.

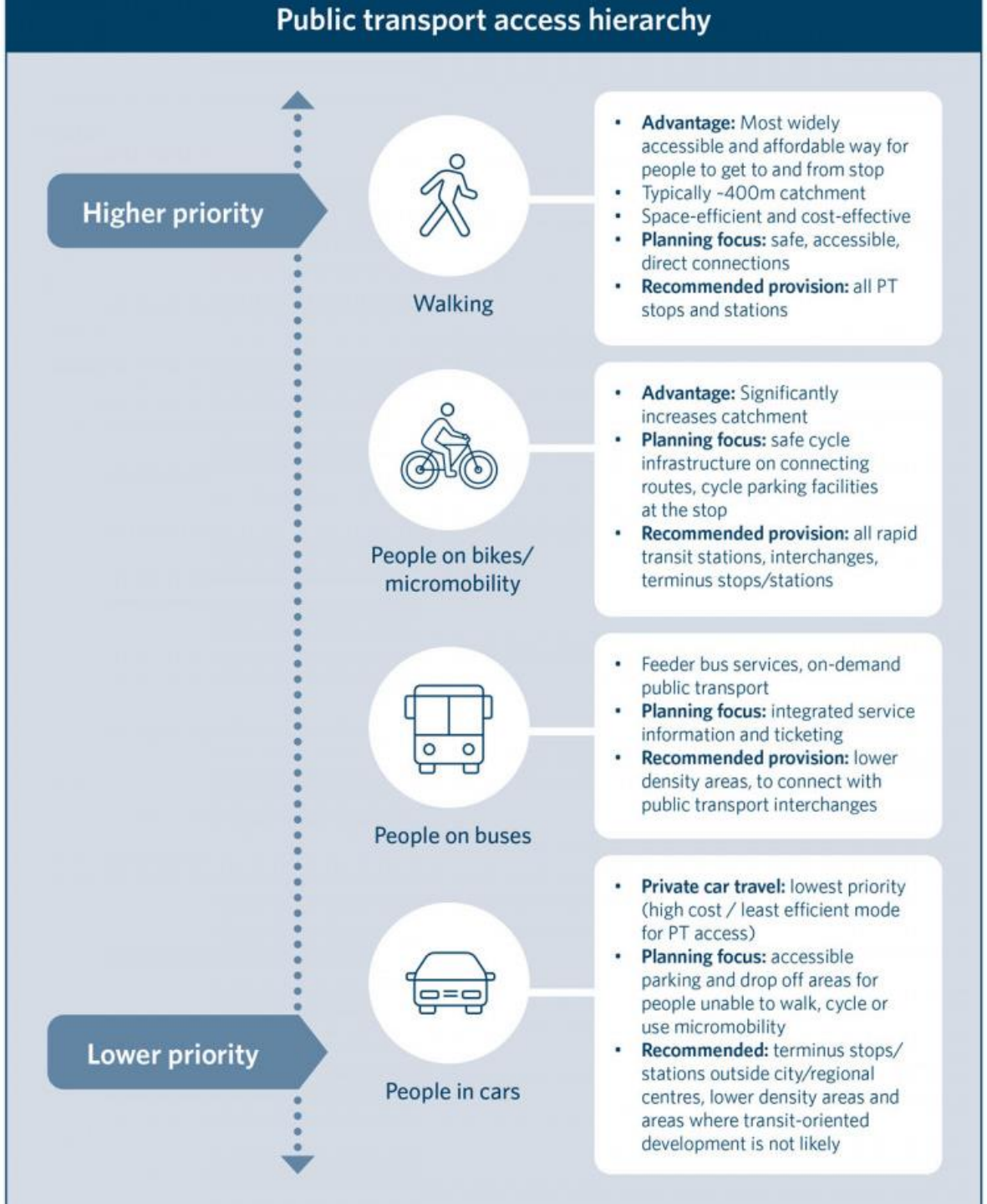
Planning for safety is essential and must allow people both be safe and to perceive the journey as being safe. Perceptions can shape which travel modes seem viable

Planning for getting to and from the stop

Public transport access hierarchy

Key considerations used in determining a more widely applicable hierarchy would include:

- **Efficiency** – Prioritise modes that deliver the greatest number of potential passengers with the least ‘footprint’ or cost.
- **Equity and economy** – prioritise modes that most people can access with little or no cost outlay
- **Health and safety** – prioritise modes that deliver the best health outcomes and maximise the safety of the most vulnerable users.



Walking

Walking is one of the most practical, affordable, and widely accessible ways for people to get to and from public transport. Urban design and street layouts should support intuitive walking access to public transport to the greatest extent possible.

Detailed guidance on planning for pedestrians is available at nzta.govt.nz/png

Walking distance to public transportation is influenced by the following:

- The level of service of walking facilities (discussed on the next slide)
- The level of service of public transport

Walking Catchment	Level of Service
≤400m or 5min walk	Low frequency public transport stops
≤800m or 10min walk	High frequency public transport stops (a service at least every 15min)
≤1200m or 15min walk	High frequency and rapid public transport stops or stations

Walking

Street considerations

- **Safety and accessibility for walking**
  - Quality of pedestrian infrastructure, including paths and crossings.
  - Traffic volumes and speeds
  - CPTED principles to enhance actual and perceived safety.
  - SOS! Safe, Obvious and Step-free access
- **Directness and convenience for walking**
  - More direct connections to public transport
  - Minimising delay at pedestrian crossings
- **Amenity for walking**
  - Consider a range of amenities including lighting, planting, shade/weather protection, and wayfinding information

People on bikes and micromobility

The reach of public transport is extended when people can cycle or use micromobility to get to and from a stop. This option is typically more suitable for longer public transport journeys, as cyclists may prefer to ride the entire distance for shorter trips.

Detailed guidance on planning for people cycling is available at nzta.govt.nz/cng

Riding distance to public transport is influenced by:

- The level of service of cycling route (safety, directness)
- End-of-trip facilities
- The level of service of public transport

Riding catchment	Level of Service
≤2.5km or 10min riding	Stops or stations with convenient end-of-trip access and attractive public transport services
≤5km or 20min riding	Premium stops and high passenger volume stations with high-quality, secure end-of-trip facilities
Up to 15km	Limited uptake

People on bikes and micromobility

Street environment considerations

Street design that makes cycling and micromobility safe and attractive promotes good connections for public transport journeys.

- **Safety and accessibility for riding**
  - Quality of infrastructure, including paths and cycle lanes.
  - (low) traffic volumes and speeds
- **Directness for cycling and micromobility**
  - Permeable street networks
- **Stop and station infrastructure for first and last mile**
  - e.g. direct access (not via a car park), storage, charging facilities, changing rooms (at larger facilities), repair facilities.

Note: The PTDG will have guidance coming out soon on Interchanges!

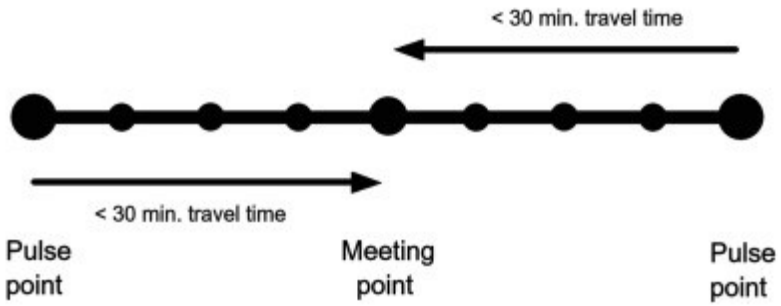
Feeder Public Transport Services

Feeder public transport services are used to provide access to a main line – typically a rapid transit route offering a high level of service.

Planning for feeder services should enable seamless transfers between the feeder and main line. Considerations include

- **Prioritising feeder service access over other motor vehicles** – locating them immediately adjacent to the main line platforms or the main entrance.
- **Maximising directness of walking routes** and providing visual links between transfer points
- **Providing step free and sheltered routes** between transfer points.
- Having sufficient space to **enable connecting vehicles to wait** for a late running service.
- Weather protection, lighting and CCTV for **passengers to wait safely and comfortably**.

Feeder public transport



PT reliability is imperative to pulse and timed connections

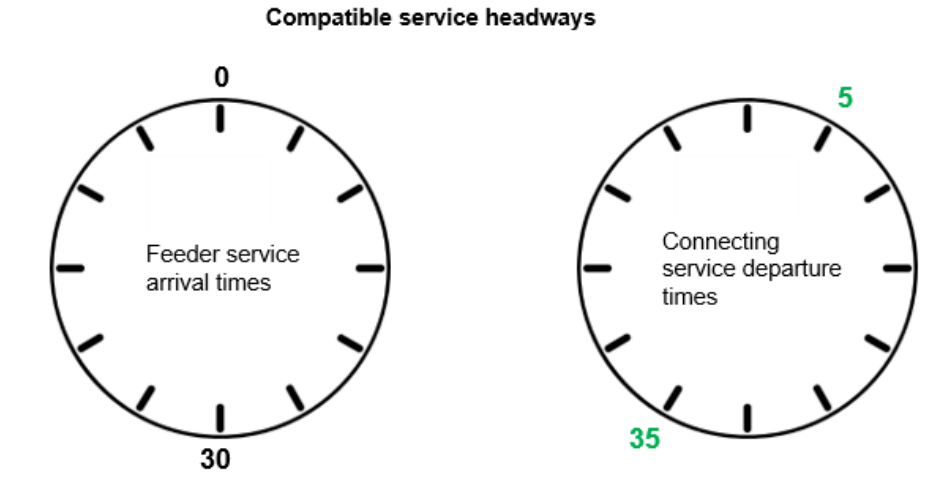
Fixed Schedule Services

Fixed schedule public transport services have trips which depart at the same time and follow the same route each day.

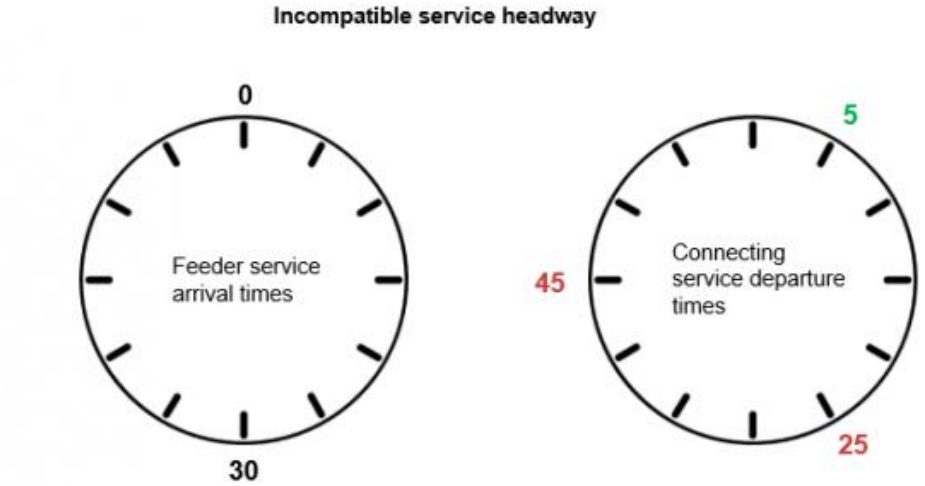
These services require careful scheduling to provide seamless connections (unless operating at a high frequency) and need to be able to operate reliably.

There are three types of connections between fixed schedule public transport services:

- **Pulse connection** - multiple routes are coordinated so that vehicles arrive at a station at regular times on the hour so that passengers can transfer between routes.
- **Timed connection** - feeder service is scheduled to arrive at the station before the connecting service with passengers waiting in between services (e.g. 5 -10 minutes).
- **Frequent connection** - two high frequency public transport routes (generally every 10 minutes or better) cross paths and passengers transfer between.
  - Timetables do not need to be coordinated



30min feeder and connecting services results in two optimal connections



30min feeder and 20min connecting services results in one optimal connection, one long connection and one missed connection

Feeder public transport

Fixed Schedule Services

The techniques available to address unreliable connecting services include:

- Implementing public transport priority
- Reducing delays at bus stops
- Designing shorter public transport routes
- Enabling connecting services to wait at the transfer point

Seamless connections also require compatible headways i.e. one divides the other so services can be timed to regularly connect.

Feeder public transport

On-Demand Services

On-demand public transport services offer flexible routes and timetables based on passenger locations and destinations.

Some services limit passengers to set destinations while others allow drop-offs within a fixed area.

Additional considerations for the design of on-demand public transport infrastructure at interchanges includes:

- A layout that enables vehicles to safety turn around
- Encouraging the turnover of drop off spaces.

Advantages	Disadvantages
• Provides transport to underserved areas • Potential door-to-door service • More flexible departure times	• Small vehicle capacity • Route and arrival time is less certain • Lack of bus stops reduces awareness • Higher operation costs per passenger.

Car connections

Drop-off areas

Providing general drop-off / pick up access may be appropriate if it doesn't compromise access for other modes, particularly where feeder PT access is unviable.

Dedicated drop-off facilities are crucial for people with limited mobility.

Two primary forms of drop-off are:

- 'Kiss and ride' for private vehicles
- On-demand services like taxis and ride-share

Drop-off facilities can increase accessibility for people without attractive access to other modes. The facilities can be provided without the high costs of long stay parking, due to high turnover of each space.

The growing demand for app-based ride-hailing may increase pressure on drop off areas and surrounding kerb space

Car connections

Park and ride

Providing Park and Ride may be appropriate if demand for land is low, particularly as an interim measure.

However:

- Generally expensive in terms of infrastructure and land.
- Can impact access for other modes and integration with land use.
- Can preclude shift to preferred access modes without significantly increasing PT patronage.

Provision must minimise impacts on access for other modes. Design should prioritise parking access for people with limited mobility – consider also carpooling / car share / EV spaces and pricing.

Quick checklist for getting to and from public transport

High-level assessment of first and last mile connections to public transport

Sample checklist with interventions listed in order of impact

A checklist like this could be used in a variety of contexts to:

- Can be used for access audit of an existing stops or station
- Proactively assess of new stops
- Helps assess quality of access improvements.

	FACTORS TO CONSIDER	✓✗	ADVICE / ASSESSMENT NOTES	NOTES
HIGHER IMPACT	**Are vehicle speeds and volumes low?**		If speeds are >30km/h and/or traffic volumes are greater than 3,000 vehicles per day, consider traffic calming treatments and/or separated facilities for walking, cycling, and micromobility	
	Are there safe and obvious step-free routes?		Are footpaths of high quality? Are ramps and alternative routes of a shallow gradient, well-advertised, well lit, and slip-resistant?	
	Are paths attractive and direct?		Are there opportunities for off-road walking and cycling connections / cut-throughs? Are footpaths wide enough or are there opportunities to widen them?	
	Are road crossings appropriate and on desire lines?		Do people need to make circuitous routes to use crossings? Are crossings where people actually cross? Are they safe? Is it the right type of crossing? Are there missing crossings or do they require further protection at signals or unacceptable levels of delay? Check crash history and/or Pedestrian Network Guidance for guidance on crossing types etc.	
	Are streets and paths well-lit, following CPTED principles?		Will people feel safe getting to and from the stop in the dark? Does the stop benefit from passive surveillance?	
	Are the feeder public transport services reliable?		Investigate the causes of unreliability and implement appropriate public transport priority measures.	
	Are the feeder and connecting public transport services located a short walk from each other (ideally 20m or less)?		Reallocate interchange space to bring feeder and connecting public transport services closer together whilst also prioritising access for people walking and people on bikes.	
	Are there access and parking facilities at the stop or station for people cycling or using micromobility?		Are cycle and micromobility paths and facilities prioritised above car park access? Are there secure parking or storage, charging points, lockers, and bathrooms? Note: provide cycle parking for a range of users.	
	Are the connection times to/from feeder public transport services optimal (not too short or too long)?		Adjust the feeder or connecting public transport service timetables to improve connection times	
LOWER IMPACT	**Is there obvious wayfinding to direct people to the stop or station?**		Is there signage for people unfamiliar with the area?	
	Are there accessible parking and drop-off options at the stop or station?		Is the stop or station accessible to someone who cannot walk far, or who needs to drive there or be dropped off? Are feeder bus stops close to the station?	
	Are there street trees and planting?		Are walking routes attractive, including in hot weather, and with shelter from wind/ rain?	
	Is there seating along walking routes?		Are walking routes pleasant, encouraging a sense of place?	
	Are cycle facilities free of glass and debris?		Are cycling and micromobility routes reliably smooth?	
	Is shared cycling/ micromobility (e.g. bikeshare or scooter share) available?		Is there opportunity to provide or promote public or private cycle or micromobility options?	
	Would park and ride facilities increase public transport patronage?		Consideration at the end of high-frequency routes, particularly bus and train stations at the ends of lines and where people travel a long way to their destination.	

Example questions

Factors to consider
Are vehicle speeds and volumes low?
Are there safe and obvious step-free routes?
Are paths attractive and direct?
Are road crossings appropriate and on desire lines?
Are streets and paths well-lit, following CPTED principles?
Are the feeder public transport services reliable?
Are the feeder and connecting public transport services located a short walk from each other (ideally 20m or less)?
Are there access and parking facilities at the stop or station for people cycling or using micromobility?
Are the connection times to/from feeder public transport services optimal (not too short or too long)?
Is there obvious wayfinding to direct people to the stop or station?
Are there accessible parking and drop-off options at the stop or station?
Are there street trees and planting?
Is there seating along walking routes?
Are cycle facilities free of glass and debris?
Is shared cycling/micromobility (e.g. bikeshare or scooter share) available?
Would park and ride facilities increase public transport patronage?

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We can let you know when new content comes out on the website such as:

- Priority & optimisation
- Interchanges
- Articulated buses
- Final versions of guidance
- More!

Questions

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