Approach to Fares Around the World

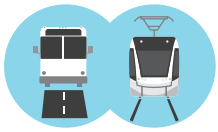
Icon Legend:

Regional rail

Suburban rail

Streetcar

Local transit



Rapid transit

Separated Right Of Way

Reserved lane

Mixed traffic

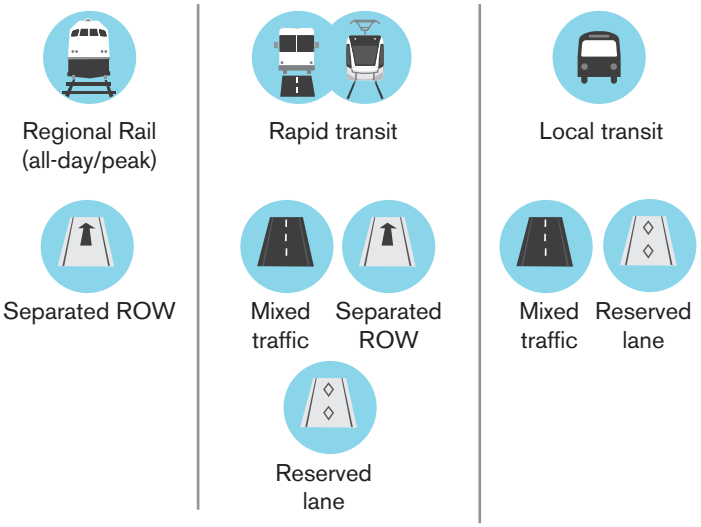
Greater Toronto and Hamilton Area, Ontario, Canada

Regional Characteristics

- Population – 6,574,140 (2011, all of GTHA)
- GDP: US$260.6 billion
- Regional Rail by provincial agency (Metrolinx)
- 10 municipal-based service providers

Types of Transit

- Regional rail is a separate system, with limited connections to rapid transit or reserved-lane transit
- Most current regional lines are peak-only, but all regional lines are planned to have increased service (RER program)
- Rapid transit fed by local transit



Approach to Fares

- Regional rail:
  - Fine-grained fare zones (more than 90) oriented in an uneven grid
  - Also serves regional bus
- For other modes:
  - Each municipal service provider has its own fare zone
- A single fare provides access to rapid transit, and local transit within each service provider fare zone
- No Peak or Time-of-Day Pricing
- Regional rail fares focused on financial district in City of Toronto
- Fare zones for most rapid, reserved-lane, and local transit based on municipal / service provider boundaries, not density / land use patterns
- Fare zones not oriented to serve suburban centres

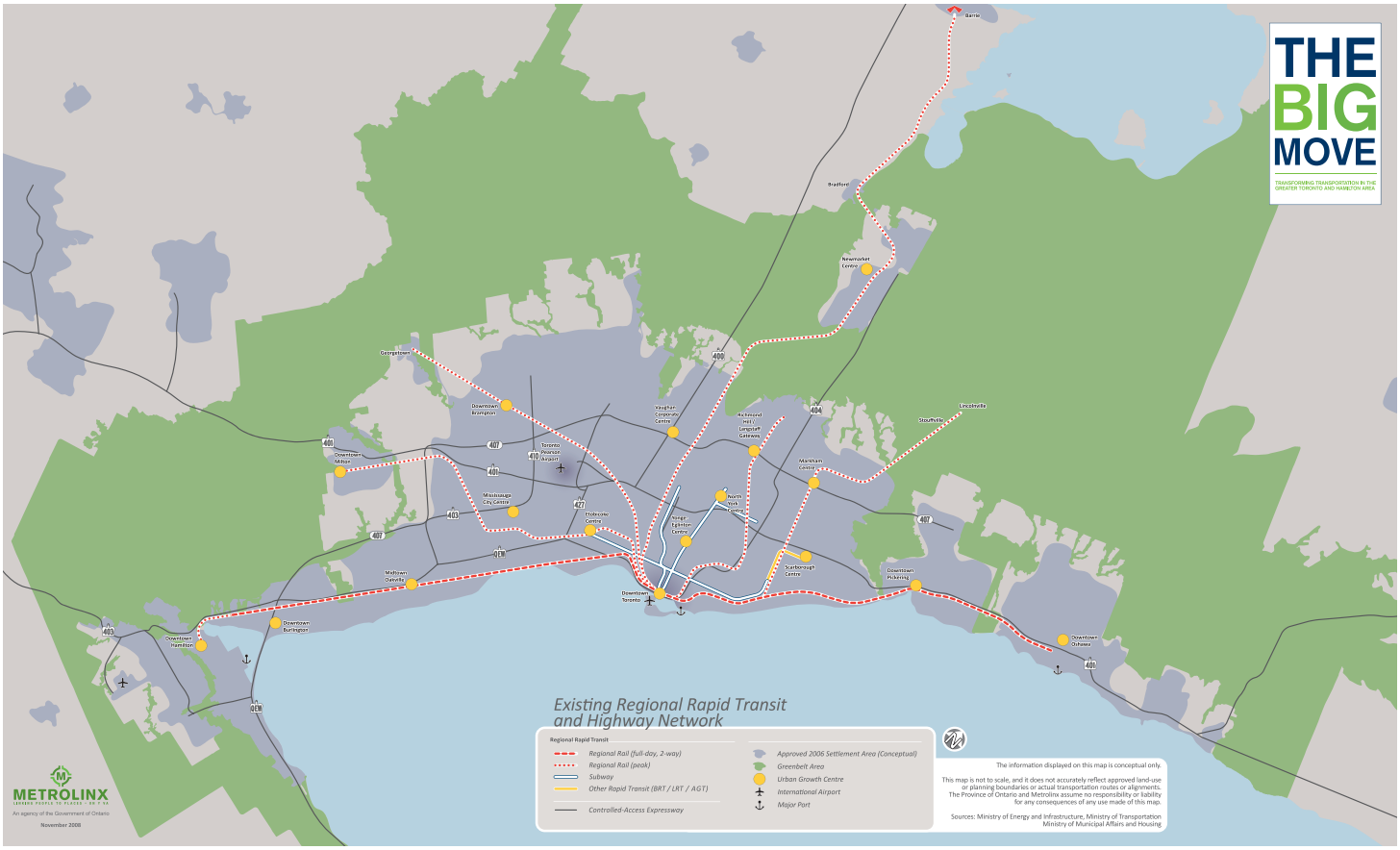
How do customers pay?

- Pricing and products vary, but all offer single-trip products and monthly passes or caps, some offer additional products
- Four municipal service providers offer a joint weekly pass product
- PRESTO on GO Transit and all other providers with some TTC stations/Vehicles

How do customers transfer?

- Free transfer, either time-based or trip-based when same operator and same mode
- Free transfer within a single provider when same operator and different modes
- A mix of full, reduced-price and free transfers between regional rail, rapid transit and local transit (depends on providers)

Map of regional rail and rapid transit in the GTHA (as of 2008):



Source: Metrolinx Regional Transportation Plan (2008), retrieved February 19, 2015

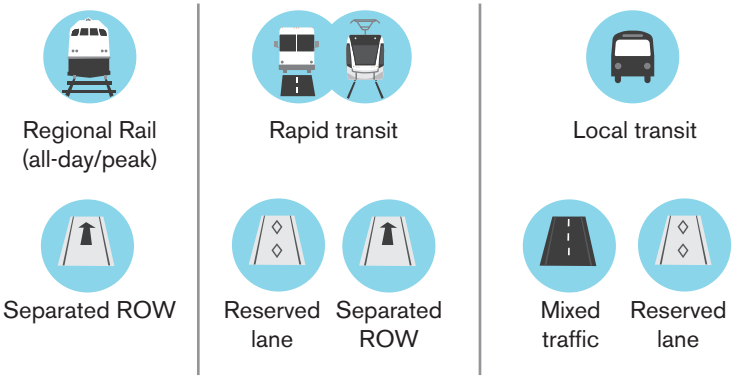
Montreal, Quebec, Canada

Regional Characteristics

- Population – 3,824,221 (2011, census metropolitan area)
- GDP: US$142.8 billion
- Canadian city most comparable in size to Toronto
- Regional rail controlled by provincial agency (AMT) and rapid transit controlled by STM, the municipal service provider for the City of Montreal
- Local buses in Greater Montreal served by a number of providers, including STM within Montreal

Types of Transit

- Local buses structured to feed rapid transit
- Regional rail is a separate system, with some local transit feeders connections with rapid transit network
- Most regional rail lines are peak-only



Approach to Fares

- Regional rail:
  - Greater Montreal Area divided into 8 fare zones
- Rapid transit and local bus:
  - Each local municipal provider has its own fares and zones
  - Some municipal providers offer fare products for their services based on regional rail zones
- No Peak or Time-of-Day Pricing
- Regional rail fare structure is focused on city financial district
- Regional rail fare zones fairly circular but some are irregularly-sized
- Fare zones for other modes based on municipal / service provider boundaries
- No relationship of municipal fare zones to density / land use patterns
- Fare zones not oriented to serve suburban centres

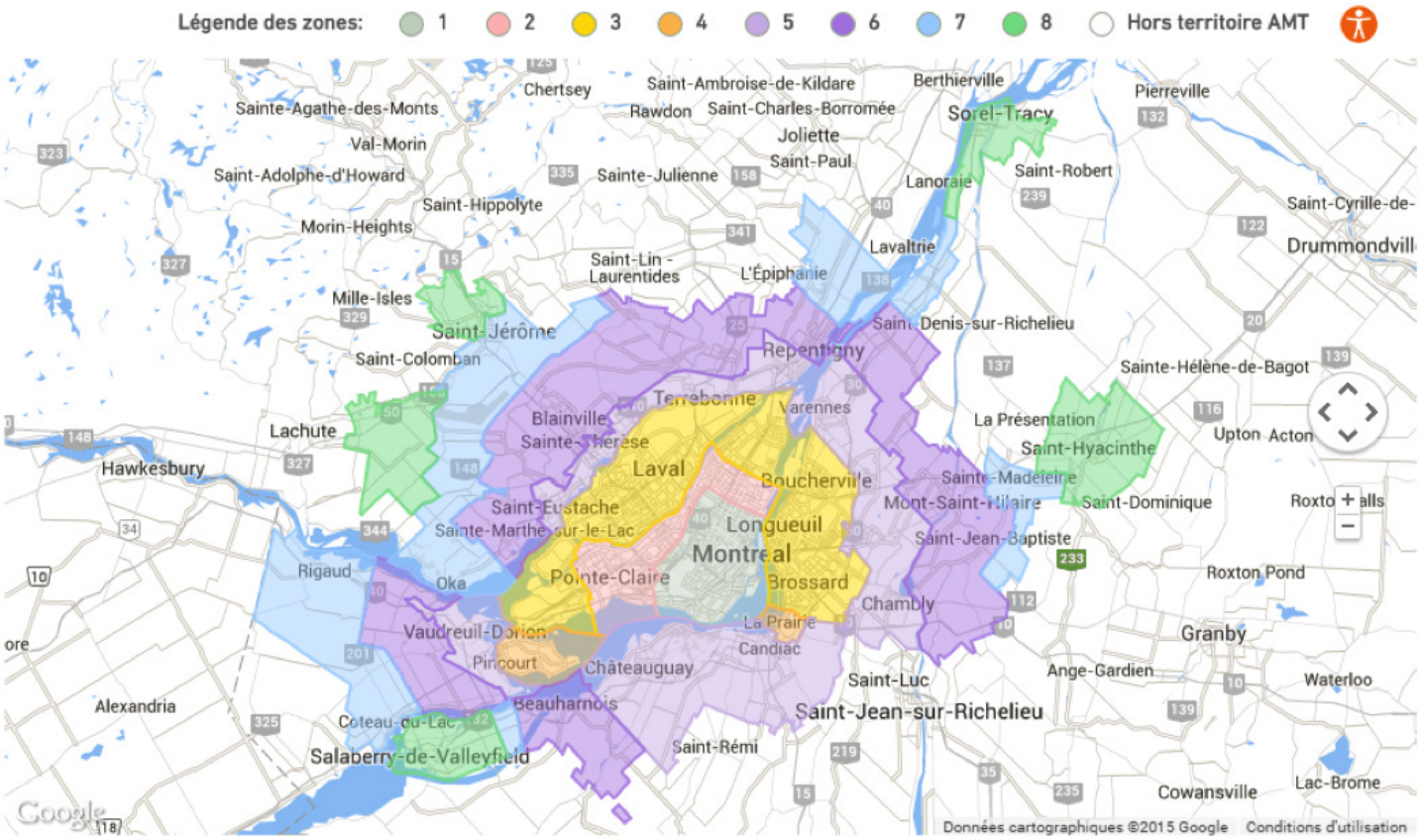
How do customers pay?

- TRAM fare products provide access to regional rail and other modes from Zone 1
- Some service providers offer fare products for services spanning multiple zones though not consistent across region
- Single-operator products and pricing vary by operator
- OPUS electronic fare card adopted by all providers

How do customers transfer?

- Free transfer, either time-based or trip-based when same operator and same mode
- Free transfer within a single provider when same operator and different modes
- A mix of full, reduced-price and free transfers between regional rail, rapid transit and local transit (depends on providers)

Map of fare zones in Greater Montreal:



Source: AMT website, retrieved January 9, 2015

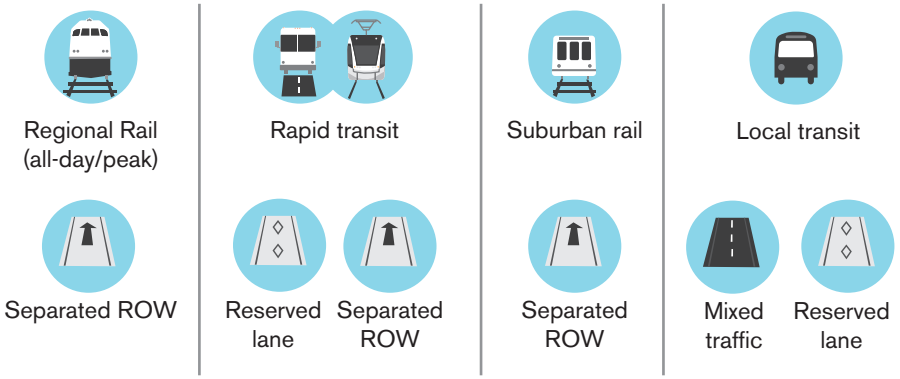
London, England, United Kingdom

Regional Characteristics

- Population – 8,615,246 (Greater London)
- GDP: US$731.2 billion
- Extensive and developed transport network with rail and bus
- Transport for London (TfL) is a local government body responsible for managing all transport services across London

Types of Transit

- Underground, DLR and London Overground are fully integrated
- Buses and trams generally operate as their own network with connections to rapid transit
- Inner segments of National Rail complement rail network



Approach to Fares

- Regional rail (selected services), suburban rail, and rapid transit:
  - Fares based on TfL zone fare system
  - 6 fare zones (for Greater London) and 3 additional zones outside Greater London where rapid transit extends
  - Most inner segments of National Rail regional rail uses TfL fare structure; outer segments use National Rail fare structure
- Rapid transit and local transit:
  - Single flat fare for each bus or tram segment (one fare per boarding)
- Peak (AM/PM) and off-peak pricing
- Zone 1 more expensive than outlying zones
- All of Greater London is within the 6 main zones, oriented to the core of London
- Most suburban centres lie within Zones 1-4 and some outlying communities are within Zones 7-9
- Width of fare zones roughly equal

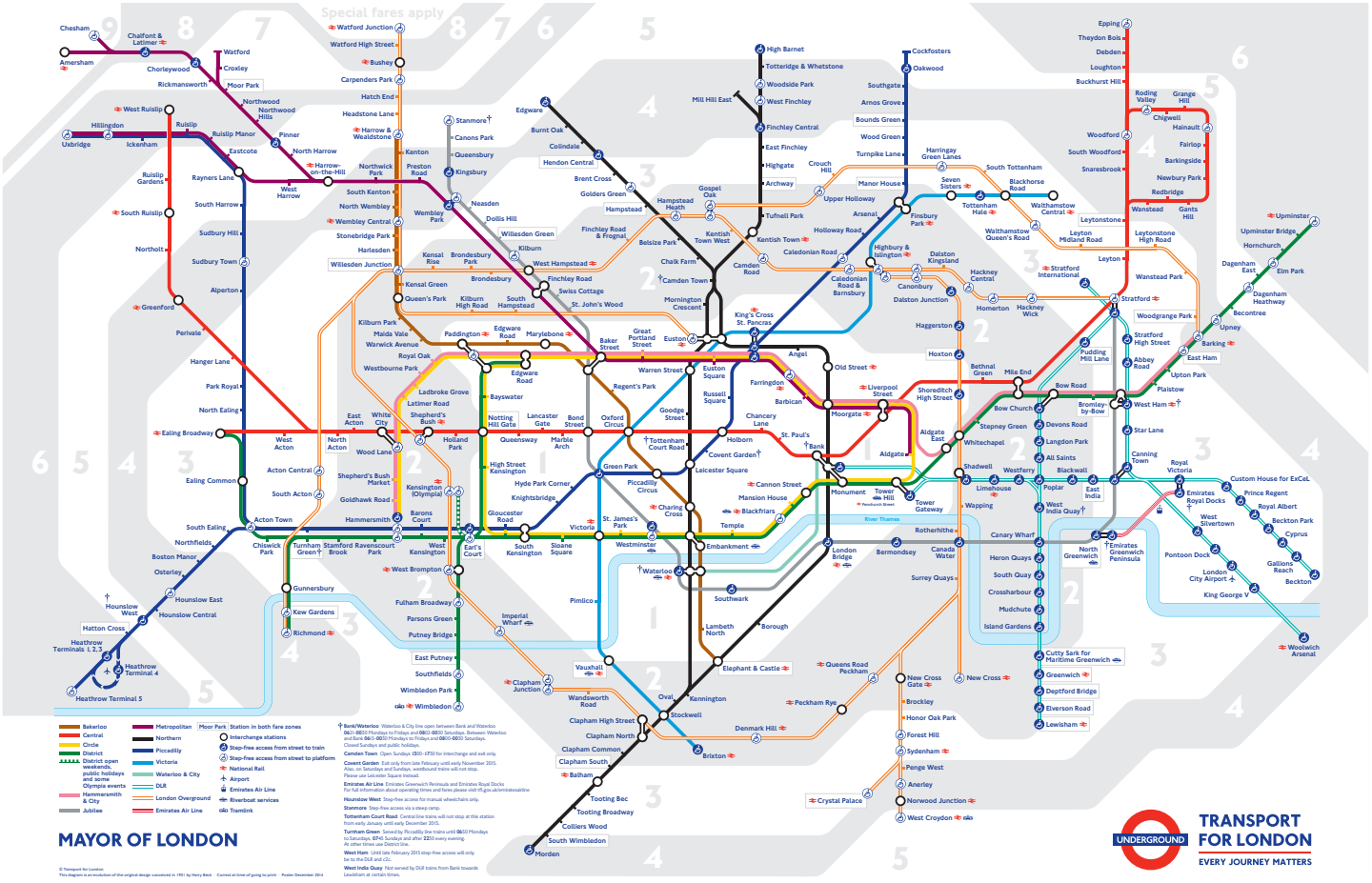
How do customers pay?

- Large variety of fare products available, for different modes, zones, lengths of time based on the zone(s) travelled
- For rail travel, a daily cap is automatically applied based on rail zones travelled when using electronic fare payment
- A separate, lower daily cap is automatically applied on tram/bus fares (set at just less than three fares)
- Day Travel cards provide unlimited travel on all modes
- Prices are zone-specific and not all three-zone products cost the same
- Oyster smartcard (pay as you go credit)
- Contactless payment (e.g., credit cards)
- Limited paper products available
- Cash fares not accepted on buses

How do customers transfer?

- Rail network fares based on start and end zones, with no free transfers to buses/trams
- No free transfers between buses and trams
- Separate National Rail fare required where National Rail does not use TfL fare structure

Map of London Underground, DLR, Overground, and fare zones:



Source: TfL website, retrieved February 27, 2015

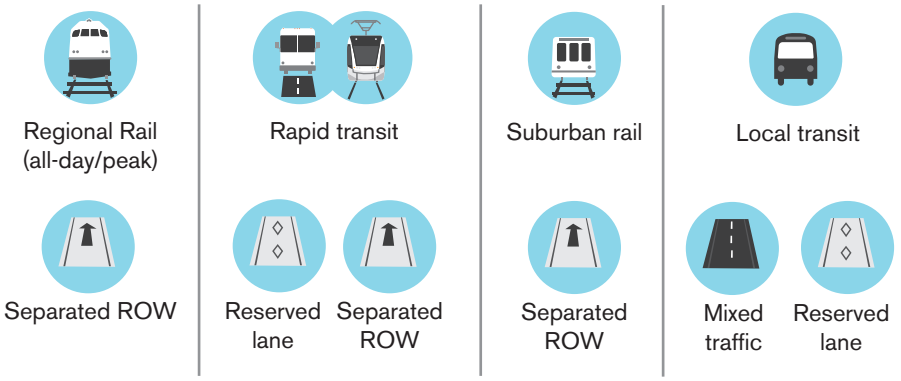
Amsterdam, North Holland, The Netherlands

Regional Characteristics

- Population – 2,332,773 (2014, metropolitan region)
- GDP: US$322.3 billion (includes Rotterdam and other nearby cities)
- GVB is the local service provider serving Amsterdam and adjacent suburbs
- NS is the primary national rail provider, serving most cities and towns in the Netherlands
- Other service providers serve satellite towns throughout North Holland

Types of Transit

- Rapid transit, and local transit are fully integrated within Amsterdam area, generally serving their own corridors
- Regional rail is part of the national rail network; some lines operate similar to suburban rail
- Regional rail operates as a separate network with some connections to rapid transit and local transit



Approach to Fares

- Regional and suburban rail:
  - Station distances converted to “price units” and fares based on total price units incurred
- Rapid transit and local transit:
  - Fare structure depends on fare product used
  - Single trips calculated using a base fare plus distance travelled fare
  - Multi-operator fare products use sub-municipal fare zones spanning the entire province of North Holland
  - Single-operator fare products cover entire service provider area
- No Peak or Time-of-Day Pricing
- Fare zones are roughly equal-sized, approximately 5 km in each direction
- Fare zones are sub-municipal, with approximately 4 zones for Amsterdam and 1 or 2 zones for other towns
- Fare zones boundaries often use barriers separating neighbourhoods or districts, such as watercourses, highways, and green corridors

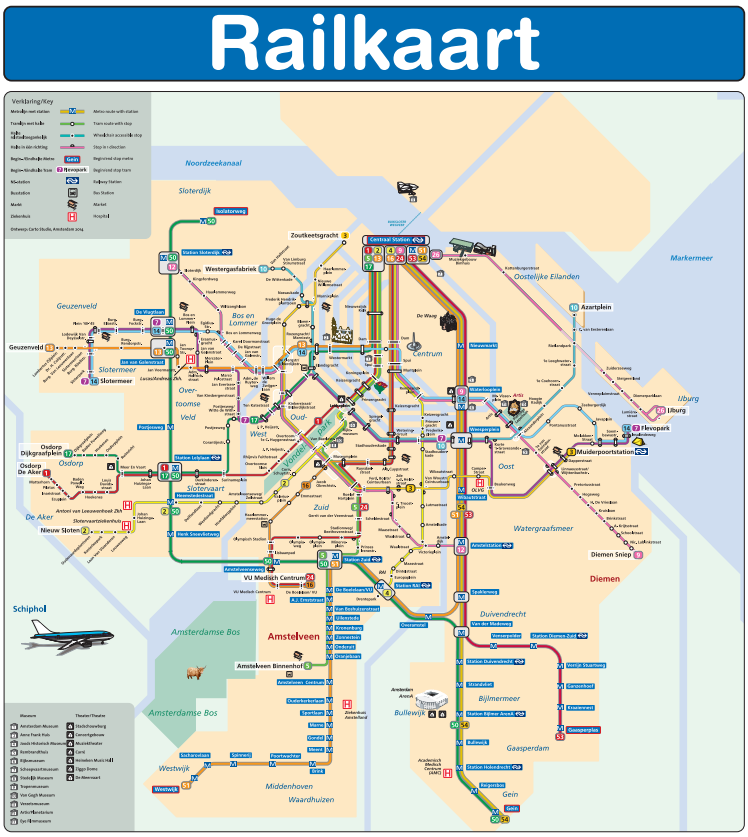
How do customers pay?

- Single-operator fare products available covering all services by that service provider
  - GVB products cover all of Amsterdam and adjacent suburbs
- Multi-operator products (excluding regional rail) available using fare zones
  - Customer chooses central zone and “star value”, representing the number of zones from the central zone
- Single-trip travel uses base fare plus km-based fare deducted from balance
- Zone-based product prices are consistent across region (e.g., two-zone products cost the same regardless of zones)
- OV-chipkaart is an electronic fare card used across the Netherlands and is the only form of ticketing used

How do customers transfer?

- Transfer on GVB within 35 minutes considered as a continuous trip
- Transfers valid between GVB and surrounding local providers for some fare products
- No reduction in fare for transfers between NS and GVB

Map of Amsterdam metro and trams (left) and map of North Holland fare zones (right):



Source: GVB website, retrieved February 27, 2015

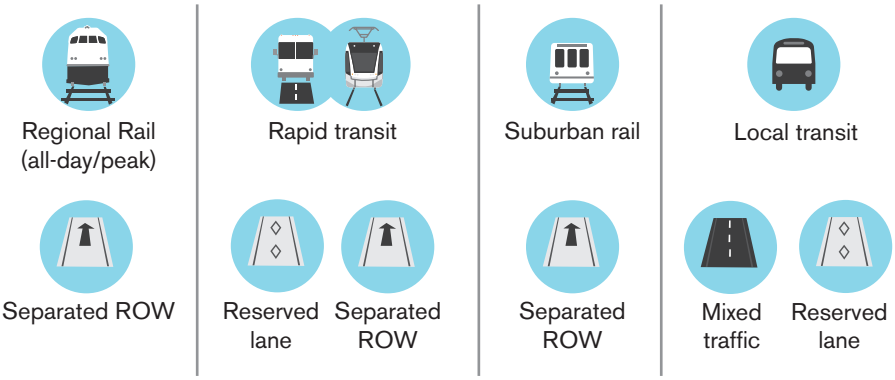
Hamburg, Germany

Regional Characteristics

- Population – ~5,000,000 (2012, metropolitan region)
- GDP: US$157 billion
- HVV is an association of 30+affiliated transport operators covering the entire Hamburg area
- DB Bahn AG operates regional rail services and also provides regional and intercity services throughout Germany

Types of Transit

- Regional rail connects with suburban rail at many stations
- Suburban rail fully integrated with rapid transit, which is integrated with local transit; functions as one system



Approach to Fares

- Complex “ring” fare structure
- Hamburg and surrounding suburbs and rural areas are allocated into five fare rings (A-E)
- Each ring of zones divided in up to 20 segments per ring
- Fare products based on either rings or zones
- Some fare products offer reduced-fare travel after 9 AM; other fare products exclude both AM and PM peak periods
- Rings of zones are divided roughly equal
- Ring size of fare zones increases away from the financial district, but are ~10 km in radius downtown

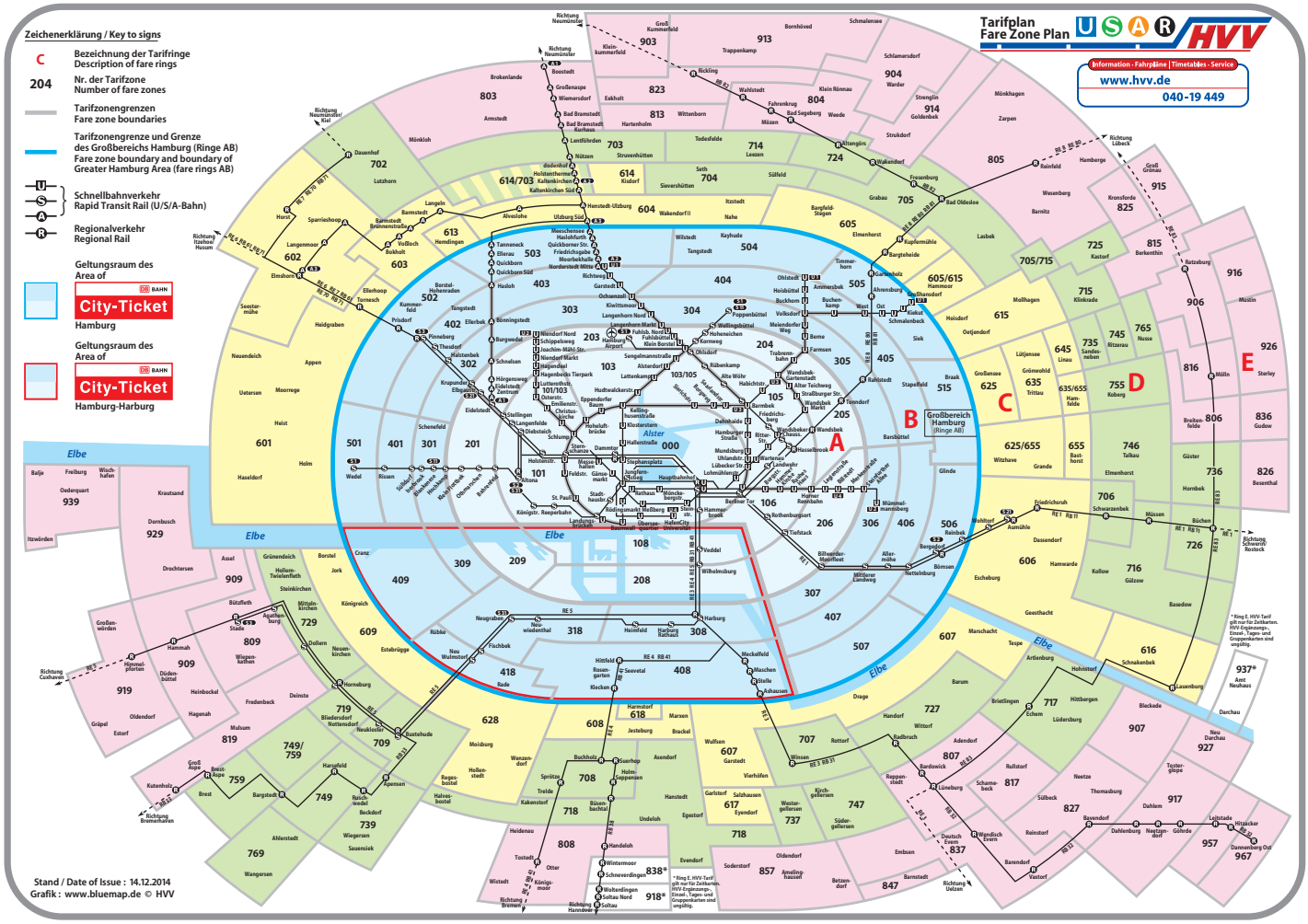
How do customers pay?

- Single and day tickets: Apply to one or more specific fare rings or Greater Hamburg Area
- Weekly / monthly / annual tickets: Apply to unlimited trips within Greater Hamburg Area and/or selected zones
- Product prices are consistent across region outside of Greater Hamburg Area
- Less-expensive short-journey tickets available within Greater Hamburg Area
- No electronic fare card used

How do customers transfer?

- Single tickets valid for one trip only
- One-day tickets available and best fare if making 2 trips (transfers considered two trips)

Map of regional rail, S-Bahn, A-Bahn, U-Bahn, and HVV fare zones:



Source: HVV website, retrieved January 9, 2015

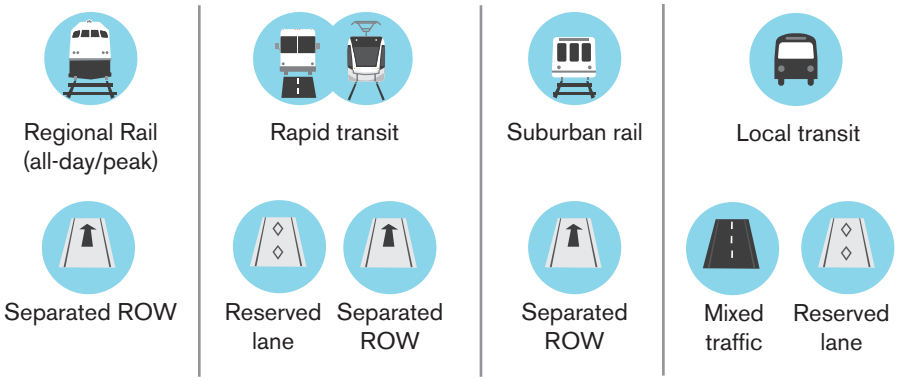
Rhine-Ruhr (Cologne/Bonn/Düsseldorf), Germany

Regional Characteristics

- Population – ~11,000,000 (full region)
- GDP: US$465.2 billion
- Region has several core cities (Cologne, Bonn, Düsseldorf, Essen, Duisberg) and numerous surrounding smaller cities and towns
- VRR and VRS are associations of transport operators serving municipalities within the Rhine-Ruhr area: VRR covers the northern part of the region and serves most of the population, VRS covers the southern part of the region
- DB Bahn AG operates regional rail services and also provides regional and intercity services throughout Germany

Types of Transit

- Regional rail connects with suburban rail at many stations
- Suburban rail is the backbone of the regional structure, connecting the different cities in the region
- Suburban rail fully integrated with rapid transit in each city, which is integrated with local transit; functions as one network



Approach to Fares

- VRR and VRS each have their own fare structures serving their geographic jurisdictions, though they are similar
- Each fare structure divided into grid of zones
- Both VRR and VRS fare products are both accepted where boundary overlaps
- Some fare products offer reduced-fare travel after 9 AM
- Both fare structures divided into zones based on municipal boundaries; some large municipalities are divided into multiple zones and some small municipalities are grouped into 1 zone
- Zones are approximately 10-12 km in each direction

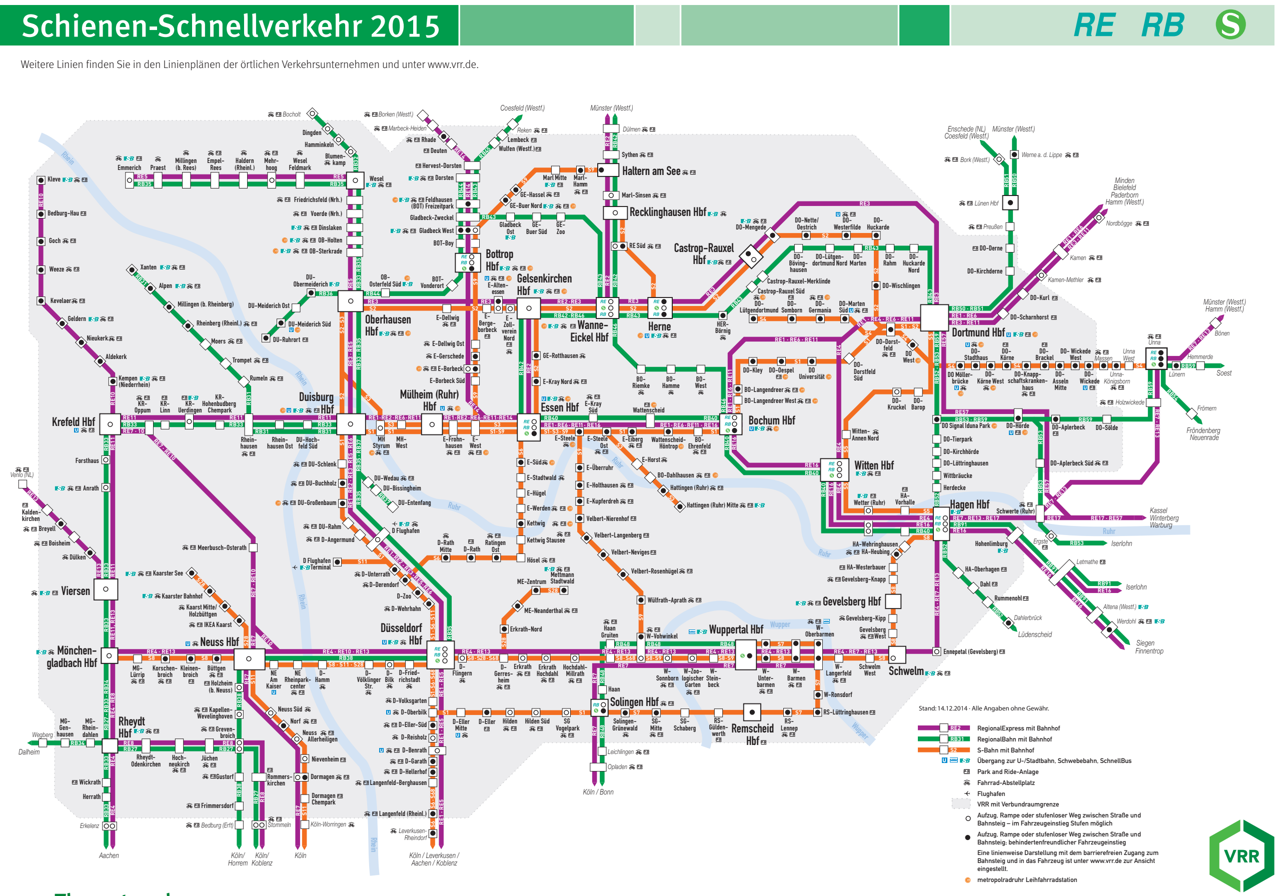
How do customers pay?

- In both fare structures, fare products are tied to a specific zone and are grouped into five price levels
- Lowest price level buys access to only 1 zone, increasing the price level buys access to an increasing radius from the home zone; highest price level buys access to entire VRR or VRS area
- Prices are generally consistent across region, though one-zone products are tiered based on transit availability in that zone (zones for large cities cost more because they have more extensive transit networks)
- Less-expensive short-journey tickets available for short trips
- Paper/plastic tickets
- No electronic fare card used, though tickets can be purchased and stored on phones

How do customers transfer?

- Single tickets valid for one trip only with time-based transfers allowed (round trips not permitted)
- Transfers unlimited for period products (within zones of validity)
- Within VRR–VRS overlap, validity of fare products from one region extends into the other

Map of VRR regional rail and S-Bahn (top) and map of VRR fare zones (bottom):

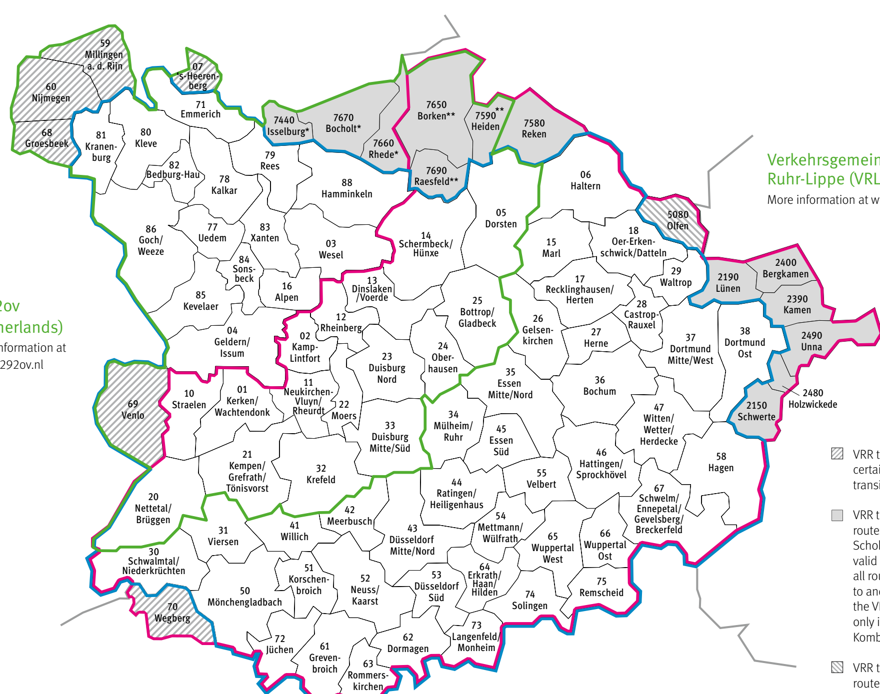


The network area

Verkehrsgemeinschaft Münsterland (VGM)
More information at www.muensterland-tarif.de

Verkehrsgemeinschaft Ruhr-Lippe (VRL)
More information at www.ruhr-lippe-tarif.de

9292ov (Netherlands)
More information at www.9292ov.nl



VRR tariff only applies to certain routes and only in transit.

VRR tariff applies to all routes only in transit. SchokoTickets are only valid for schoolchildren on all routes whose journeys to and from school cross the VRR borders, and then only in transit. KombiTickets are not valid.

VRR tarif only applies to routes in transit.

* SchokoTickets, VRR-Semestertickets and BärenTickets are only valid on VRR routes.

** BärenTickets in price leven D, North region do not apply.

Price level D, North region

Price level D, South region

Price level E

Aachener Verkehrsverbund (AVV)
More information at www.avv.de

Verkehrsverbund Rhein-Sieg (VRS)
More information at www.vrsinfo.de

Source: VRR website, retrieved February 27, 2015

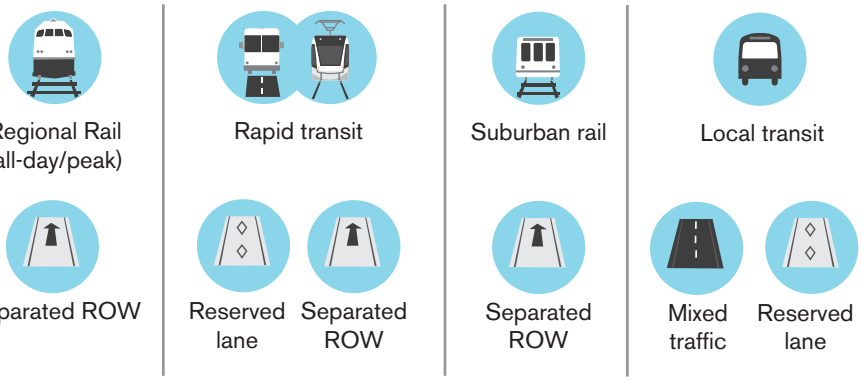
Melbourne, Victoria, Australia

Regional Characteristics

- Population – 4,442,919 (2014, Greater Melbourne)
- GDP: US$166.2 billion
- Public Transport Victoria is a state-level authority responsible for managing public transit in the state of Victoria

Types of Transit

- V-Line regional rail focused on sub-urb-city demand (13 zones)
- Melbourne metropol-itan trains, trams and buses focus on trips within core metro area (Zones 1 and 2)



Approach to Fares

- 13 zones, though Zones 1 and 2 cover Greater Melbourne
- Local bus in most outlying towns also integrated into the 13-zone structure
- Adjacent fare zones overlap so that boundary areas fall in 2 or more zones

Regional rail:

- Off-peak discount of 30% when travelling 3 or more zones on V/Line regional rail
- Radius of Zone 1 is approximately 10–15 km, radius of Zone 2 is approximately 50 km
- Zones 3–13 are approximately 10 km each and cover satellite towns / cities
- Fare zone overlaps are generally 2–5 km wide

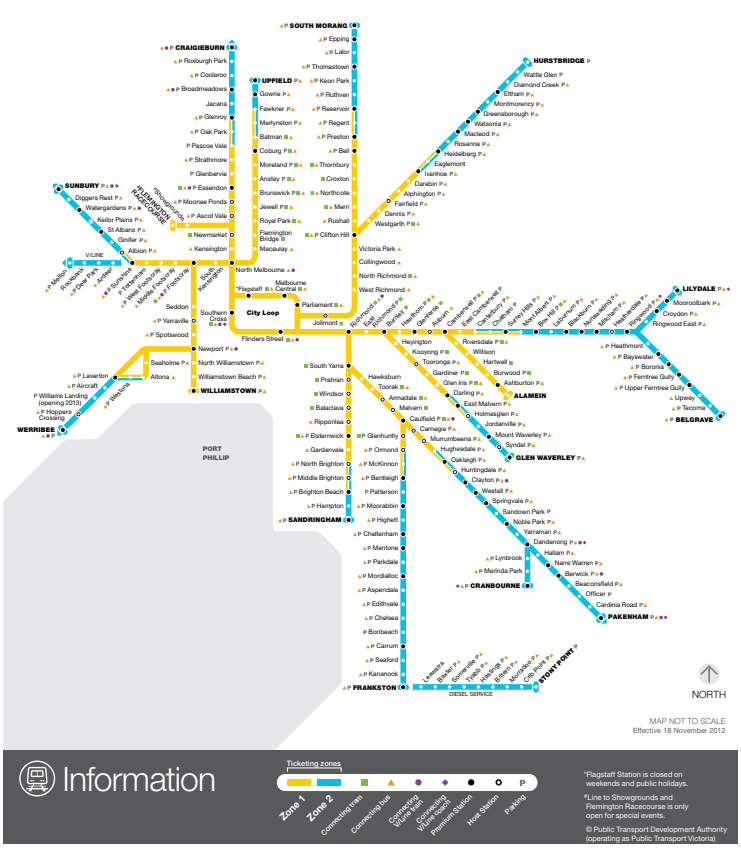
How do customers pay?

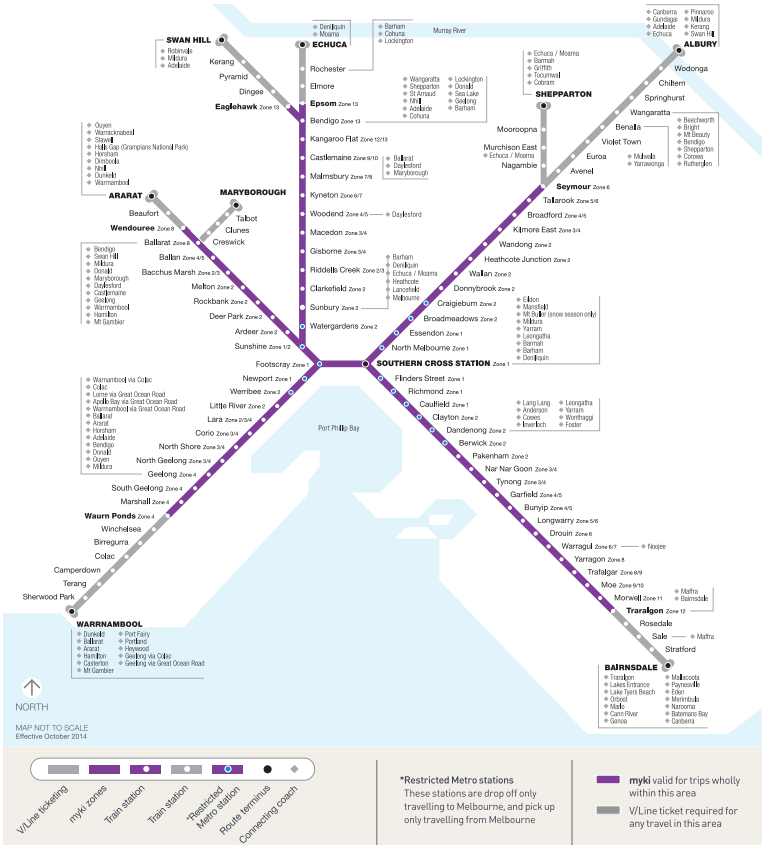
- Fare products provide access to specific zones
- Myki electronic fare card accepted on all transit (except outer segments of V-Line)
- Single-trip products available for all services, daily capping applies when using Myki card
- Period products can be selected for any duration up to 365 days
- Zones 3–13 are priced equally
- Zone 1–2 fares are equal to Zone 1 only fares; travel only within Zone 2 is less expensive
- Zoned fare products not valid on non-Myki segments of V-Line
- Paper tickets required for travel beyond zone 13 and on buses in some satellite towns

How do customers transfer?

- Single-trip fare valid for 2 hours, including transfers and stopovers
- Longer validity for zone products covering at least 6 zones
- Unlimited trips across all modes (for specific zones) when daily cap reached

Map of Metro Trains with fare zones (left) and map of V-Line regional rail and fare zones (right):





Source: PTV website, retrieved February 27, 2015