IPART Independent Pricing and Regulatory Tribunal | NSW

Maximum Opal fares 2025-2028

Final report

October 2024

Transport »

Acknowledgment of Country

IPART acknowledges the Traditional Custodians of the lands where we work and live. We pay respect to Elders both past and present.

We recognise the unique cultural and spiritual relationship and celebrate the contributions of First Nations peoples.

Tribunal Members

The Tribunal members for this review are:

Carmel Donnelly PSM, Chair
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The Independent Pricing and Regulatory Tribunal

IPART's independence is underpinned by an Act of Parliament. Further information on IPART can be obtained from IPART's website.

Contents

1 Maximum Opal fares until 2028

IPART has completed its review of appropriate maximum fares for Opal services from 1 January 2025 until 30 June 2028. We have released a determination and this Final Report.

We have determined maximum fares for '***Opal Services***'. Opal services are most train, metro, bus, ferry and light rail services in the Sydney, Blue Mountains, Central Coast, Newcastle and Illawarra regions. Some train services can extend beyond these regions.

IPART's role is to set maximum fares. The NSW Government has the flexibility to implement a set of fares and discounts (including daily and weekly caps and off-peak times and discounts), below IPART's maximums.

The Government also manages fare policy, including concession policy, such as who is eligible for concession fares and the level of those concession fares, and operational policy including timetabling, ticketing technology, and standards of service and quality.

In undertaking our review, the *Passenger Transport Act, 2014* (the Act) and the Minister's referral require us to consider and report on 14 mandatory considerations. These include considerations such as:

- The Opal mode and distance-based fare structure.
- Incorporating new services into the Opal fare structure.
- Ensuring affordability and accessibility for disadvantaged groups.
- Cost recovery in the post COVID-19 environment and the level of government funding.
- The impact of the determination on the use of the network and increasing the proportion of travel by sustainable modes.

These factors have all weighed into our considerations for our final determination and recommendations.

This final report sets out our decisions on maximum fares and our recommendations for Transport for NSW and the Minister for Transport. We also explain our process for completing this review, our consideration of the mandatory factors, our findings and some supporting analysis including what we heard from stakeholders about setting Opal fares.

1.1 Our final decisions result in 2% average increases to maximum fares above inflation

We have consulted on how to balance public transport costs between passengers (from fares) and taxpayers (from NSW Government funding).

We determine maximum fares that are affordable, encourage passengers to use public transport and contribute towards the operation of the public transport network that supports a sustainable level of funding over the long term. Under this determination, we estimate fare revenue will recover around 25% of the operating costs of the Opal public transport network.

We found that average weekly spending on Opal fares is a small percentage of most people's income.

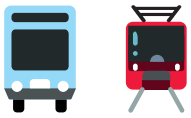
We also found Opal fares are similar to other Australian and international cities. Fare structures support affordability with fare rules such as daily and weekly caps, off-peak and transfer discounts for all passengers as well as targeted concessions for some vulnerable cohorts.

We found that patronage and cost recovery[a] both declined over the COVID-19 impacted years but both have begun to recover since.

Our final decisions result in:

2% average real increase compared to current maximum fares

0.7% - 4.1% real increase to rail (train and metro) maximum fares



0% change to most bus and light rail maximum fares, and a 1.6% real increase to maximum fares in the 3 – 8 km distance band

3% - 4% real increase to Sydney ferry maximum fares.

The Newcastle-Stockton Ferry maximum fare will stay the same

On demand fares set at the same rate for an equivalent distance trip on the same mode for a scheduled service

All maximum fares will increase by CPI on 1 July each year of the determination.[b]

We have set a methodology which allows some flexibility to change the default distance bands currently in place, while still limiting maximum fare increases during the determination period.

We have made a change to the way the distance of a rail journey should be calculated to improve consistency in how track distances are measured, transparency and better reflect the modern electronic ticketing system capabilities and the integrated nature of the rail network.

Transport for NSW is not required to set fares at the maximum and may choose to set fares below this level. This could include setting single fares lower than the maximum, continuing to provide discounts such as off-peak discounts or transfer discounts, setting daily or weekly caps and providing concession fares.

[a] We calculated cost recovery on an operating cost basis. This means the farebox revenue received from passengers through fares as a percentage of operating costs (including shared ticketing or staff costs). This was calculated on a network wide and individual mode basis (e.g. train, bus, light rail, ferry etc).

[b] Or until the determination is replaced by a new one.

Where our review has identified issues around the fare rules or other aspects of ticketing, we have made recommendations about aspects of the fare rules such as the eligibility for concession fares, off peak discounts, rebates for service quality impacts, work to understand and address fare non-compliances, fare relativities, new fare options and information availability.

Box 1 Opal services

Opal services are a network of over 6,000 rail, metro, light rail, bus, ferry and on demand services within Greater Sydney, the Blue Mountains, Central Coast, Newcastle, Illawarra and parts of the south coast. Some parts of the rail network extend further than this. These services are run by Transport for NSW or its contracted operators and provided over 600 million trips to passengers during 2023-24.

Since 2014, passengers have been able to pay for most of these services using a reloadable Opal card, but new options have been rolled out to include, credit or debit cards, linked smart devices, Transport Connect accounts, in addition to single use paper tickets, on-demand apps and other options.

In recent years, the network has expanded to include new light rail and Metro lines, additional bus, and ferry services. New services will continue to roll out over the next determination period and beyond. The roll out of Opal enabled services has been complemented with new ways of accessing travel information to assist passengers plan and manage their travel.

This includes web and smart phone applications developed by Transport for NSW and third parties to display real time timetable information, capacity status, estimates of journey times and fares, service interruption notifications, travel history, card balances and top up options.

All of these changes can improve the convenience and directness of customer journeys, reduce wait and overall travel time, but also increases the cost of operating the transport network.

These services are essential for many in the community, and IPART has a role under legislation to set the maximum fares for these services. IPART's determination can be considered a 'safety net', it gives passengers certainty about the maximum fares they are likely to pay until 2028.

1.2 What we heard from stakeholders about our draft report

We received 22 submissions to our draft report, we heard feedback on:

- affordability
- concession policy (including expanded eligibility for additional student cohorts)

- fare package options and caps
- service quality and reliability
- draft fares for the Newcastle-Stockton Ferry service
- mode-based or distance-based fare prices.

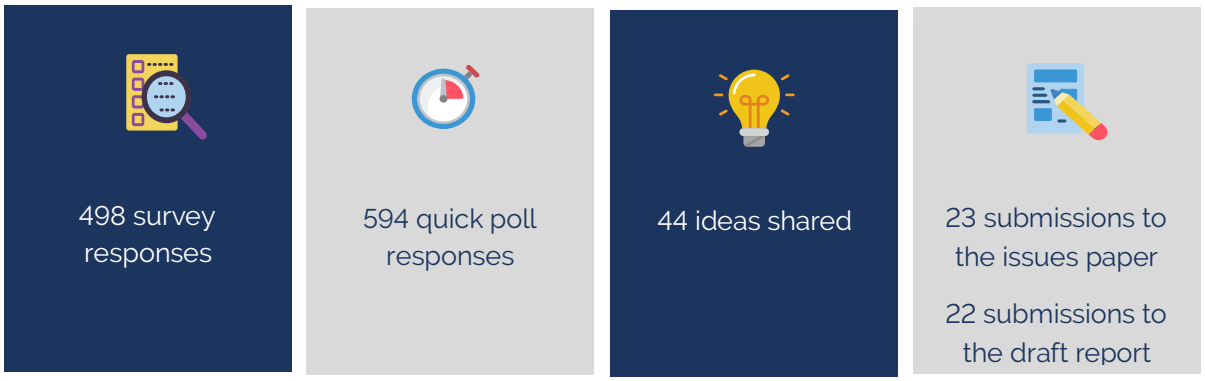
Affordability issues raised by stakeholders included concerns about increasing public transport fares when there are cost-of-living pressures.[1] Some stakeholders suggested that lower daily or weekly caps on public transport would help promote affordability and usage.[2] Some stakeholders raised concerns about fare change impacts on areas with lower levels of socio-economic advantage.[3]

Service quality or value for money concerns were raised by some stakeholders who consider fare increases are not justified due to the poor service quality and/or reliability of public transport services they experience.[4]

Five submissions to our Draft Report objected to the proposed fare increases for the Newcastle-Stockton Ferry services. These submissions raised concerns about the higher fare increases relative to other modes[5], others suggested the increase would result in greater rates of driving.[6]

Some stakeholders raised concerns about mode-based prices. For example, some stakeholders suggested that the fare for very short ferry trips around Sydney Harbour ($7.13) was disproportionally higher than the alternative bus trips (two times higher in the peak and 3 times higher in the off-peak).[7] Another example was the shortest ferry distance band is $0.10 lower than the fare to travel 65 kilometres or greater on a train during off-peak hours.[8]

In addition to the feedback we received on our draft report, and as part of our review process we engaged extensively with stakeholders:



Most stakeholders were concerned about affordability and access to reliable public transport.

1.3 Changes since our draft report

In response to stakeholder feedback and further analysis, we made the following key changes in the final determination and report:

- The maximum fare for the Newcastle-Stockton ferry will remain at its current level and will not increase in real terms (0% real increase in maximum fares rather than 7% increase proposed at draft).

- We have included an 18-month transition period for Transport for NSW to complete and publish its revised rail trip distance calculation.
- We have made recommendations for Transport for NSW to further consider eligibility for concession policy, short ferry bands in Sydney and information provision.

These, and other changes, are described in more detail below.

1.4 Our approach for this review

After receiving a referral from the Minister in September 2023 we commenced our review.

In setting the maximum fares, we must consider a range of matters within the referral and the *Passenger Transport Act, 2014* (the Act), these are summarised below and listed in detail in chapter 8:

Figure 1.1 Mandatory considerations of our review

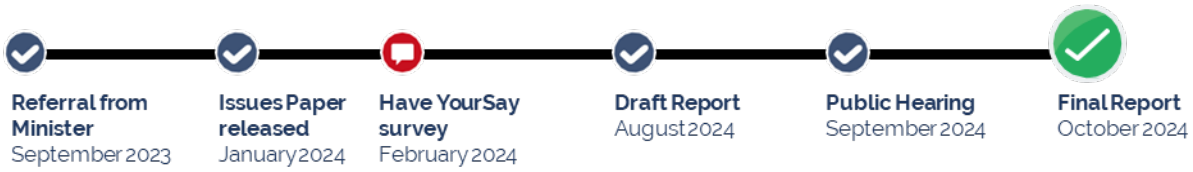
Our review considered these matters by grouping them into 6 fare setting objectives:

- Fares create value for customers.
- Fares ensure accessibility of public transport.
- Fares are simple and flexible.
- Fares support better travel options.
- Fares maximise community benefit.
- Fares support financial and operational performance.

Each of the matters we are required to consider sits within one of the 6 fare setting objectives. In making our decisions and recommendations we tested them against our fare setting objectives.

Our review commenced with an issues paper calling for feedback on the key issues and our proposed fare setting objectives. We received stakeholder views through submissions, at our public hearing or responses to one of our "Have Your Say" feedback tools (survey, quick poll and ideas board)

We used this feedback together with cost data, patronage and service information obtained from Transport for NSW to complete analysis and modelling. We published our draft determination and report in August, held a public hearing and called for submissions. We considered what we heard from stakeholders in preparing our Final Report. The timeline of key activities are presented below and a more detailed description of the process can be found in chapter 8.



Our decisions on the determination of maximum Opal fares are:

Our recommendations in our review of Opal fares are:

2 Maximum fares for Opal services from January 2025

IPART sets maximum public transport fares under the *Passenger Transport Act* 2014 when we receive a request from the NSW Government. This is called determining the maximum fares. Transport for NSW cannot charge more than the determined maximum but may charge less.

This chapter sets out our key decisions for the final determination and how we developed them.

We consider that our determination supports the delivery of our fare setting objectives, particularly that fare structures are simple and flexible. Under this fare setting objective we have addressed the following matters:

- the Opal mode and distance-based fare structure (the Referral)
- incorporating new services into the Opal fare structure (the Referral)
- the appropriateness of the current methodology for determining maximum Opal fares (the Referral).

Our decisions are:

1. To set maximum fares for Opal services from 1 January 2025 using:
   a. mode-based default distance bands and maximum fares as set out in Table 2.1 to Table 2.5; and
   b. a maximum average fare of $4.76 (excluding GST, $2024-25).

2. To set maximum fares for on demand services at the same level as the maximum fares for the relevant mode and distance.

3. That the maximum fares change by the change in the All groups Consumer Price Index (CPI) in Sydney each year from 1 July.

4. That the distance of a train trip from 1 July 2026 is determined by:
   a. the track distance specified by Transport for NSW on its website, or
   b. if Transport for NSW does not or ceases to publish track distances on its website, the shortest distance by rail between the departure point and the destination point.

5. That the CBD increment is removed from the calculation of the distance of a train trip from 1 July 2026.

2.1 Maximum fares will increase by 2% in real terms on average

Our determination describes the methodology for setting maximum fares for Opal services from 1 January 2025.

Under the determination, Transport for NSW can maintain its existing fare structure and set fares below the maximum fares that apply for the mode-based default distance bands. Alternatively, it can opt for increased flexibility and implement a different fare structure as long as the deemed average fare (calculated using the distribution table in Part 3 of our determination) is below the maximum average fare in the determination.

2.1.1 Fares for mode-based fares based on default distance bands

Part 2 of our determination presents the maximum fares for mode-based default distance bands. These are also shown in Table 2.1 to Table 2.5 below.

The distance bands we used for the maximum fares are consistent with how Transport for NSW currently sets fares, with the exception of an additional 'greater than 20km' distance band for bus and light rail services.[c]

Table 2.1 Maximum fares for train services ($2024-25, excluding GST)

Distance band (km)	Maximum fare 2025-2028
0 to ≤ 10	$4.17
> 10 to ≤ 20	$5.30
> 20 to ≤ 35	$6.09
> 35 to ≤ 65	$8.13
> 65	$10.45

Table 2.2 Maximum fares for light rail services ($2024-25, excluding GST)

Distance band (km)	Maximum fare 2025-2028
0 to ≤ 3	$3.02
> 3 to ≤ 8	$4.40
> 8 to ≤ 20	$5.65
> 20	$6.03

[c] Under the current fare structure all bus and light rail trips greater than 8km are charged the same fare.
Our 2020 determination included additional distance bands for light rail services (> 20 to ≤ 35 km, > 35 to ≤ 65 km and > 65 km) however data on the distribution of trips taken in 2023 showed that longer distances are rarely travelled using light rail services.

Table 2.3 Maximum fares for bus services ($2024-25, excluding GST)

Distance band (km)	Maximum fare 2025-2028
0 to ≤ 3	$3.02
> 3 to ≤ 8	$4.40
> 8 to ≤ 20	$5.65
> 20	$6.03

Table 2.4 Maximum fares for ferry services ($2024-25, excluding GST)

Distance band (km)	Maximum fare 2025-2028
0 to ≤ 9	$7.19
> 9	$9.00

Table 2.5 Maximum fares for the Newcastle-Stockton ferry service ($2024-25, excluding GST)

Service	Maximum fare 2025-2028
Newcastle ferry service	$3.02

The maximum fares presented in Table 2.1 to Table 2.5 also apply to any new services introduced over the upcoming determination period, as long as they meet the definition of Opal services under our determination. We consider this approach is appropriate as we expect the operating costs of new services to be relativity similar to the operating costs of existing services.

Maximum fares from 1 January 2025 for the mode-based default distance bands will increase by zero to 4%.

For train and metro services maximum fares will increase by between 1% and 4%, depending on the distance band.

For bus and light rail services most maximum fares will stay the same as they are now, with a small (1.6%) increase to the 3 to 8 km distance band.

For Sydney ferry services, maximum fares will increase by between 3% and 4%.

The maximum fare for the Newcastle ferry will stay the same as it is now.

Transport for NSW's current fares are below the maximum fares we set in our 2020 determination. This means that there is ability for Transport for NSW to increase some fares by more than the change in the maximum fares over the next determination period.

Our maximum fares for the mode-based default distance bands remain largely unchanged from our Draft Report. We have decreased the maximum fare for the Newcastle-Stockton ferry service, from $3.23 ($2024-25, excluding GST) in our draft determination, to $3.02 in our final determination ($2024-25, excluding GST).

We considered stakeholder feedback on the Newcastle ferry service

We made a decision not to increase maximum fare for Newcastle-Stockton ferry service based on further analysis and stakeholder feedback.

Currently the maximum fare for the Newcastle-Stockton ferry service is equal to the maximum fare for the shortest bus distance band. Our Draft Report proposed that for the upcoming determination period the maximum fare for the Newcastle-Stockton ferry service should be calculated based on ferry costs, that is, we set the maximum fare independently of bus fares. Our draft determination proposed a 7% increase in the maximum fare for the Newcastle-Stockton ferry service.

Some stakeholder submissions to the Draft Report and attendees at the public hearing did not support the 7% increase for the Newcastle-Stockton ferry service.[9] [10] City of Newcastle considers that the ferry is the only viable sustainable transport option for individuals travelling between Newcastle and northern residential areas, because it replaces a road journey of up to 20km and the alternative public transport bus option is much longer with lower frequency. It also notes that Stockton is one of the suburbs with the highest level of socio-economic disadvantage in the Newcastle region.[11]

We considered this feedback and completed further analysis (see section 7.2 below). Based on our findings we decided that the maximum fare for the Newcastle-Stockton ferry service should return to its previous level. This results in no increase in the maximum fare in real terms for the upcoming determination period. We note that the Newcastle-Stockton ferry does not attract an inter-modal transfer when passengers use it as part of a connecting bus journey. Bus trips within 60 minutes, immediately before or after the ferry trip are charged as a single, continuous bus trip. Off-peak pricing is also applied to relevant journeys on this service. These fare rules further reduce journey fares to these passengers.

One stakeholder observed that bus fares are higher than train fares for some distance bands

In its submission to our Draft Report, the City of Newcastle stated that "Currently buses are more expensive than trains for travel between 3km and 20km"[12]. It considers that "The maximum bus fare should be substantially less than the maximum train fare for all equivalent distances, based on the higher level of service provided by trains."[13] It also sought harmonisation of the distance bands.

The following table presents the maximum fares we set for trains and buses for distances in the default distance bands between 0km and 20km for the 2025-2028 determination period. These are consistent with the figures presented in Table 2.1 and Table 2.3 above.

Table 2.6 Train and bus maximum fares comparison ($2024-25, excluding GST)

Trip length / Mode	0-1km	1-2km	2-3km	3-4km	4-5km	5-6km	6-7km	7-8km	8-9km	9-10km	10-11km	11-12km	12-13km	13-14km	14-15km	15-16km	16-17km	17-18km	18-19km	19-20km
Train	$4.17										$5.30									
Bus	$3.02		$4.40						$5.65											

Final Maximum bus fares continue to be higher than maximum train fares between 3km and 20km.

This reflects the outputs of our socially optimal fares modelling[d] Our modelling showed that socially optimal bus fares are lower than socially optimal train fares for shorter distances, and higher at longer distances. Train travel has a lower per km cost than buses at longer distances, making them more suitable for long distance travel. For more information, see Technical Paper – Modelling socially optimal fares and our Fare Optimisation Model.

We expect that the higher per kilometre cost component for buses may also be partly due to different trip distance calculation methods for the modes. Bus trips are calculated by straight line distance and train trips are calculated by track distance. The different method of measuring trip distances can result in anomalous fare comparisons. As almost no bus journey is truly a straight-line distance, passenger trips delivered by bus are underestimating kilometres travelled, in comparison with train, and can contribute to the higher per kilometre costs incurred. This impact also increases with the distance travelled.

We have not introduced any region-based maximum fares

City of Newcastle's submission to our Draft Report suggested that fares should be lower for regional areas of the Opal network, specifically in the Newcastle and the Hunter region, to support public transport usage.[14]

Our Draft Report noted that region-based fares would increase the complexity of the fare structure and is inconsistent with feedback from other stakeholders seeking greater fare integration across the state.

[d] We set maximum fares by using the outputs of the socially optimal fare modelling and applying additional constraints on changes from current fares. The constraints we applied were a lower bound of 0% to manage cost-recovery and an upper bound of 11% to manage affordability.

We also discussed expected outcomes from socially optimal fares modelling for Newcastle and suggested that issues related to patronage and service frequency could potentially be addressed through other means, such as increased availability of on demand services. For more information, see Information Paper – Form of determination, section 4.1.6.

Our determination sets maximum fares – it does not preclude Transport for NSW from introducing region-based fares or lower fares for specific services. We understand that free shuttle buses currently operate in some regions such as Parramatta and Wollongong.[e]

2.1.2 We set a maximum average fare of $4.76 from 1 January 2025

Part 3 of our determination sets out a maximum average fare that applies from 1 January 2025.

Transport for NSW has the option not to use the mode-based default distance bands presented in section 2.1.1. Instead, it can implement an alternative fare structure as long as the deemed average fare[f] under this fare structure is below the maximum average fare set in the determination.

For example, Transport for NSW could set fares using different distance band increments or implement a more integrated fare structure that is mode agnostic and distance based.

Under our determination, the deemed average fare is calculated by multiplying the distribution table by the **highest** regulated fare. We have made this explicit in our determination to provide clarity if Transport for NSW decides to introduce multiple sets of regulated fares, for example, if it introduced different fares for different days of the week, or different region-based fares.[g]

We consider that Part 3 of the determination provides Transport for NSW with flexibility to innovate and develop new fare options to meet customer preferences, account for the introduction of new services, and manage uncertainty in the post COVID-19 environment.

The deemed average fare that would result from the use of the maximum fares set in Part 2 of the determination for the mode-based default distance bands is equal to the maximum average fare set in Part 3 of the determination. For a worked example of this, see Information Paper – Form of determination, Box 4.1.

The maximum average fare remains unchanged from our Draft Report.[h]

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[e] The Parramatta shuttle bus (formerly the Loop) is a fast, free transport solution run by Transport for NSW through Transdev that connects tourists, residents and commuters to the commercial, retail and recreational landmarks of the city.
The Gong Shuttle is jointly funded by Wollongong City Council, Transport for NSW, and the University of Wollongong and links the centre of Wollongong with the railway station, the hospital, TAFE and University campuses, and beaches.

[f] This is calculated by multiplying each value in the distribution table in our determination by the corresponding fare to which that value relates and adding together all of the products.

[g] Regulated fares exclude any discounted fares. For example, concession fares and off-peak fares are not regulated fares.

[h] This is despite the reduced maximum fare for the Newcastle ferry, as trips on Newcastle ferry represent a very small share (less than 0.1%) of total trips on Opal services.

Several stakeholder submissions to our Draft Report advocated for fares to be consistent across all modes.[15] Our socially optimal modelling analysis has shown that the per journey and per kilometre marginal costs and associated external costs and benefits vary substantially between modes. We consider it is appropriate to reflect these differences in the maximum fares that we set, to provide price signals to customers to assist them to choose between modes, where it is possible for them to do so.

We recognise that passengers do not always have a choice between alternative modes. Part 3 of the determination provides flexibility for Transport for NSW to set integrated fares for some or all modes, as is the case currently for metro and train services. Fully integrated fares would require creating a set of consistent distance bands for all modes and should be accompanied by consultation and appropriate consideration of customer impacts.

Based on current Adult fares charged by Transport for NSW, a 5km trip costs **$4.20** on the train or metro, **$4.36** on the bus or light rail and **$7.13** on the ferry.[i]

If cost-recovery from fares is maintained, some passengers would pay more, and others less, under a mode agnostic, distance based, fare structure.

Transport for NSW could also set a flat fare to apply for all trips, irrespective of mode and distance travelled. Under this approach, fares would likely increase for shorter distance trips, such as 0-10km train trips, 0-3km and 3-8km bus and light rail trips, and trips on the Newcastle ferry.

These trips accounted for around 60% of total trips on Opal services in the 2023 calendar year.

We do not consider flexibility to update the distribution table is needed

Part 3 of our determination includes a distribution table that is used to calculate the deemed average and maximum average fares.

Following the release of our Draft Report, Transport for NSW wrote to IPART and provided further information for consideration in relation to our draft determination.[16][j] In this letter, Transport for NSW proposed that the final determination allows Transport for NSW and IPART to agree to a revised distribution table in the future.

We recognise that there are changes expected over the upcoming determination period that may lead to shifts in the passenger trip length distribution table. Transport for NSW is currently undertaking work to refine its rail distance calculations, and it may also wish to update the distribution table as new services such as the Parramatta light rail and new Metro lines commence during the determination period.

[i] Based on Adult peak fares, $2024-25 including GST.

[j] This letter is available on our review webpage.

The distribution table we presented with our draft determination also does not account for trips taken on the new Chatswood to Sydenham metro. We considered the benefits of allowing a revised distribution table in the determination but decided that there is not sufficient need to justify a change. Our analysis shows that small shifts in the distribution table do not lead to material differences in the maximum average fare.[k]

Additionally, we expect that the distribution of passenger trips varies to a small degree throughout the year (depending on seasonal changes such as holidays), and more significant changes in journey distributions due to passenger behaviour occur over a longer time period. The distribution table in the determination is only intended to be a representative estimate for the determination period.

We also found that the deemed average fare, based on current fares charged by Transport for NSW and the revised distribution table, would be around $4.34 ($2024-25, excluding GST), which is 9% below the maximum average fare we have set for 2025-2028. We also consider there are benefits to providing certainty for customers and stakeholders about the level of the maximum average fare in the determination.

2.2 We set maximum fares for on demand services at the same level as the maximum single fares

We decided to set the maximum fares for on demand services at the same level as the maximum single fares for the relevant mode of transport.

One stakeholder submission to the Draft Report suggested that on demand buses in regional areas with poor scheduled services should be priced at a competitive point to support modal shift from private vehicles.[17] We consider setting on demand services at the same rate as single fares is appropriate as they are largely intended to promote social inclusion and an equivalent level of service to geographic regions without sufficient demand for a scheduled bus service. Additionally, on demand services now operate as part of the standard bus contracts, which means that we do not have sufficient specific cost information to set separate maximum fares for these services.

However, while we have set maximum fares for on demand services in line with the maximum single fares for other Opal services, this does not prevent Transport for NSW from setting lower fares for on demand services if it considers there are reasons for doing so. We note that premium on-demand and trial on demand services (of up to a 2-year trial period) are exempt from the regulated fare.

Our determination also sets the maximum fare for a service replacement bus at the maximum fare that would apply if the service was provided by the usual mode. Similarly, it is at the discretion of Transport for NSW to set lower fares, or to not charge a fare if it is administratively difficult to do so, or to rebate customers for a reduced level of service or greater wait and journey times.

[k] We estimated the maximum average fare including, and excluding, the CBD increment and found that this change resulted in a difference of $0.03.

For example, the NSW Government announced in August 2024 that travel on replacement bus services for the T3 Bankstown line metro upgrade works will be free for the entire conversion period, until the estimated completion date of late 2025.[18]

2.3 Maximum fares will increase from 1 January 2025 and remain constant in real terms

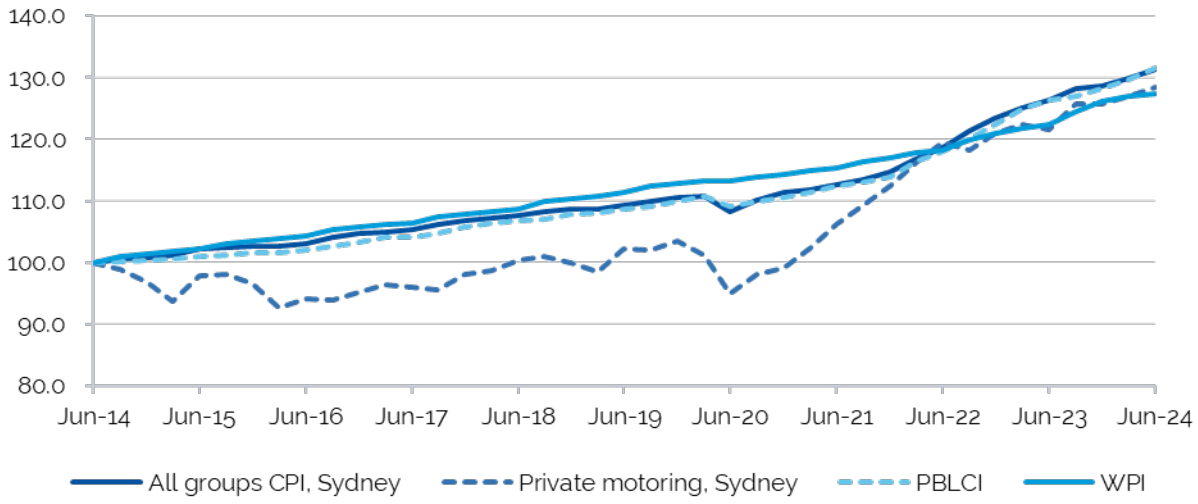
In our Draft Report we sought stakeholder feedback on if there should be any constraints on the allowable real increase Transport for NSW could apply in a single year or to any individual fare.

As we did not receive any feedback on these issues, we have maintained the decision from our Draft Report for maximum fares to increase from 1 January 2025 and remain constant in real terms. This means that Transport for NSW will have the ability to increase fares to the maximum through a one-off increase or spread the increase over multiple years of the 2025-2028 determination period.

Under our determination, maximum fares will also change each year on 1 July by the change in All groups CPI for Sydney. At our public hearing one participant expressed support for escalating fares by the change in the CPI to maintain cost recovery and service quality.[19] Some other participants suggested alternatives to the change in the CPI, including wages growth, changes in pensions and changes in the cost of driving.[20]

We considered the feedback received at the public hearing and completed further analysis comparing the CPI to measures proposed by participants.

Figure 2.1 Comparison of indicators over a 10-year period



a. June 2024 = 100.0.

b. We compared the All groups CPI; Sydney, the CPI series Private motoring; Sydney, the Pensioner and Beneficiary living cost index (PBLCI) and the WPI series Total hourly rates of pay excluding bonuses; New South Wales; Private and Public; All industries.

Source: Australian Bureau of Statistics, Consumer Price Index, Australia, June 2024; Australian Bureau of Statistics, Selected Living Cost Indexes, Australia, June 2024 and Australian Bureau of Statistics, Wage Price Index, Australia, June 2024.

We assessed the performance of these indicators based on how well they align with expected changes in the costs of providing public transport services and passengers' capacity to pay. We also weighed up factors including simplicity, accuracy and stability.

We found that the CPI series for the Private motoring sub-group[l] is more volatile than the other measures we considered, due to fluctuations in the prices of automotive fuel. It also does not include other costs associated with driving such as motor vehicle insurance, which is captured in the CPI series for Insurance.

We also considered the Pensioner and Beneficiary Living Cost Index (PBLCI), which is used to adjust pensions and other welfare benefits when the increase in the PBLCI is greater than the increase in the CPI.[21] However, we decided against using this as the basis for fare escalation, as there are already Opal concessions and discounts in place to support pensioners and vulnerable groups.

We considered that both the CPI and the Wage Price Index (WPI) would likely reflect changes in the costs of service provision to an extent, as the CPI is commonly used for contract escalations and the WPI captures changes in employee costs. Similarly, both the CPI and the WPI would reflect changes in passengers' capacity to pay to an extent, as the CPI is used to adjust pensions and social security payments and the WPI measures changes in wages.

On balance, we decided to maintain the decision to use the change in the CPI. We prefer the simplicity of using the CPI as it is the most familiar, and well understood measure of inflation and the consistency with other IPART determinations such as Private ferry services.

Annual indexation of the maximum fares will apply symmetrically, that is, maximum fares will decrease when the CPI decreases.

We will use December quarter data for the annual indexation of maximum fares

We will use the annual change between December quarters, instead of between March quarters (as proposed in our draft determination), for the indexation of maximum fares. This is because Transport for NSW has informed us that the timing of the March quarter CPI release (typically in late April) does not provide sufficient time for it to seek necessary approvals and make system and communication updates for Opal fare changes by July.[22]

One stakeholder submission to our Draft Report stated that increasing fares by CPI each 1 July means that many Concession card holders, for whom income support payments are indexed in March and September each year, will always be playing catch up on the cost of public transport.[23]

We understand the cost-of-living pressures facing users of the Opal network. We considered this feedback but found that the timing impact of an annual fare increase will even out in long run.

[l] The Private motoring sub-group measures changes in the costs of the motor vehicles, spare parts and accessories for motor vehicles, automotive fuel, maintenance and repair of motor vehicles, and other services in respect of motor vehicles.

2.4 We have allowed an 18-month transition period for changes to rail distance calculations

In our Draft Report we proposed to remove the CBD increment and define the distance of any trip by train as the shortest distance by rail between the departure station and the destination station.

Our analysis showed that the CBD increment impacts passengers travelling to and from select stations on the Opal network. One submission to our Draft Report highlighted that some passengers simply interchanging modes though the CBD are also being impacted by the CBD increment and supported its removal.[24] We consider that removing the CBD increment and moving to using the shortest distance by rail for all train trips supports a simple fare structure and improves fairness so that all customers are charged on the same basis (distance travelled). We demonstrate the fare band inconsistencies created by the CBD increment in Figure 2.2.

Figure 2.2 Stations impacted by the CBD increment

Source: Transport for NSW's Opal network area map as at January 2024 and IPART analysis. This map is for indicative purposes only and the relative locations of some stations and train lines have been adjusted for readability

For more information, see Information paper – Form of determination, sections 1.1.4, 2.3.1 & 4.1.3 and Appendices A & B.

Transport for NSW has informed us of resource and time requirements to modify the rail distance calculations to fully align with distance definition in our draft determination. It also noted system development and testing requirements to ensure that any changes are implemented smoothly and accurately. It estimated that such a project would take a minimum of 12 months to complete. Additionally, Transport for NSW expressed a preference for these changes to coincide with the usual annual price change in July each year, to avoid multiple price changes in a single year.[25]

Based on this information we understand that the removal of the CBD increment is unlikely to be possible from the start date of the determination (on 1 January 2025). We have decided to allow a transition period until 30 June 2026, which is consistent with the timing of the first expected price change after accounting for a 12-month implementation period. We have updated the determination to reflect this.

We understand that the distance calculation for most train trips is already based on the shortest track distance, with a few exceptions.[m] Based on the information provided by Transport for NSW, our revised view is that moving to using **shortest** track distance rather than just a representative track distance may impose unnecessary compliance costs for a very limited impact on fares.

As a result, we have decided that from 1 July 2026, Transport for NSW should publish track distances in a notice on its website and use these track distances as the basis for determining the distance of a rail trip. However, if Transport for NSW does not or ceases to publish track distances, then the distance of a trip should be determined by the shortest distance by rail between the departure station and the destination station. Until then, Transport for NSW can continue to determine the distance of a rail trip in accordance with the current determination. We consider this is a pragmatic approach that does not impose unnecessary compliance costs but helps passengers understand the distances that their fares are based on.

Our updated decision on rail track distances is accompanied by a recommendation that Transport for NSW publish, on its website, its approach to calculating these prior to 1 July 2026 and ensure the published distances are updated in a timely way. We consider that this will improve transparency, particularly where trips are not calculated using the shortest track distance, and as changes (for example, the removal of the CBD increment and the introduction of new services) occur over the upcoming determination period.

Our recommendation is:

1. That Transport for NSW publish its approach to calculating rail track distances prior to 1 July 2026 and ensure the published distances are updated in a timely way.

[m] Transport for NSW has advised that special rules currently apply for city stations, Macarthur/Campbelltown, Wirragulla/Wallarobba, Richmond/East Richmond and Olympic Park. There is also an implied direct connection between the Broadmeadow and Waratah stations, which reduces the distance across this junction by 1.12km.

2.5 Our determination delivers a simple and flexible fare structure

We consider that our determination supports the fare setting objective that fare structures are simple and flexible.

We consider that our determination provides simplicity for users of the public transport network, as well as Transport for NSW from an implementation perspective. We made a decision to remove unnecessary complexity within current rail distance calculations by removing the CBD increment, to provide clarity and improve fairness for customers. We also made decisions to use the annual change in the CPI for the indexation of maximum fares, on demand services, and to not allow for revisions to the distribution table in Part 3 of the determination, based on a preference for simplicity and clarity.

Part 2 of our determination sets out maximum fares for mode-based default distance bands that are consistent with how Transport for NSW currently sets fares, for ease of implementation. We also considered further information provided by Transport for NSW relating to implementation of our draft decisions and have amended our decision on how the distance of a train trip should be calculated to improve transparency for customers, but also avoid any unnecessary compliance costs.

Part 3 of our determination allows Transport for NSW flexibility to determine its own fare structure as long as the deemed average fare is below the maximum average fare in the determination.

Under Part 3, Transport for NSW can choose to use different distance bands, implement greater fare differentiation (for example, region-based fares) or adopt a more integrated fare structure. We consider that this provides sufficient flexibility for Transport to NSW to innovate and develop new fare options to meet customer preferences, account for the introduction of new services, and manage uncertainty in the post COVID-19 environment.

3 Fares promote accessibility to public transport

Investigating affordability and accessibility of Opal fares was a key consideration of our review.

Public transport connects our communities to essential services like healthcare, education, and employment. Accessible public transport empowers individuals to reach these opportunities, in turn fostering vibrant and connected cities. Affordable fares are an important component of access to public transport. When fares become too high, they can discourage public transport use, limiting the positive impacts of public transport and disproportionately affecting those who rely on it the most.

Under this fare setting objective we addressed the following matter:

- Ensuring affordability and accessibility for disadvantaged groups (the Referral)

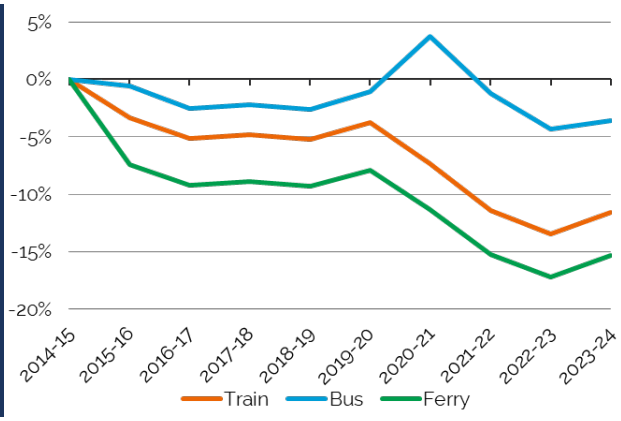
We have considered affordability of fares for the general population including for disadvantaged groups.

We looked at different measures of affordability for existing Opal fares and found that fares in the Opal network are generally affordable, but that there is potential to extend concession arrangements to more groups of people experiencing vulnerability or disadvantage.

3.1 Opal fares have increased less than inflation, wages, and other costs of living

Although fares have increased in nominal terms most years since 2014, when adjusting for inflation we found fares for all modes are lower in 2024 than they were in 2014. Fares have also increased less than wages over the same period. The increase in fares is also lower than the increase in other categories of living costs such as housing, utilities, food, and driving. More details on this are available in Appendix E or in our Affordability information paper.

In real terms
(i.e. adjusting for inflation)
fares for all modes
have decreased since 2014

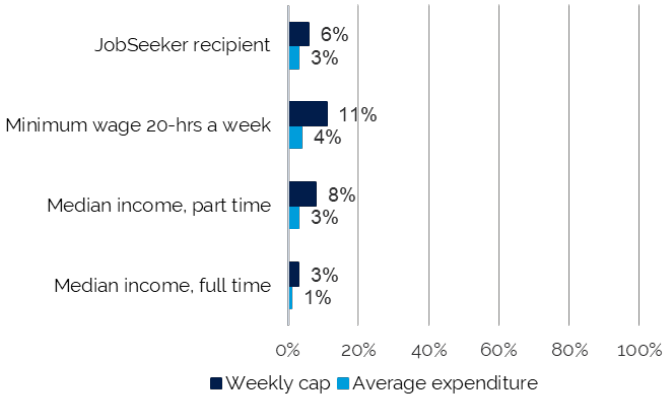


Note: Fares for each mode have been calculated as the average across distance bands.
Source: Transport for NSW historical data on fares, IPART analysis

The average adult weekly expenditure for public transport in March 2024 was $18.83, and the average weekly expenditure for concession card holders is $13.36. These expenditures represent a small proportion of most people's incomes.

Average weekly spend on Opal fares is 1% - 4% of most measures of income.

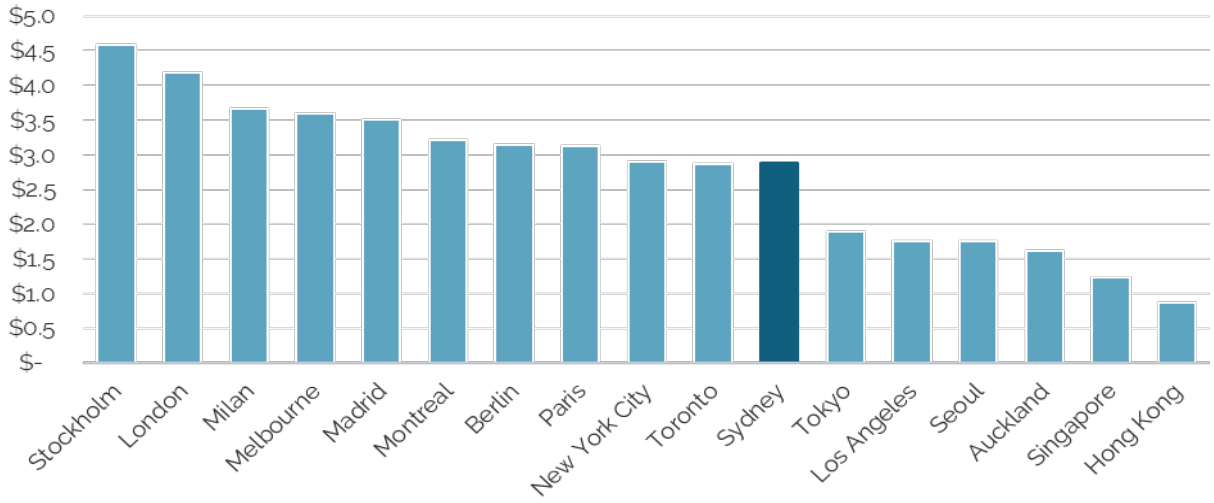
The weekly cap on public transport expenditure represents between 3% and 11% of income.



Note: Average weekly expenditure refers to the Adult (Opal card and contactless payment) average expenditure in a representative week in March 2024. For Jobseeker recipients the average weekly expenditure and weekly cap for concession users has been used to calculate weekly spend as a percentage of income
All median incomes refer to the median income in Sydney as calculated by the ABS in 2023.
Source: Transport for NSW data on weekly expenditure by card type; ABS Census data; IPART analysis

We compared the current actual Opal fares to a sample of Australian and international cities and found that fares in NSW are similar to the countries and jurisdictions in our sample, especially when income and other economic indicators are also considered. More detailed information on this comparison is available in Appendix E.

Figure 3.1 Shortest metro/train fare adjusted by purchasing power (PPP USD, 2023)



Note: Depending on fare structure and geography for each city, the shortest available distance was calculated either as the shortest distance band offered (e.g. Opal network 0-10 km), the Zone A/city limits area fare for zone-based systems (e.g. London, Paris, and Milan subway systems), or the fare charged for a trip between the closest apart stations (e.g. Singapore, Hong Kong).
PPP weights are taken from the World Bank's latest available data on Purchasing Power Parity exchange rates.
Source:: Régie Autonome des Transports Parisiens, Transport for London, Metropolitan Transportation Authority (NYC), Consorcio Regional de Transportes Madrid, Toronto Transit Commission, Auckland Transport, Public Transport Victoria, Transport for NSW, Société de transport de Montréal, Azienda Trasporti Milanesi, Berliner Verkehrsbetriebe, MTR Corporation Limited (HK), Tokyo Metro, Land Transport Authority (Singapore), Seoulmetro, Storstockholms Lokaltrafik.

3.2 Expanding concession eligibility criteria may assist some people

Public transport is essential for many members of the community but can be particularly important for those experiencing financial disadvantage or other types of vulnerability.

Under the *Passenger Transport Act*, 2014 the Minister for Transport is responsible for determining concession eligibility and the level of concessions.[26]

Concession fares (i.e. discounted fares for eligible people), rather than broad fare changes, represent the best tool to address affordability for groups experiencing disadvantage, allowing them to access transport when they would have otherwise been unable to.

In NSW, the eligibility for concession fares (50% of the regular fare) or other discounts or free travel, is granted to certain passengers, including children, seniors, pensioners (including disability pensioners), and some students. Transport for NSW also administers programs in partnership with approved social services organisations to provide short term free travel vouchers to people they serve.

Table 3.1 Opal network concession arrangements

Concession fares (50% of Adult fares)	Gold Opal card (concession fares up to $2.50 daily cap)	Free travel
• Children aged 4 – 15 years • Full-time students aged 16 years and older holding a Transport Concession Entitlement Card • Domestic full-time tertiary students from accredited providers • International students whose study is fully funded by specified Australian Government scholarships • Apprentices and trainees • Centrelink customers on the maximum rate of JobSeeker payments • Some current and former Transport for NSW employees	• Seniors • Pensioners (including disability pension) • Asylum Seekers • Veterans holding a Department of Veterans' Affairs Gold Card or Gold Health Card	• Children aged 3 years and under • Primary and secondary students when traveling to and from school • Ex-members of Defence Forces holding a Defence Forces Transport Concession Entitlement Card • Blinded soldiers and their attendants • WW1 Veteran's Widows • Companions or carers of people with disabilities requiring a companion or carer • Vision Impaired people • Some current and former Transport for NSW employees • Clients of social services organisations (short term)

Source: Transport for NSW, Opal card types

We considered whether concession policy in NSW should be expanded to include some groups experiencing vulnerability, including some people on low incomes and some student cohorts.

JobSeeker recipients

People accessing JobSeeker payments are eligible for Opal concession cards only if they receive the maximum rate of Commonwealth benefits. As JobSeeker payments include mutual obligation requirements, unemployed recipients must travel frequently to job interviews and job opportunities. A few hours of casual work per week can impact eligibility for the maximum rate of benefits (any dollar earned above $150 per fortnight reduces the rate of JobSeeker payments). People seeking jobs might also find temporary employment and later on go back to JobSeeker payments.

The Commonwealth Department of Social Services offers a Health Care Card to recipients of several government payments and subsidies, including partial rates of JobSeeker payments. We consider the Health Care Card is a good proxy for people experiencing disadvantage and includes people that do not access concession fares but can benefit from lower price public transport. The Commonwealth Department of Social Services also offers a Low Income Health Care Card for recipients whose income is below a certain threshold.

We have recommended expanding eligibility for concession cards for these people.

Recommendation

2. That the Minister for Transport consider extending the eligibility for Concession Opal to holders of a Commonwealth Health Care Card and/or Low Income Health Care Card.

Students

In consultation with stakeholders to our draft report, we heard that some tertiary student cohorts are ineligible for concessions could experience vulnerability.[27] These cohorts include:

Students undertaking a placement as part of their degree

We heard that these students rely on public transport to reach their placement but are not eligible for concessions unless they are domestic full-time, undergraduate students. We heard that many of these students might need to forego paid work hours to complete these placements, which are often unpaid.[28]

We heard that these students make a valuable contribution to the industries they are training in which may include areas such as health care, early childhood education and care, primary and secondary education and engineering.

We consider this as a high priority area for concession policy. Providing concession fares to those students completing unpaid placements not only assists people experiencing short term vulnerability and could also remove barriers to completing qualifications, which in some sectors could provide additional benefits of addressing skill shortages in NSW.

International students

We heard that these students might face disadvantage even if they initially met the proof of funds requirements of their visas, as transport costs are hard to predict from overseas and economic conditions can change over time, like they have done during the pandemic and the subsequent higher cost-of-living. International students might lose financial and social supports from families after travelling, and they have limited capacity to improve their financial situation due to visa conditions on the number of working hours.[29]

Part-time students

We heard that these students might be unable to study full-time for circumstances beyond their control. For example, students might choose to reduce their study load to care for a sick or elderly family member, to work to support their study, or as a result of a disability or illness. [30]

Transport for NSW is best placed to consult with the higher education sector, including government stakeholders like Study NSW, to identify costs and benefits of expanding concession or providing other discount options to currently ineligible student cohorts. These options could involve exploring co-funding arrangements or other innovative approaches to the issue. Additional concession arrangements would need to take into account technological, administrative, and legislative requirements to design schemes that are feasible, efficient, and equitable.

Recommendations

3. That Transport for NSW consider how it may work with the higher education sector, including government stakeholders such as Study NSW, to explore the costs and benefits of providing concession discounts on public transport for student cohorts currently excluded from such arrangements.

4 Fares support better travel options

Under this fare-setting objective we have addressed the following matters:

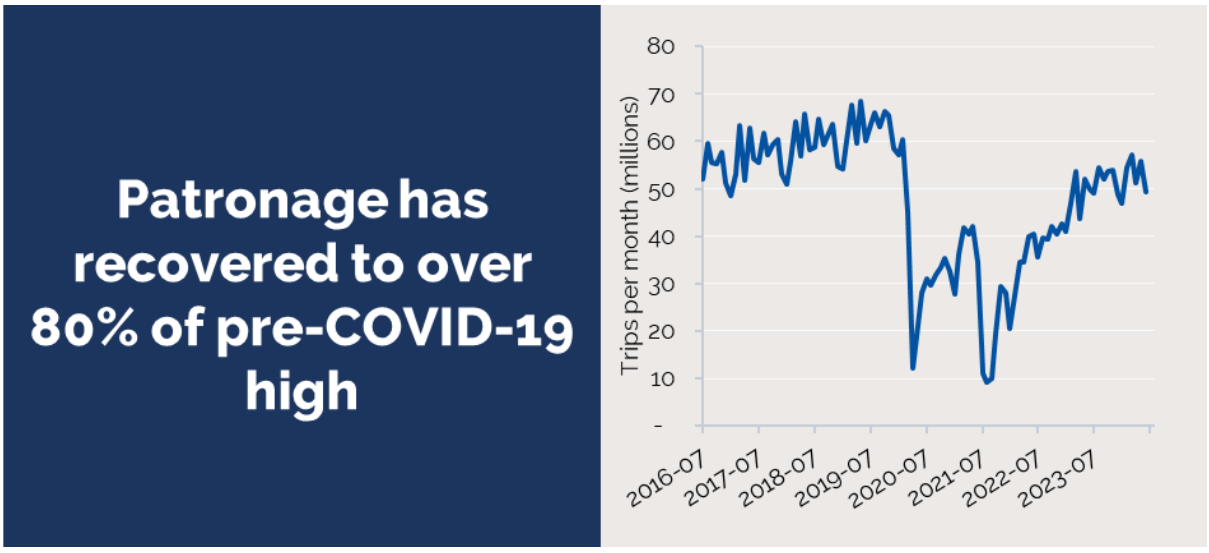
- managing demand and optimising the efficiency of transport networks (the Referral).

In determining fares, we consider they should provide signals to passengers that assist in selecting suitable travel options. This might include differentials between different modes, time or day of travel, locations, distance or switching based on opportunities to use the capacity in the network efficiently.

4.1 Patronage changes and forecasts

We found COVID-19 caused significant disruptions to patronage and patronage growth over the previous determination period. Patronage has now recovered to over 80% of the pre-COVID-19 high. Since our Draft Report we have not updated our key findings on patronage trends or forecasts of future patronage growth. However, we have conducted some additional analysis on patronage (available in Appendix C).

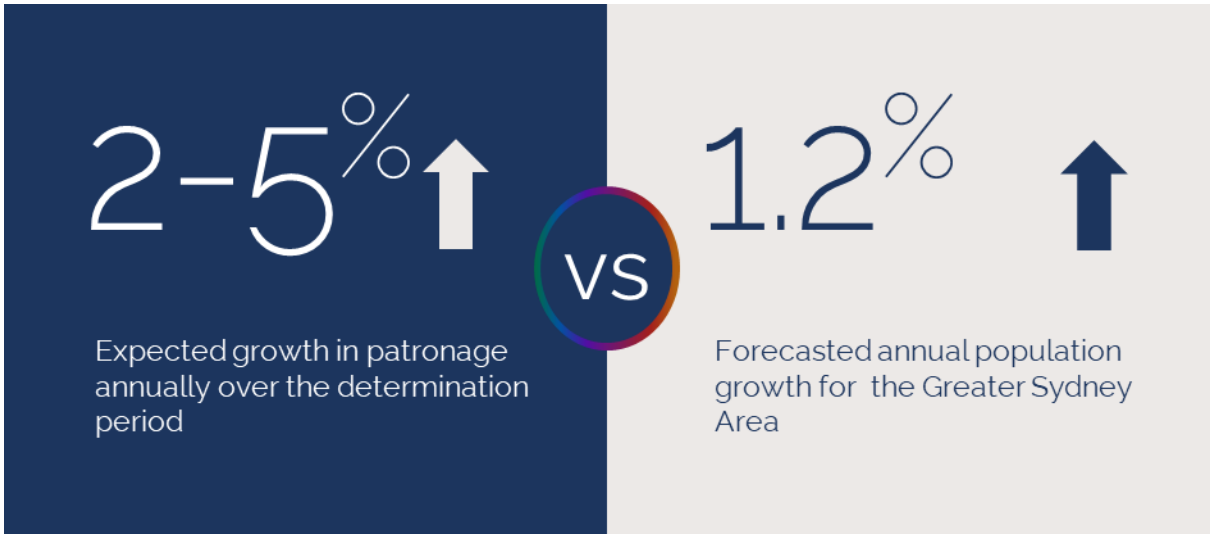
Our key findings about patronage, are set out below and in more detail in our draft report



Source: Transport for NSW, Opal Trips – All modes, accessed October 2024.

To forecast the impact of maximum fares on revenue from public transport fares, we considered how patronage might change over the determination period. We expect that patronage will continue to grow over our determination period from 3 sources:

- population growth
- shifting travel patterns post-COVID-19 related to rates of working from home/office
- gradual increases in public transport usage due to factors such as increased capacity, improved convenience, or shorter journey times as new services become available.



Source: NSW Department of Planning & Environment, Population projections, accessed February 2024.

Patronage growth over the determination period is likely to be impacted by several factors. The most important factor will be how the patronage of the Opal network continues to change after COVID-19 restrictions and high rates of working from home. Patronage could return to pre-COVID-19 highs over a short (i.e. 12 months) or medium (i.e. 2-4 years) timeframe. This will be impacted by factors such as working from home arrangements.

Other factors impacting rates of patronage growth will include the opening of new services such as Metro and light rail services, and general attitudes towards using public transport for reasons such as health, environmental concerns and convenience of travel.

For more information on historic patronage levels, and forecast patronage over the determination period, please see our Information Paper - Patronage.

Managing demand and optimising efficiency through peak and off-peak fares

We have had regard to the impact of the determination on the use of the network. We received stakeholder feedback and ideas about the peak and off-peak arrangements (hours and discounts). Stakeholders feedback to the review including the draft report noted that peak hours had shifted during the 2020 COVID restrictions and had not shifted back.[31] Some sought a return to previous peak arrangements.

The design of peak hours should encourage passenger behaviour that aligns with the objectives of Transport for NSW. These objectives may change in response to patterns of demand and network constraints.

Well-designed peak hours will achieve an appropriate balance between peak and off-peak patronage. Peak and off-peak fares can be designed to achieve one of two types of passenger behaviour. These are:

- reductions in usage of heavily congested service to avoid costly capacity augmentations
- encouraging increased usage of excess capacity in intra peak and off-peak services.

As post-COVID impacts of working from home, together with new services coming on-line have shifted travel patterns and increased peak hour capacity, the objectives of the off-peak discount may have changed. Its main benefit now may be to incentivise greater use of the Opal network during the intra peak and off-peak periods rather than to discourage usage during the peak periods.

We consider that Transport for NSW is best placed to monitor changes in demand and determine when peak and off-peak pricing should apply to help manage demand across the day and incentivise off-peak travel.

As travel patterns continue to shift, and new capacity continues to come on-line with new metro and light rail projects, we consider a determination that provides Transport for NSW the operational flexibility to respond to demand with pricing incentives, revised hours and complementary operational activities such as timetabling is important.

As a result, we have decided not to set peak and off-peak fares in our Determination but made a recommendation for Transport for NSW to consider reviewing current arrangements. As we set the maximum fares, Transport for NSW is able to set off-peak discounts below this level.

Recommendations

4. That Transport for NSW consider clarifying the objectives of peak and off peak pricing ensuring they remain appropriate in the post-COVID environment, and review current peak and off-peak arrangements (including times, fares, demand management and timetables) to ensure consistency with the objectives.

5 Fares support the financial sustainability of the Opal network

Public transport services are funded by both passengers and taxpayers. We found that in 2022-23 passengers contributed about 18% of the operating costs of the transport network. A small amount of revenue is also generated by commercial activities such as retail leases, advertising and charter fees, but the majority of the remaining operating costs are contributed by taxpayers.

As public transport usage generates benefits to society, it is appropriate that taxpayers contribute a share of these costs.

Under this fare setting objective we considered the following matters:

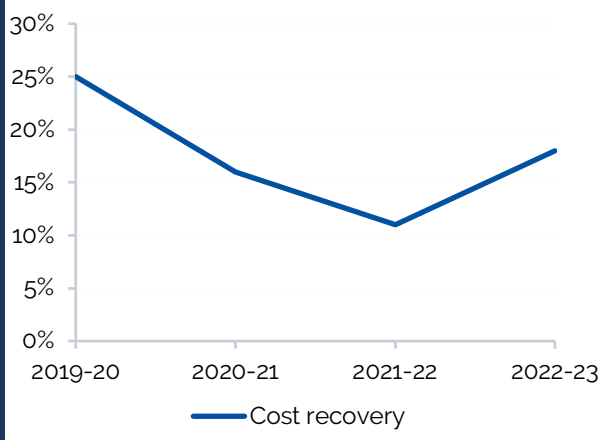
- cost recovery in the post-COVID-19 environment (the Referral)
- the cost of providing the services (the Act)
- the need for greater efficiency in the supply of services so as to reduce costs for the benefit of consumers and taxpayers (the Act)
- the effect of the determination or recommendation on the level of Government funding (the Act).

5.1 Cost recovery of Opal services from passenger fares

We measured cost recovery as a proportion of operating costs. We found cost recovery from fares had dropped to a relatively low level of 18% in 2022-23.

COVID-19 restrictions caused a drop in patronage and revenue from the second quarter of 2020 onwards. Cost recovery across the Opal network was lowest in 2021-22 but has started to recover.

Cost recovery across the Opal network was lowest in 2021-22, but has started to recover



Source: Transport for NSW, Information request provided to IPART. IPART analysis.

We also calculated cost recovery by mode for the previous 4 years.

Table 5.1 Cost recovery – operating costs and shared costs

Mode	2019-20	2020-21	2021-22	2022-23
Sydney Trains	26%	18%	11%	18%
NSW TrainLink	10%	6%	3%	6%
Light Rail	41%	27%	25%	60%
Ferry	25%	15%	13%	33%
Buses	27%	17%	12%	21%
Overall cost recovery	25%	16%	11%	18%

Note: Metro cost recovery has not been included in this table. We were informed by Sydney Metro and Transport for NSW that Sydney Metro is currently undertaking a contract procurement process and expressed concerns about potential commercial sensitivity of some cost information and a potential impact on the procurement process. We have committed to releasing the cost recovery information for Sydney Metro once this process has concluded, which is expected to be March 2025.
Source: Transport for NSW, Information request provided to IPART.

We found that cost recovery for all modes was lowest in 2021-22 but that each mode had started to recover by 2022-23. Ferry and light rail services have improved in cost recovery over the period. Two new Light rail lines opened in 2019-20.

Patronage and revenue have still not returned to pre-COVID levels for all modes. Work and travel patterns have changed and some of those changes may be long-term.

However, as patronage continues to increase, cost recovery from fares should increase as well. We consider that a range of factors will drive an increase in patronage over the course of the determination period:

- The introduction of new metro and light rail services is likely to encourage some people to shift more of their travel from private modes to the new services (resulting in overall patronage growth for the whole network), due both to improved network coverage and travel times, and increased capacity – patronage increases as more trips per person are taken.
- The population of the Greater Sydney area is projected to continue to grow at around 1.2% per year. This growth should increase patronage if the additional people in the population use public transport in the same proportion as the people already in the Greater Sydney area. Greater Sydney encompasses the majority of the Opal network.
- Technology enabling account-based ticketing to be rolled out at scale would permit the introduction of subscription package options, which could increase patronage through more innovative ticketing options.

5.1.1 Maximum fares should not decline in real terms

We do not consider that passengers who continue to use public transport should pay more because patronage has dropped. Increasing fares to try to increase cost recovery from fewer passengers may in fact decrease patronage further if passengers react to higher prices by using public transport less.

However, nor should maximum fares be decreased. The currently determined maximum fares are set at a level we considered to be affordable in 2020.

Although Transport for NSW has not increased prices to the maximum permitted, we consider that we should not decrease the maximum prices to the currently charged levels and inhibit Transport for NSW's flexibility to respond to circumstances, or further erode cost recovery.

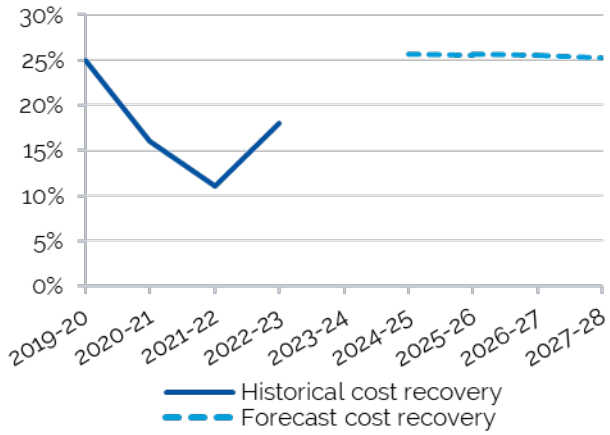
In setting final fares for the default distance bands, we made sure that none of the maximum fares for the 2025-28 determination were lower than the 2020-2024 determination.

5.1.2 We undertook revenue modelling to test financial performance of different fare options

We modelled projected revenue from fares for the future years of the determination based on different options for fares, including:

1. current applied fares
2. current determined maximum fares
3. our proposed fares which are on average 2% higher than current determined maximums
4. fares which increase at longer distance bands by up to 20% more than current determined maximums.

We found that our proposed maximum fares would likely increase cost recovery from fares to 25.6% in 2025-2026, if Transport for NSW were to charge the full permitted maximum, and if patronage growth is in the moderate range. This compares to 18% currently, and our estimate of 25% for 2019-20, a year which was affected by COVID lockdowns only in the fourth quarter.



We forecast cost recovery to be higher in the next determination period, but it may not increase each year

Note: We did not estimate cost recovery for 2023-24 as the year had occurred, but historical data was not yet available.
Source: Transport for NSW, Information request provided to IPART. IPART analysis.

5.2 Measuring the efficiency of public transport

We also considered other measures of efficiency. In our Draft Report we discussed methods of measuring the efficiency of public transport. The volatility of public transport patronage since 2019-20 means most measures of efficiency are not useful to monitor performance over that time period. For our Final Report we considered further if we could calculate partial efficiency measures that did not use patronage information.

We investigated the cost of providing capacity (seated and standing) for different public transport modes. Each vehicle within the public transport network has a set amount of seated and standing capacity.[n] Understanding the cost to provide the capacity for a single person could be a useful measurement to understand the operational efficiency of public transport services.

We calculated the operating cost per capacity for a single person for each mode of public transport, see Table 5.2. This shows the operating cost to maintain and operate the average single person capacity for each mode although this does not include consideration of the distance travelled by the modes or other operational differences between the modes[o].

Table 5.2 Annual operating cost per capacity (seated and standing), $2022-23

Mode	Annual operating cost per capacity
Sydney Train	$14,773
NSW Train Link	$13,241
Bus	$4,046
Ferry	$10,375
Light Rail	$3,488

Note: Metro cost per capacity has not been included in this table. We were informed by Sydney Metro and Transport for NSW that they are currently undertaking a contract procurement process and concerned that publishing this information could have a potential impact the ongoing process.
Source: Transport for NSW Information Request, Transport for NSW, Covid 19 Transport for NSW Vehicle Capacity Transport 1.0 to Transport 4.0, accessed September 2024, Transport for NSW, Fleet and facilities, accessed September 2024, Transdev, One Fleet, 9 Vessel Classes, accessed September 2024, IPART analysis.

We calculated the operating cost for the capacity of a single person to travel 1 service km on the public transport network (this is the cost regardless of whether that capacity was occupied by a passenger or not). The results are presented in Figure 5.1.

[n] all modes use multiple vehicles with different capacity

[o] Buses provide relatively low cost capacity in comparison to trains. Bus costs do not include the associated road maintenance costs, while the cost of maintaining track for trains and light rail are included. Further, some modes provide efficiencies over long distance that make up for the higher cost of operation.

Figure 5.1 Operating cost for the capacity for a single person to travel 1 service km ($2022-23)

Note: Due to the difference in measuring trip distance between modes 1 service km for bus and light rail does not equal 1 passenger km. Passenger km are measured in a straight line between origin and destination for bus and light rail trips but service km are the actual distance travelled by the vehicle.

Source: Transport for NSW Information Request, Transport for NSW, Covid 19 Transport for NSW Vehicle Capacity Transport 1.0 to Transport 4.0, accessed September 2024, Transport for NSW, Fleet and facilities, accessed September 2024,

More details are available in Appendix D or see our Information Paper on Financial and operational performance.

6 Fares create value for passengers and taxpayers

Our determination independently sets maximum fares that Transport for NSW may charge for Opal services, considering both costs of operating services, efficiency and affordability. This may be considered a "safety net" and provides passengers with some certainty about the maximum fares they are likely to pay over the determination period and protects passengers from abuses of monopoly power.

Fares that create value for passengers and taxpayers, reflect the level of service quality, reliability and safety received, incentivise use of the network and can encourage greater use of more sustainable modes of transport such as public transport compared with the cost of other modes such as private motoring.

Under this fare setting objective we addressed the following matters:

- the protection of consumers from abuses of monopoly power in terms of prices, pricing policies and standards of service (the Act)
- standards of quality, reliability and safety of the services (whether those standards are specified by legislation, agreement or otherwise) (the Act).
- the impact of the determination or recommendation on the use of the public passenger transport network and the need to increase the proportion of travel undertaken by sustainable modes such as public transport (the Act).

In this section we also addressed the requirement to report on the likely cost to the Consolidated Fund if Transport for NSW does not increase fares to the level permitted (the Act).

6.1 Creating value for customers by linking elements of the fare package

We found that some elements of the fare structure do promote value for customers and incentivise greater use. Transfer discounts and daily and weekly caps do simplify the cognitive effort needed to calculate individual fare structure elements (mode and distance or peak and off peak) by overriding individual components and providing an upper limit on daily or weekly spending and minimise the fare impact of mode switching.

They also assist with managing affordability of public transport expenditure for frequent users of public transport, providing incentives to switch a greater proportion of a passenger's travel to public transport as they approach the cap.

However, fare change events have not been applied consistently since the introduction of Opal fares and the relativities between elements of the fare package have gradually changed since their introduction and haven't been set consistently. We consider that the relativities between fare types, discounts and caps should remain consistent when fare change events occur and fare changes should be applied to all fare types.

We have recommended Transport for NSW consider reviewing the relativities between elements of the Opal fare package. This review could include recalibration of the fare relativities such as:

- setting the transfer discount to 70-90% of the lowest bus fare
- linking the Gold Opal card daily and weekly caps to a percentage of the adult or concession caps
- resetting the relationship between daily caps and weekly caps considering the reduced patronage and appropriate incentives to increase travel
- recommencing escalations of weekly caps (taking into account the context of rebates and prices for private passenger transport such as toll relief caps).

to prevent future fare changes from skewing fare structures over time.

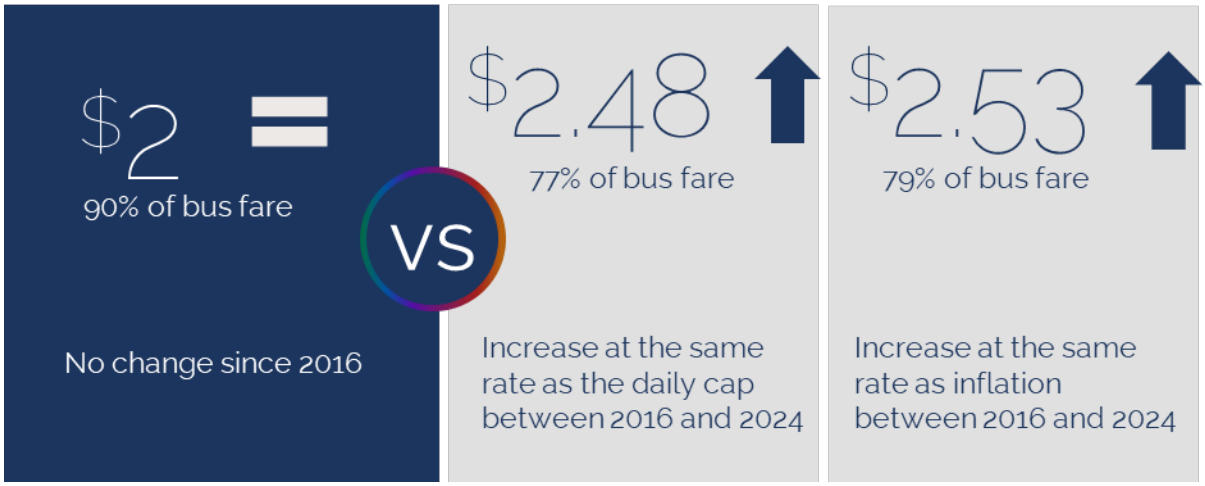
Recalibrating the fare package to link together all elements of the fare rules together would not mean that Transport for NSW would be locked into these relativities, but changes would be intentional in response to customer preferences or operational requirements. For example, during the COVID restrictions of 2020, short distance fares and other fare rules were intentionally changed to incentivise shifts in travel behaviour to assist with social distancing on services. Similarly, the relativity between daily and weekly caps may warrant a change from the original settings as working from home patterns have changed weekly patronage patterns.

Transfer discount

The $2 transfer discount applies to journeys that involve multiple modes of transport and refunds the fixed component of each additional leg of a journey so that passengers pay the fixed component only once.

The transfer discount has not changed since it was introduced in 2016, meaning that its value relative to single fares has reduced over time. Taking multiple modes can increase travel costs, especially for frequent commuters.

Linking the fare package would mean that the transfer discount would be linked as a percentage of other elements of the fare structure, so that as fares increase, so does the discount. We consider the shortest distance adult bus fare would be an appropriate anchor for the transfer discount. For example, the discount could be set at a percentage of the lowest bus fare for the first year of the determination and increase by the average fare change every year.



Note: Percentage of bus fare refers to shortest actual adult bus fare in 2024 ($3.20 *including* GST)

Gold opal

Seniors, pensioners (including disability pensioners) and asylum seekers are eligible for Gold Opal cards, which entitles cardholders to concession fares until reaching a $2.50 daily cap.

The Gold Card is a generous and popular ticketing option for eligible cardholders. It improves access and affordability for card holders that face cost barriers to public transport and other vulnerable groups, for example seniors who may have less ability to drive as they age or are more vulnerable to social exclusion or would be reliant on other members of the community for transport.

The structure of the Gold Opal card is another example of simplification of the fare structure which effectively results in a low flat rate for many trips. We heard that this simplicity is important for many card holders.[32]

This cap has not changed since 2005 and its value in real terms has fallen more than the daily adult and concession caps. We consider that the fairness and relativity of the fare system should be preserved over time, so that when Transport for NSW increases fares within the maximum set by IPART, the Gold Opal daily cap is also subject to these changes.

We heard that the simplicity of the current Gold Opal system (Concession fares up to a low daily cap) is helpful for users of the Gold Opal card since it is familiar and well-understood.[33] We consider linking the Gold Opal card to a percentage of concession or adult fares would retain this simplicity (continuing to provide concession fares up to a low daily cap) and also maintain fare level relativities.

Below is an example of how daily and weekly caps could change for Gold Opal cards based on an example cap set at 50% of the Concession Opal daily cap (25% of the Adult daily cap).

Daily and weekly caps

The daily and weekly caps are another feature of the fare structure that create value for customers.

Like weekly or monthly subscription passes available in many cities around the world, the caps limit expenditure on public transport for frequent or long-distance passengers. Unlike monthly passes, the Opal caps do not require upfront payments and allows for more flexibility and changes to travel patterns.

In the years 2020 to 2023, approximately 2-3% of cards reached the weekly cap. This percentage has increased to 7% in 2024. 7% of Adult opal card and Contactless card passengers reach the daily caps, and 11% of concession card users reach the weekly cap.

The weekly cap has not changed since it was set at $50 in 2019, down from $63 in 2018[34]. Recommencing escalations of the weekly cap in line with other fare components should be considered taking into account the context of rebates and prices for private passenger transport such as toll relief caps. While the current NSW Government motorist toll relief rebate scheme caps toll spending at $60, increases to the weekly Opal cap may be perceived as poor value as it approaches the weekly motorist toll cap.

Recommendations

5. That Transport for NSW consider reviewing the relativities between fare types, discounts, caps and other elements of the Opal fare package, ensuring fare change events apply consistently across the fare package.

6.2 Standards of quality, reliability and safety

We consider that fares should reflect and support the service standards required of transport operators and expected by customers.

We found that customer satisfaction increased during the COVID-19 impacted years but declined in 2023 to pre-COVID-19 levels. In 2024 customer satisfaction has further declined for most modes of public transport but remain relatively high for all modes.

Source: Transport for NSW, Customer Satisfaction Index, May 2024 p 2.

We have investigated the performance of Opal services against standards of quality, reliability and safety over the term of the current determination and more information can be found in Appendix D.

6.2.1 Creating value for passengers by providing rebates for service disruption

Our determination does not link service quality to the fares. Service quality is regulated through other instruments such as contracts and other legislation. Where service quality has been significantly impacted, such as during storm events or industrial action, governments have responded by providing fare free days or similar initiatives to compensate impacted passengers.

More recently, free high frequency bus services between Sydney and Bankstown have been introduced to compensate passengers for the disruptions caused by converting the T3 line to a Metro line.[35]

These initiatives result in fares applied at a rate lower than our maximum appropriate fares determination, and the Government and Transport for NSW can determine the circumstances in which they should apply.

Where a service is known to be impacted, our recommendation is that the Government should consider whether it is appropriate to reduce fares in response. For example, where buses will replace trains for a significant period, and the rail replacement service results in a longer commute or waiting time, the Government could consider temporarily applying a lower fare to compensate for the inconvenience.

For clarity, within the determination we have allowed Transport for NSW to charge fares for replacement services at the same rate as the original service. This results in fares charges for passengers so they are financially no worse off than they would have been because of the replacement service.

Recommendations

6. Where significant impacts to service quality occur, Transport for NSW should consider whether fares should be reduced, or other rebates can be offered to compensate for inconvenience or increased travel/wait times.

6.2.2 Minimising overcharging

Some stakeholders raised concerns about overcharging on the Opal network and the lack of non-digital information about Opal fares and services.[36][37] We agree that passengers should have information that is clear and easy to understand about the Opal services and tickets. We are recommending that Transport for NSW considers reviewing access to information and the ease of obtaining refunds in cases where opal readers are malfunctioning.

Recommendations

7. That Transport for NSW consider reviewing its processes to minimise instances of overcharging including:
   a. Providing simple and clear information in both non-digital and digital formats
   b. Ease with which customers can access refunds for overcharging: when Opal readers malfunction or there are other circumstances beyond passenger's control.

6.3 Creating value for taxpayers by reducing fare non-compliance

In feedback to our Issues Paper and Draft Report, we heard concerns about fare evasion on the Opal network.

Some of these concerns were around the rates of fare evasion observed, a perceived lack of enforcement, and the relationship of fare evasion to revenue loss or fare increases. Some stakeholders considered fare increases would not be necessary if fare evasion was enforced more strongly.[38]

We considered the available data to estimate the impact of fare evasion. Transport for NSW conducts a fare compliance survey twice a year to measure fare compliance and estimate revenue loss across the public transport network.

We reviewed the survey data which shows that fare evasion and other forms of non-compliance have increased across the network since 2019 to as high as 10%, reversing the previous trend, which had seen fare non-compliances declining since 2016.[39]

Ticketing compliance and enforcement is the responsibility of Transport for NSW and the NSW Government to ensure passengers pay for the services that they use.

However, the cost of fare evasion is paid by the taxpayer rather than other passengers. Lost revenue caused by fare evasion does not result in higher maximum Opal fares.

Ticketing non-compliances such as fare evasion and other forms of fare non-compliance are a complex set of behaviours that can have different causes and motivations.

Transport agencies can use a suite of interventions to deter non-compliant forms of travel, but not all are effective or practical in all situations, and the cost of some interventions may outweigh the avoided revenue loss.

Research on motivations, and attitudes of fare non-compliance on public transport in other Australian and international transport networks has identified complex attitudes, circumstances and views towards fare evasion or travelling without a valid ticket. These range from accidental non-compliances, circumstances perceived to be beyond the control of the passenger to intentional non-compliances driven by different circumstances.[40]

When the motivations and causes of the behaviour are well understood, targeted interventions to better address non-compliant travel behaviour could be better designed and addressed.

Engineering controls (such as barriers or tap on sounds) can be complemented by inspections, compliance and enforcement measures, education and marketing campaigns, affordability support and concession schemes, ticketing simplification and other interventions to influence rates of ticketing non-compliances. Each of these interventions can be designed to address different segments or drivers of ticketing non-compliances.

We are aware that children and young people can be particularly impacted by receiving transport related fines.[41] Other interventions may be more appropriate and effective for these cohorts. In 2022 a program for the diversion of Transport Fines for vulnerable youth was trialled.[42]

In the years from 2016 to 2019 Transport for NSW successfully reduced fare non-compliance by applying behavioural insights to the existing compliance and enforcement approach.[43]

We consider behavioural and attitudinal research specific to passengers of the Opal network is important to understand the reasons ticketing non-compliances increased over the last determination period to cost effectively identify the most appropriate solutions.

Some submissions to our draft report objected to this recommendation expressing concerns that it would result in more punitive responses to ticketing non-compliances particularly in the case of accidental, confusion, or circumstances beyond the control of a passenger (such as a malfunctioning reader or a ticket/top up machine unable to accept cash).[44]

This is not our intention. We consider that a range of options are available and the research specific to the Opal network will assist Transport for NSW developing more tailored solutions to its passenger's needs. These solutions could be more information and education options, redesign or simplification of confusing elements of ticketing, or providing affordability support to groups experiencing vulnerability.

Recommendations

8. That Transport for NSW consider conducting a study into the attitudes and motivations of its passengers towards ticketing non-compliances to understand and cost-effectively address any increase in fare non-compliances and reduce any associated revenue losses since 2019.

6.4 Creating value for taxpayers by increasing fares to the maximum permitted

We are required to assess the likely cost to the Government if fares are not raised to the maximum permitted under the Act.

We have modelled revenue for the period of the determination based on our maximum fares, and also modelled a comparison case where Transport for NSW only increases fares by CPI each year.

We based our modelling of revenue forgone on the final maximum fares both including an estimated elasticity response (i.e. the higher fares we are proposing lead people to use public transport less) and without (i.e. people continue to use the same amount of public transport even with higher fares).

The revenue forgone is lower if the modelling includes an elasticity assumption because there is not as much additional revenue from higher fares due to people travelling less.

Due to changes in final fares and some refinements in our estimates since the Draft Report our final estimate of revenue forgone has increased by approximately $5 million per year.

Table 6.1 Likely cost to the Government if fares not increased to maximum permitted (revenue forgone, $2024-25, $m)

	2024-25	2025-26	2026-27	2027-28	Total
Implement CPI increases only	85	88	91	93	357
Implement CPI increases only (demand response)	34	35	36	37	141

Note: If IPART makes a determination to increase the maximum fare for a service, IPART is required to assess and report on the likely annual cost to the Consolidated Fund, if the fare were not increased to the maximum permitted and compensation were paid to from the consolidated fund for revenue foregone – *Passenger Transport Act* 2014 s 124(5).

7 Fares maximise benefits to the community

Under this fare-setting objective we have addressed the social impact of the determination or recommendation (the Act).

7.1 Costs and benefits of public transport

The use of public transport results in both costs and benefits to society. When we set fares we aim to reflect both within the level of fares we set.

If fares were only reflective of the financial cost of running a public transport system, and did not consider the external benefits to society, then fares would likely be too high. Higher fares could discourage passengers from using public transport and increase road congestion.

However, if fares are too low this could lead to overcrowding of public transport services, requiring new capacity to be provided which would increase the costs to NSW taxpayers. Additional services and infrastructure would compete with other Government priorities, such as education and health.

When you decide to take a trip by public transport, the public transport system incurs certain costs that it would otherwise have avoided.

We refer to these costs as the marginal cost of your trip. It is reasonable to ask you to pay the marginal cost that you impose.

However, your decision to use public transport means that other people can avoid or reduce certain costs that they would otherwise have had to face.

We refer to these benefits as the marginal external benefits of your trip. It is reasonable to discount your fare to reflect that benefit that you create.

To work out an appropriate contribution from passengers in the form of fares, we developed a socially optimal fares model which takes into account the financial costs of providing public transport services on the Opal network as well as the costs and benefits for people who are not passengers, including avoided traffic congestion, avoided traffic accidents, and avoided greenhouse gas emissions.

To estimate marginal cost, we used accounting and financial data from Transport for NSW on the costs of providing public transport services. Examples of these include staff wages, fuel, and costs associated with vehicle and infrastructure maintenance. We also had to make assumptions about the way costs were allocated. For example, are specific types of costs related to how far a passenger travels or related to the fact that a passenger has chosen to make a journey?

We applied adjustments for efficiency, and discounted by the external benefits that we consider should be assigned to society as a whole, namely agglomeration and social inclusion benefits.

Agglomeration benefits

arise when businesses and activities are clustered together in a single location like a central business district.

We consider the costs of fleet ownership and dedicated public transport infrastructure to be costs that are incurred to secure agglomeration benefits.

Social inclusion benefits

are generated by providing opportunities for people who would not otherwise travel to be more involved in society.

We consider on demand buses provide social inclusion benefits to areas where a regular timetabled bus service is unavailable. For this reason, we have set the fares of on demand services to be the same as timetabled services.

To estimate marginal external benefits, we considered:

- travel time savings from reduced road congestion
- reduced carbon emissions and health benefits from reduced air pollution
- savings in accident-related costs faced by pedestrians and cyclists from reduced road crashes
- health benefits from more active transport (i.e. walking and cycling).

The optimal fare for each transport mode represents its marginal cost less the marginal external benefits it generates. The external benefits of each transport mode are impacted by the fares for other transport modes, and people's behaviour to switch modes in response to fare changes.

To find out more about the model, please see the Technical Paper - Modelling socially optimal fares, the Summary - Opal technical workshops or the model itself. All are available on our website.

7.2 Modelling assumptions

Our model requires decisions and assumptions to be made about many factors. (See our Technical Paper for more information). Between our Draft and Final report we considered two of our assumptions further.

Social inclusion benefits

We received a submission to our draft report seeking a reallocation of some bus costs to reflect a timetable that provides greater frequency services to improve social inclusion.[45] We have not adopted this approach in our final fares.

We do consider social inclusion an important benefit of public transport, and some measures such as on demand buses, and concession policy are designed to provide targeted social inclusion benefits. We will continue to improve our methods to quantify the social inclusion benefits, within our models. Before reallocating costs within the model for a social inclusion benefit, we would need to consider timetabling and utilisation for each of the bus contract regions (or a representative sample) to identify the level of services that are being provided in part or in full for a social inclusion benefit. This is likely to differ across regions.

External benefits of ferry journeys

We received feedback about our draft decisions on ferry journeys, particularly the Newcastle – Stockton Ferry, but also the high rate of short distance ferry fares in Sydney Harbour.[46] [47]

Our draft determination included an increase to the maximum fare for the Newcastle-Stockton ferry service of 21 cents (7%). This was in part due to the change of methodology to base the costs of the Newcastle-Stockton ferry service on the ferry mode instead of the bus mode as had previously been our approach.

One limitation of our model is the assumption that a trip of one mode is substitutable for a trip of an equal distance by another mode. Although this is true of many journeys, the ferry mode can be an exception. The Newcastle-Stockton ferry is an example of where the short (650m) ferry trip, may replace a road journey (by bus or car) of up to 15-20km. We gave some consideration to the likely external benefits of avoided pollution and congestion a ferry passenger would generate and accounted for these in the final fare for this mode.

The Newcastle-Stockton ferry is a case in which we were able to calculate the benefits of a specific avoided road journey, which is much longer than the ferry journey. We note that the Newcastle-Stockton ferry does not attract an inter-modal transfer when passengers use it as part of a connecting bus journey. Bus trips within 60 minutes, immediately before or after the ferry trip are charged as a single, continuous bus trip. Off-peak pricing is also applied to relevant journeys on this service. These fare rules further reduce journey fares to these passengers.

We consider there are similar journeys within the Sydney ferry network where a short (<1km) ferry trip may replace a longer road journey such as crossing the Parramatta River, or parts of Sydney Harbour (e.g. Balmain to Barangaroo or Balmain to Greenwich), avoiding some congested parts of Sydney's road network (although not as large as the Newcastle-Stockton ferry). We have recommended Transport for NSW to consider the external benefits of introducing a short (e.g. 1km) ferry band within the Sydney ferry fare structure.

9. That Transport for NSW consider creating a shorter ferry band in Sydney where there is sufficient evidence that a short ferry journey may improve external benefits of replacing a longer road journey.

7.3 How did we use socially optimal fares?

The model produces a range of different estimates for fares depending on the assumptions made. The socially optimal fares we produced are generally higher than our draft maximum fares, with a more pronounced distance effect, that is, longer distance socially optimal fares are significantly higher than our maximum fares, while shorter distance fares are more similar.

In setting our maximum fares, we balanced the outcomes of the social optimisation model with other key considerations such as affordability and accessibility and cost recovery of the public transport system. However, we have taken into account the direction that fares would go (with bigger increases at longer distances) if they followed the socially optimal estimates.

8 Our review

8.1 Our role

Our referral and legislation

The Minister for Transport has asked IPART to determine appropriate maximum fares for Opal public transport services until 30 June 2028. In determining appropriate maximum fares we have had regard to our referral from the Minister and the *Passenger Transport Act* 2014. We have considered a set of 13 specified matters and any other matter that we consider relevant (14 in total).

In the referral from the Minister for Transport, we were asked to consider the following matters:

1. The Opal mode and distance-based fare structure.
2. Incorporating new services into the Opal fare structure.
3. Managing demand and optimising the efficiency of transport networks.
4. Ensuring affordability and accessibility for disadvantaged groups.
5. Cost recovery in the post COVID-19 environment.
6. The appropriateness of the current methodology for determining maximum Opal fares.

We were required to consider several other matters set out in the Act. These are:

1. the cost of providing the services
2. the need for greater efficiency in the supply of services so as to reduce costs for the benefit of consumers and taxpayers
3. the protection of consumers from abuses of monopoly power in terms of prices, pricing policies and standards of service
4. the social impact of the determination or recommendation
5. the impact of the determination or recommendation on the use of the public passenger transport network and the need to increase the proportion of travel undertaken by sustainable modes such as public transport
6. standards of quality, reliability and safety of the services (whether those standards are specified by legislation, agreement or otherwise)
7. the effect of the determination or recommendation on the level of Government funding
8. any other matter IPART considers relevant.

Our determination applies to regulated fares

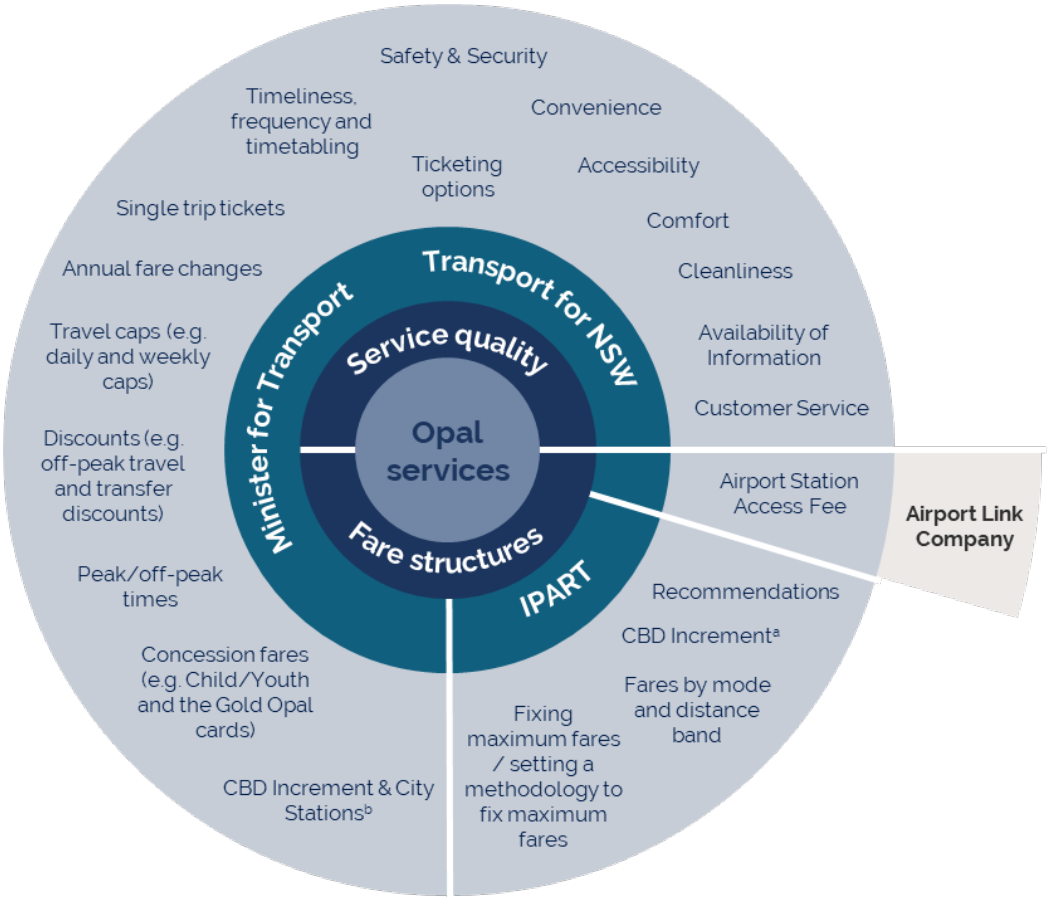
Our determination sets appropriate maximum fares for Opal services paid for through regulated fares, which means a payment made using an Opal card or any approved payment device for a single trip and includes the whole amount payable for that trip apart from any Airport Station Access Fee and GST.

Our determination does not impose any service standards on Opal services. This is because service quality and matters related to the performance of Opal services are managed by the Minister and Transport for NSW. The Minister and Transport for NSW are also responsible for determining parts of the Opal fare structure including:

- The timing and level of annual fare changes below the maximum fares determined by IPART.
- Concession fares such as child and youth fares or pensioner fares.
- Discount fares such as the off-peak travel discount or the transfer discount.
- Travel caps such as the daily cap or the weekly cap.
- Any fare for a trip in respect of which a customer is required to tap on and tap off, but neglects either to tap on or to tap off.
- A single trip ticket. These are available at select stations or wharves from top up and single trip ticket machines and are an alternative ticketing option to an Opal card contactless device.

Figure 8.1 summarises the responsibilities of IPART, the Minister and Transport for NSW, and the Airport Link Company in providing Opal services and determining Opal fares.

Figure 8.1 Roles and responsibilities in the provision of Opal services and determining Opal fares



a. IPART's 2020 determination states that for any trip using a train, the distance of the trip is the sum of the distance by rail between the departure point and the destination point; and if the trip is a CBD trip, the CBD increment.
b. Transport for NSW has discretion over the distance of the CBD increment and the ability to specify train stations as city stations, which determines if a trip is a CBD trip.

8.2 Our process

After IPART received a referral from the Minister for Transport to set maximum Opal fares until 2028, we investigated the key issues and published an Issues Paper. In this paper we identified the key fare setting objectives that have since framed the scope of our review and our determination of maximum fares. We also released a short Information Paper designed to help engage stakeholders with our review.

We received 23 submissions to our Issues Paper. We also opened other channels for people to provide input about ticketing, fares and public transport preferences, through a survey, a quick poll and an ideas page on the NSW Government's Have Your Say website. 498 stakeholders completed our survey and told us how they use public transport and what is most important to them. We also conducted a series of technical workshops with transport practitioners, policy-makers and experts to seek feedback on our approach to modelling socially optimal fares and to provide an opportunity for suggestions to improve our methodology.

To inform our review we obtained financial information on public transport costs and revenues as well as service outputs and asset information from Transport for NSW by issuing a section 22 notice (under the IPART Act).

The financial and service output information were inputs into our socially optimal fare model. We also used the information from Transport for NSW in our analysis of affordability, cost recovery, efficiency, patronage, and the decisions and impacts of the determination.

In August 2024 we released our Draft Report and Draft Determination. We received 22 submissions in response. We held an online public hearing on the decisions, recommendations and analysis in our draft.

We considered the feedback we received in submissions to our Draft Report and at our public hearing. We also undertook further analysis of key issues and results from our Draft Report. We have released this Final Report accompanying the determination to set maximum Opal fares until 2028.

This Final Report explains decisions that will apply during the determination period, and our consideration of the mandatory and other factors that apply to this review through the referral and legislation. It also includes 8 Recommendations we have made to the NSW Government. The timeline and key activities of our review are presented below.

Figure 8.2 Timeline of our review

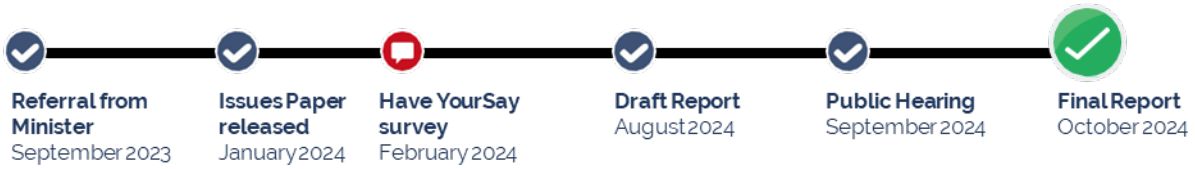
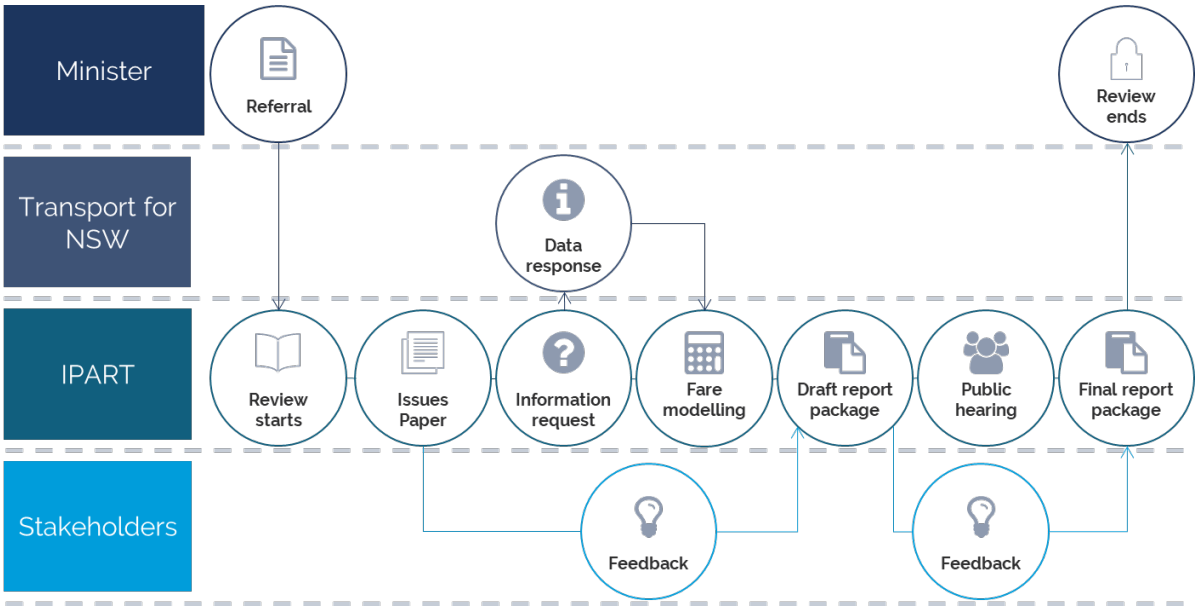


Figure 8.3 Process of our review



8.3 Future Opal reviews

Throughout our review we received a wide range of feedback, comments and suggestions from stakeholders. We considered all feedback we received but found some of the suggestions we received would not be best managed by this determination. This could be because they are not within scope for this review, are better handled by Transport for NSW, or because technological or other significant system changes would be required before they could be implemented. We consider that some of this feedback could be investigated in a future Opal review. These include:

- Integrated mode-based fares, i.e. fares are the same for each distance regardless of mode, see Section 2.1.1.
- Removal of distance bands and charging fares on actual distance travelled see Section 2.1.2
- Reallocating bus costs in our model to reflect a timetable that would generate more social inclusion benefits, see Section 7.1.
- Changing the current fare structure to include subscription based fares, see Section 6.1.
- Differently priced Opal fares for regional parts of the Opal network, see Section 2.1.1.

Other suggestions that we have not addressed elsewhere in the report include the following.

Some stakeholders suggested that IPART consider the appropriateness of lower fares in response to the trials of very low fares in other Australian jurisdictions.[48] Our maximum fares are set until July 2028, we did not consider it appropriate to implement low maximum fares within our determination. We do not consider there is sufficient evidence for the benefit of these trials or that it would appropriately balance the objectives we are required to consider.

We will continue to observe the results of alternative pricing structure in other jurisdictions and implement solutions where they will provide benefits to passengers and taxpayers.

A stakeholder also expressed concerns with the price of travel to and from Sydney International and Domestic Airport Terminals.[49] It raised concerns that the price of the Station Access Fee in comparison to private transport sent price signals to commuters that dissuaded public transport travel. However, passengers can pay for this travel using Opal cards. The Station access fee is out of scope for the determination which is set and charged by the Airport Link Company.

Appendices

A Glossary

Term	Description
Account-based technology	Account-based ticketing technology where trip information is sent and held by a centralised database rather than stored on a travel smartcard (e.g. the Opal card) itself.
Act (or *the Act*)	The *Passenger Transport Act* 2014
Active transport benefit	The health benefits of the greater physical activity (e.g. walking, cycling) associated with taking public transport instead of using private vehicles.
Agglomeration	The efficiency achieved when businesses and activities are clustered together in a single location like a CBD.
Concession fare	Discounted fare offered to eligible categories of travellers (like tertiary students, and Centrelink customers). Most concession fares are set at 50% of the full Adult fare.
Determination	The determination is the legal instrument issued by IPART under the *Passenger Transport Act* 2014 in which the maximum appropriate fares are set.
Elasticity	The relationship between a change in fares and the use of public transport. If usage changes in response to changes to price transport usage is elastic.
Externality	The external benefits or costs of public transport use (or in general, of any economic activity or transaction) that impact people other than the user of public transport.
Fare (distance) band	Travel journey distance range to which a specific fare applies (for example, $4 fares for train journeys from 0 to 10 km in length).
Fare package analysis	Methodology used to determine the impact of potential fare options on our fare setting objectives.
Fare setting objectives	A set of objectives that summarise the factors IPART is required to consider when setting maximum fares under the *Passenger Transport Act* 2014 and the Minister's referral.
Financial sustainability	A fare setting objective that considers the revenue of the public transport system in comparison to the cost.
Gold Opal card	A type of Opal card available to eligible seniors (aged 60 or over and working less than 20 hours a week), pensioners, asylum seekers and Veterans. The Gold card entitles holders to Concession discounts (50% of the Adult fare) and to $2.50 daily caps.
Mode	Type of transport being used. In NSW, the modes are train, bus, light rail, ferry, metro and on-demand services.
Off-peak	Users who travel during off-peak hours get a 30% discount on their fare. Off-peak hours are outside the morning (6:30-10:00am) and evening (3:00-7:00pm) peak times.
On-demand services	Services offered by Transport for NSW in certain areas to cover gaps between existing transport hubs. Fares and payments for on-demand services are administered through the Opal system.
Outer Metropolitan Sydney	The aggregate of bus contract regions identified as Outer Sydney Metropolitan Bus Services Contracts
Referral	Referral from the Minister for Transport requesting IPART to determine maximum fares for specified transport services.
Social optimisation model	IPART approach to calculate socially optimal fares (i.e. fares that maximise the level of welfare to society) by incorporating all costs and benefits of public transport use and satisfy the fare setting objectives.
Sydney Metropolitan Area	The aggregate of bus contract regions identified as Sydney Metropolitan Bus Service Contracts.
Tap-on	Presenting an Approved Payment Device (such as an Opal card) to a Smartcard Reader at a Departure Point in order to begin, and to be charged for, a Trip
Tap-off	Presenting an Approved Payment Device (such as an Opal card) to a Smartcard Reader at a Destination Point in order to end, and to be charged for, a Trip.

B Changes between our draft and final determination

Table B.1 Comparison of our draft determination and our final determination

Description	Our draft determination	Our determination
Change to the commencement date	The determination commences on 1 December 2024.	The determination commences on 1 January 2025.
Change to the maximum fare for the Newcastle ferry service	Under our draft determination, the maximum fare for the Newcastle ferry service was set at **$3.23** ($2024-25, excluding GST).	We have set the maximum fare for the Newcastle ferry service at **$3.02** ($2024-25, excluding GST). This means that there is no change in the maximum fare in real terms from our 2020 determination to our determination for 2025-2028.
Clarification on the calculation of the deemed average fare under Part 3 of our determination	The deemed average fare is calculated by: • multiplying each value in the distribution table by the regulated fare that applies • adding together all of the results.	The deemed average fare is calculated by: • multiplying each value in the distribution table by the **highest** regulated fare that applies • adding together all of the results.
Change to the CPI multiplier used for the annual indexation of maximum fares	Based on March quarter data for the All groups CPI for Sydney.	Based on December quarter data for the All groups CPI for Sydney.
18-month transition period for changes to rail distance calculations	The distance of any trip using a train (including metro) is calculated by the shortest distance by rail between the departure point and the destination point. This applies from the commencement date of the determination.	From 1 July 2026, the distance of any trip using a train (including metro) is calculated by: • the distance published by Transport for NSW • if Transport for NSW does not or ceases to publish this, the shortest distance by rail between the departure point and the destination point. Until then, Transport for NSW can continue to calculate the distance of any trip under the 2020 determination.
18-month transition period for the removal of the CBD increment	That the CBD increment be removed from rail distance calculations from the commencement date of the determination.	That the CBD increment be removed from rail distance calculations **from 1 July 2026**.

Note: The purpose of this table is to summarise the main changes between our draft determination and determination and does not necessarily capture all changes.

Please refer to our Determination for how we propose maximum fares would apply for 2025-2028.

We also published a comparison table of changes between our 2020 determination and Draft determination as part of our draft report package. For this comparison table, see Information Paper – Form of determination, Appendix C).

C Patronage

We investigated patronage for this review because we are required to estimate the impact that our fare determination will have on the financial performance of the Opal network. In our Draft Report we presented several different scenarios of patronage growth over the term of the next determination. We chose to estimate patronage as a range due to the volatility in the years most impacted by COVID-19, and because it was unclear how patronage will continue to recover over the next few years.

These results have been presented in our Draft Report, and our Final Report. In this Appendix we discuss the additional analysis that we have undertaken since our Draft Report.

C.1 Changing patterns of patronage in the Opal network

An important topic throughout this review has been the changing patterns of patronage over the last 4 years. These patterns were heavily impacted by disruptions caused by COVID-19, but have continued to evolve in unforeseen ways due to changes in passenger demands for public transport. For example, working from home arrangements continue to evolve.

In the following sections we present additional analysis on the changing patterns of patronage across the Opal network.

The impact of working from home arrangements

In our Draft Report we discussed the impact of working from home arrangements at length. We consider that this analysis is still highly relevant to this discussion. However, working from home arrangements have continued to evolve throughout our review period. In August 2024 the NSW Premier's Department issued a Circular on NSW Government Sector workplace presence.[50] This signalled the potential for a large increase in public transport trips.

We considered the impact that this decision may have on patronage. The NSW Government employed over 430,000 people in 2021, equivalent to 10.4% of all employed persons in the state.[51] However, it has also been reported that 85% of these staff are already working in a customer facing role and would be unaffected by changes in working from home arrangements.[52] This still represents a significant number of people who may now use public transport to more regularly commute to their workplace. This would provide a significant boost to patronage. However, as it is estimated that only 25% of workers commute via public transport. We consider that this increase in patronage would be captured by our forecasted range of growth in public transport, between 2-5%.

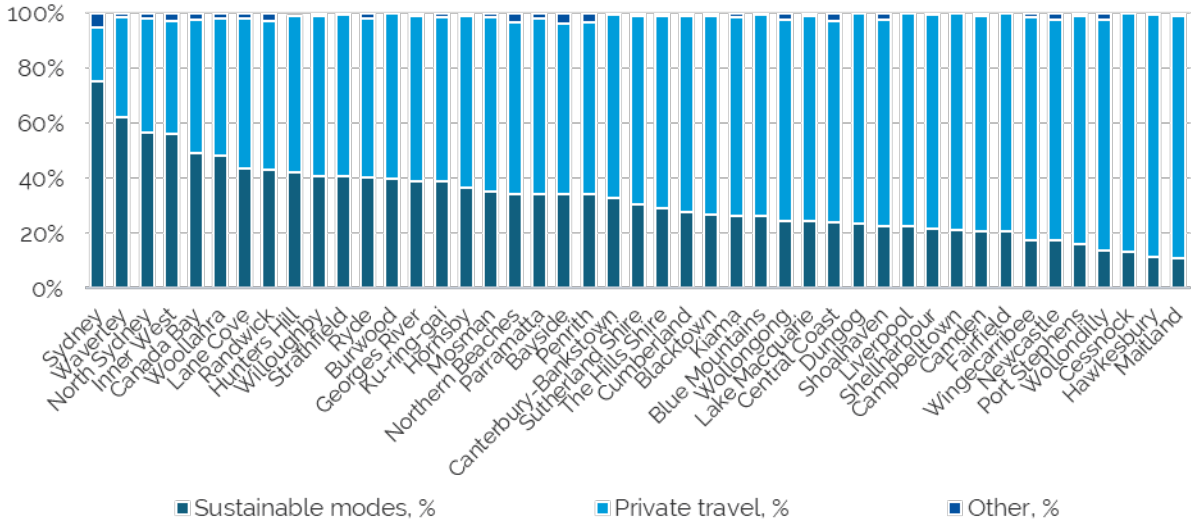
Patronage patterns by area

In submissions to our Draft Report and at our public hearing, stakeholders raised issues about the differences in public transport patronage in different areas across the network. One stakeholder considered that areas of the Opal network should have differently priced fares to reflect this.[53] In our Information Paper – Form of determination we explain why we have decided to not include region specific fares in our determination.

In our Draft Report we considered how patronage travel patterns varied by mode, time of day, direction of travel and distance travelled. We have now considered additional dimensions to measure patterns of travel such as patronage by area and by the train line or bus zone the trip occurs on.

We considered how sustainable travel (public transport or walking) differs across the Opal network pre/post COVID-19. Some areas of the network have a much higher proportion of sustainable travel compared to private modes of travel (driving or being driven as a passenger). Figure C.1 shows which Local Government Areas (LGA) within the Opal network using the highest proportions of sustainable travel. We note that this is impacted by the size and density of the LGA and the relative expense of driving and parking a vehicle.

Figure C.1 Proportion of travel by sustainable modes and private travel – Local Government Areas 2022-23

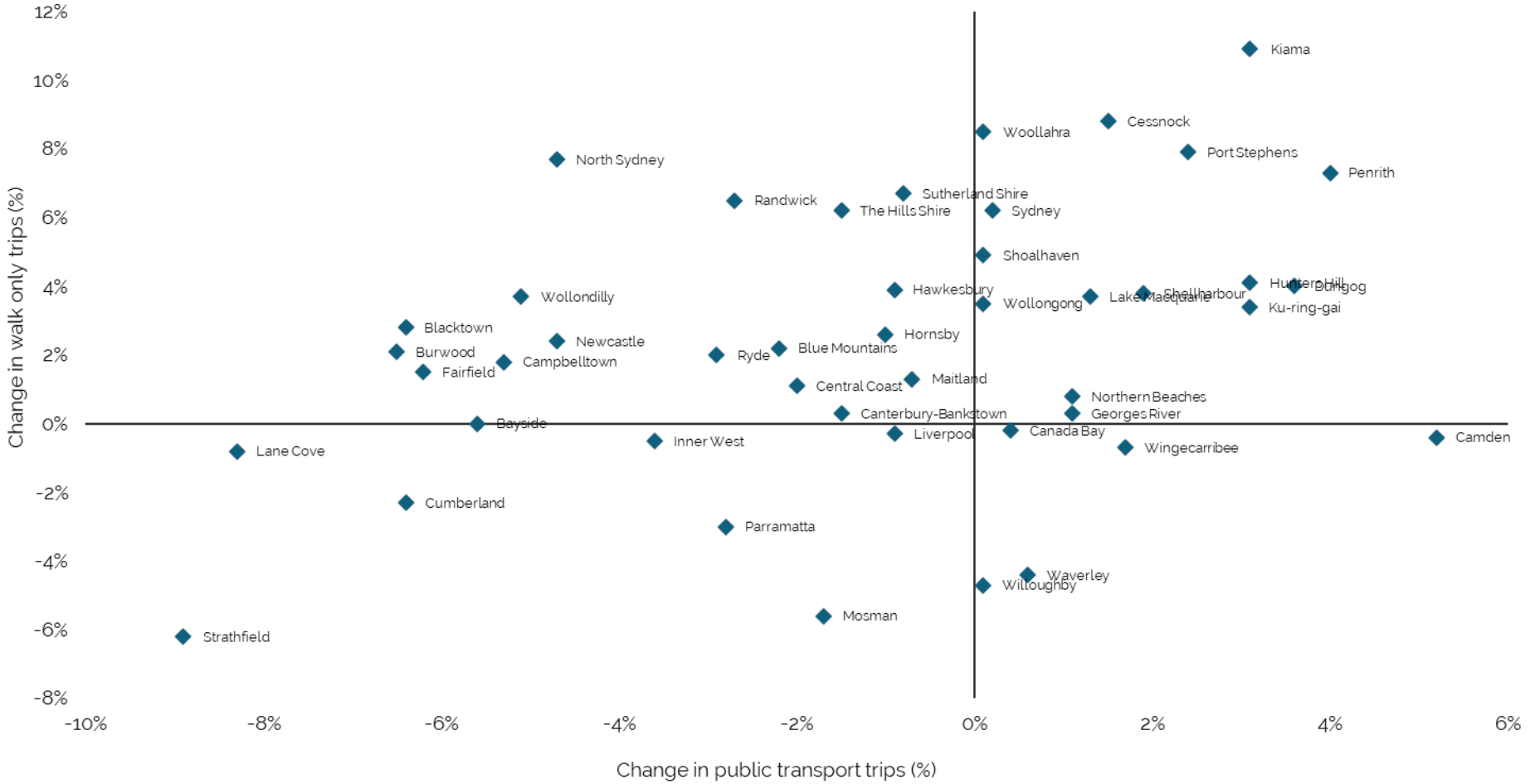


a. Sustainable travel includes walking and public transport.
b. Other includes a mix of sustainable and less sustainable modes such as cycling, taxi/rideshare and airplane.
Source: Transport for NSW, Household Travel Survey, accessed September 2024.

We also investigated the relationship between public transport trips and walking only trips since COVID-19 (Figure C.2). We found that most LGAs had an increase in the proportion of walking trips in 2022-23 compared to 2018-19, notably including Kiama, Cessnock, Port Stephens and Penrith.

The impact on public transport use since COVID-19 was split. About half of the LGAs within the Opal network had a higher proportion of public transport trips. The most common outcome was an increase in the percentage of walking trips and a decrease in the percentage of public transport trips, possibly due to working from home arrangements replacing public transport trips that were previously done for commuting. See Figure C.2 for more detail.

Figure C.2 Change in walking and public transport trips as a proportion of total trips – Local Government Areas 2018-19 to 2022-23



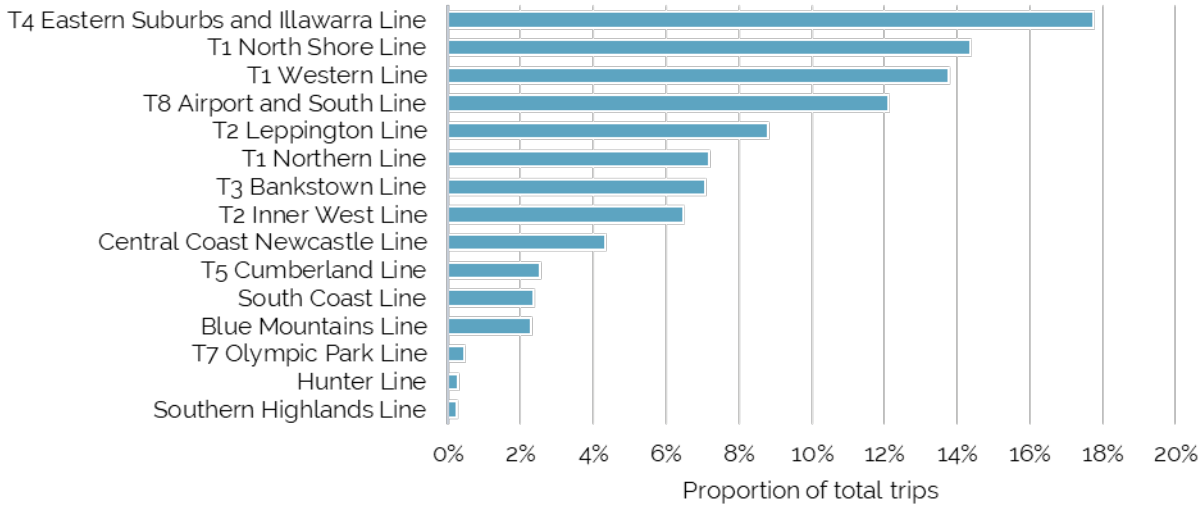
Source: Transport for NSW, Household Travel Survey, accessed September 2024.

Patronage patterns by train service lines and bus zones

Patronage varies considerably on different train lines and bus contract zones. Low patronage in these lines/zones is likely linked with population size, the frequency of services and the utility of destinations on the line or within the zone as locations of employment, shopping, health services, education and entertainment, etc.

The highest proportion of train trips in 2023 were taken on the T4 Eastern Suburbs and Illawarra line (17.8%). Many of the services that operated in more regional parts of the Opal network had lower patronage. The Hunter line and the Southern Highlands lines were the least used parts of the network, see Figure C.3.[p] The Sydney rail network map is available here.

Figure C.3 Percentage of total train trips by train line (2023)

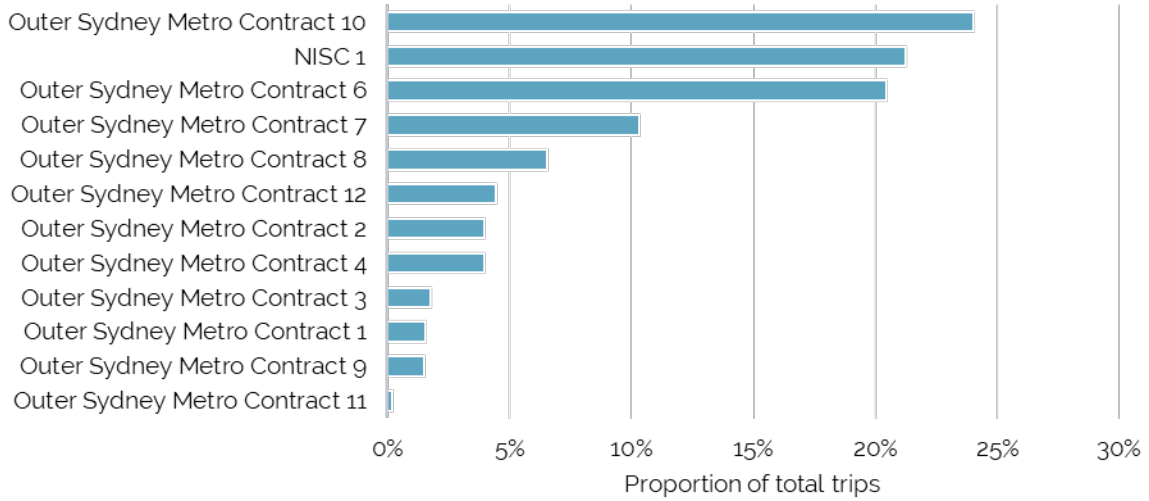


Note: Sydney Metro trips are not included in this figure.
Source: Transport for NSW, Opal Trips – Train and Metro, accessed September 2024.

The most popular outer metro bus contract zone was Zone 10 which services the area in and around Wollongong. Some of the least used outer metro bus contract zones are Zone 1 in the Cessnock area, Zone 9 in Helensburgh and Zone 11 in Wyong, see Figure C.4. This analysis only includes the Outer Sydney Metro bus services in 2023. The Sydney Metro bus contract zones were going through a period of reorganisation and amalgamation at this time making it difficult to compare zones for the full calendar year. It should also be noted that many outer metro zones are a proportionally more popular travel options for school students, see Figure C.6, this may lead to inconsistent tap on/tap off data. We included maps of the bus contract zones in our Issues Paper.

[p] The Olympic Park line was also infrequently used but this line only provides services between Olympic Park station and Lidcombe station.

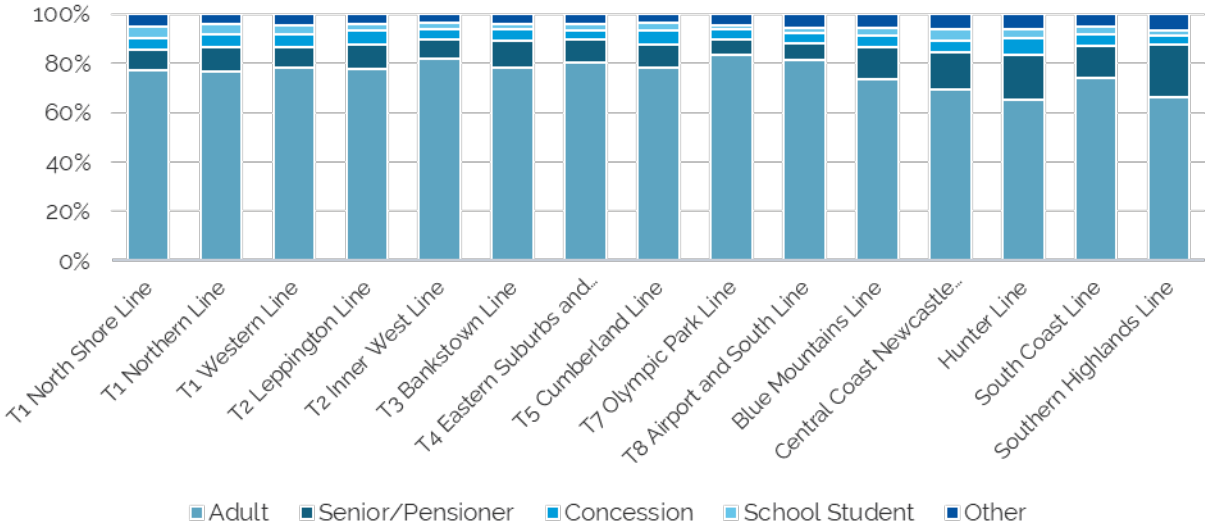
Figure C.4 Percentage of outer metro bus trips by contract zone (2023)



Source: Transport for NSW, Opal Trips – Bus, accessed September 2024.

We found that several regional train lines and bus contract zones, with lower utilisation, are proportionally used more by Senior/Pensioners than services located closer to the Sydney CBD. Figure C.5 shows that the Southern Highlands line and the Hunter line had the highest proportion of patronage from Senior/Pensioner cardholders. The Hunter line also had the highest proportion of patronage from Concession card holders. Meanwhile the Olympic Park line, Inner West line, Airport line and Eastern Suburbs and Illawarra line had the highest proportion of patronage by Adult cardholders.

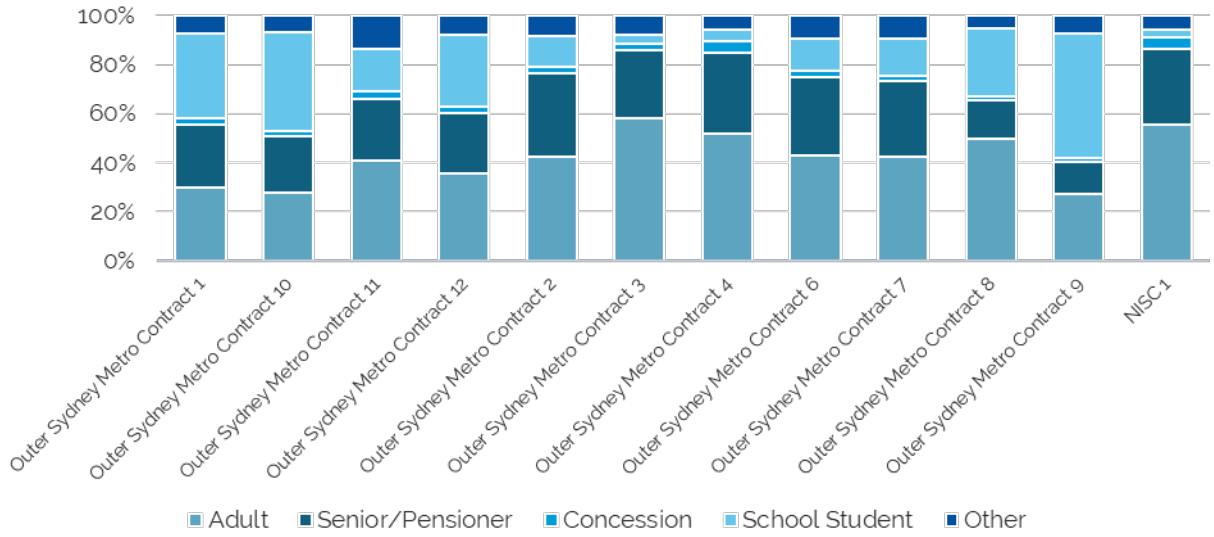
Figure C.5 Train line patronage by card holder type (2023)



Source: Transport for NSW, Opal Trips – Train and Metro, accessed September 2024.

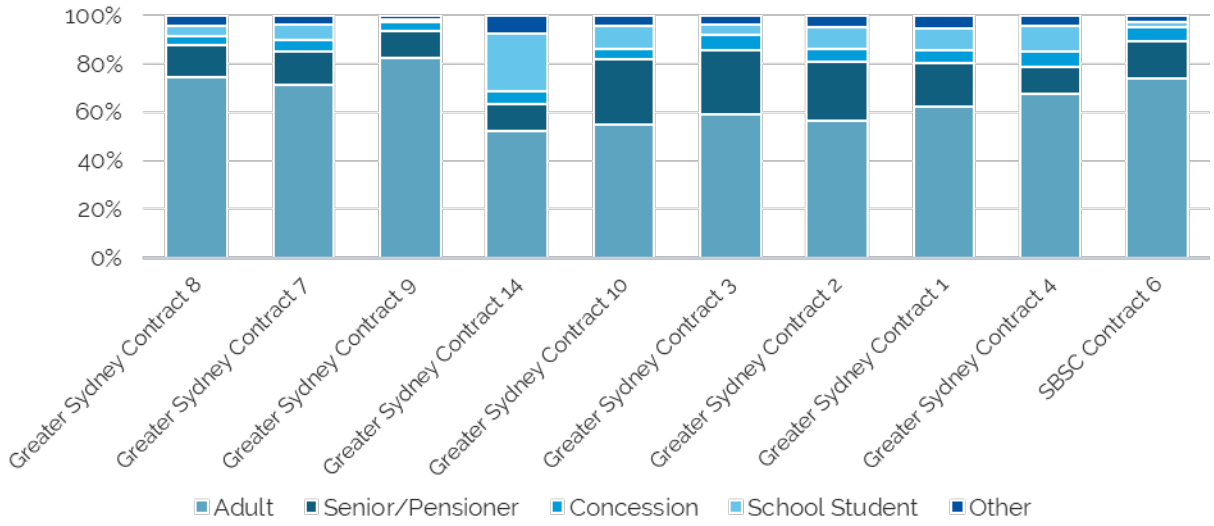
Outer Sydney metro bus services had a much higher proportion of patronage from School Students and Senior/Pensioner cardholders. Meanwhile Sydney metro bus services had a slighter higher proportion of patronage from Concession cardholders. This is shown in Figure C.6 and Figure C.7.

Figure C.6 Bus outer Sydney metro contract zone patronage by card holder type (2023)



Source: Transport for NSW, Opal Trips – Bus, accessed September 2024.

Figure C.7 Bus Sydney metro contract zone patronage by card holder type (March to June 2024)



Note: Due to the consolidation of Sydney Metro bus contract zones the data presented is only from March to June 2024.
Source: Transport for NSW, Opal Trips – Bus, accessed September 2024.

Although some services are less utilised than others, they often have an important role in providing external benefits to the community. Services that support the social inclusion of Seniors/Pensioners and Concession card holders benefit the community. Similarly, services that provide access to education for students also provide significant benefits. We discuss the external benefits of public transport to the community in chapter 7 above.

D Financial and operational performance

The referral for this review asked us to consider the cost recovery and efficiency of public transport in the Opal network. In our draft report we discussed our key findings on cost recovery and our analysis on the operational performance and efficiency of public transport services.

In this final report we have discussed findings on financial performance such as cost recovery in Section 5 and operational performance in Section 6. In this Appendix we discuss the additional analysis that we have completed since our draft report. Some of this analysis relates to feedback we received from submissions to our draft report.

D.1 Measuring the service quality and reliability of public transport

In our draft report we considered the service quality and reliability of public transport services. In this Appendix we discuss new findings on the operational performance of public transport or updates to our findings from the draft report.

Customer satisfaction with public transport is a metric that we considered in our draft report. In this Appendix we have updated the customer satisfaction results for 2024, which were not available at the time the draft report was published. In 2024 customer satisfaction with public transport has declined in the last 12 month period for all modes except for ferries. See Table D.1.

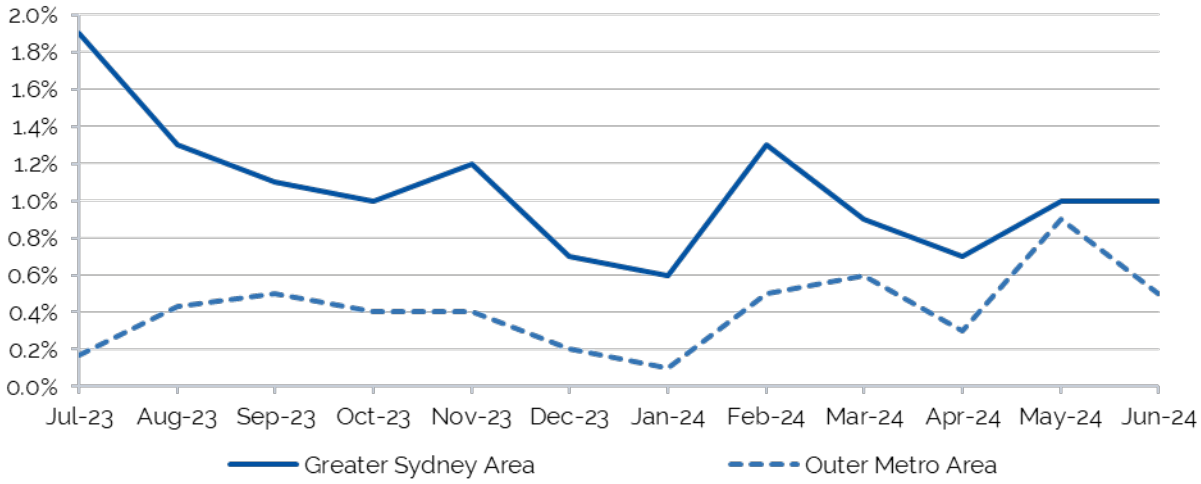
Table D.1 Customer satisfaction on public transport

	Minimum target	May 2021	May 2022	May 2023	May 2024
Train services (%)	Maintain or improve	93	92	90	87
Bus services (%)	Maintain or improve	93	92	90	87
Ferry services (%)	Maintain or improve	99	98	98	98
Light rail services (%)	Maintain or improve	93	93	93	92
Sydney Metro services (%)	Maintain or improve	98	98	99	97

Notes: Results for ferry routes includes both Sydney Ferries and Newcastle (Stockton) Ferry networks; the Newcastle (Stockton) Ferry was first included in May 2022 and subsequent periods.
Source: Transport for NSW, Customer Satisfaction Index, May 2024 p 2.

Another metric of operational reliability and performance is the rate of service cancellation. We heard concerns in submissions to our Issues Paper and draft report about the reliability of bus services. We examined the proportion of cancelled services over the last financial year. We found that bus cancellations were below 1.5% for all services for most of the year, see Figure D.1.

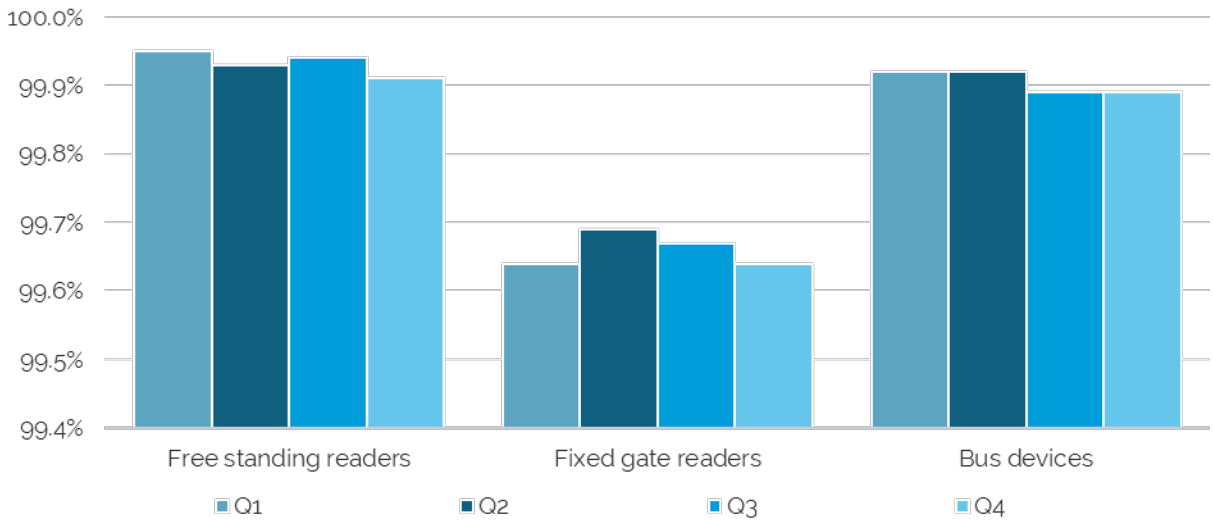
Figure D.1 Percentage of bus services cancelled 2023-24



Source: Transport for NSW, Greater Sydney & Outer Metropolitan Bus Service Performance Data, accessed October 2024.

We also heard from a submission to our draft report that the availability of operational Opal readers and ticket machines is an important measurement of operational performance. In the last quarter of 2023 (October - December 2023) we found that the percentage of all Opal readers that were operational was over 99.5%, and about 99.9% for free standing readers and readers on buses, see Figure D.2.

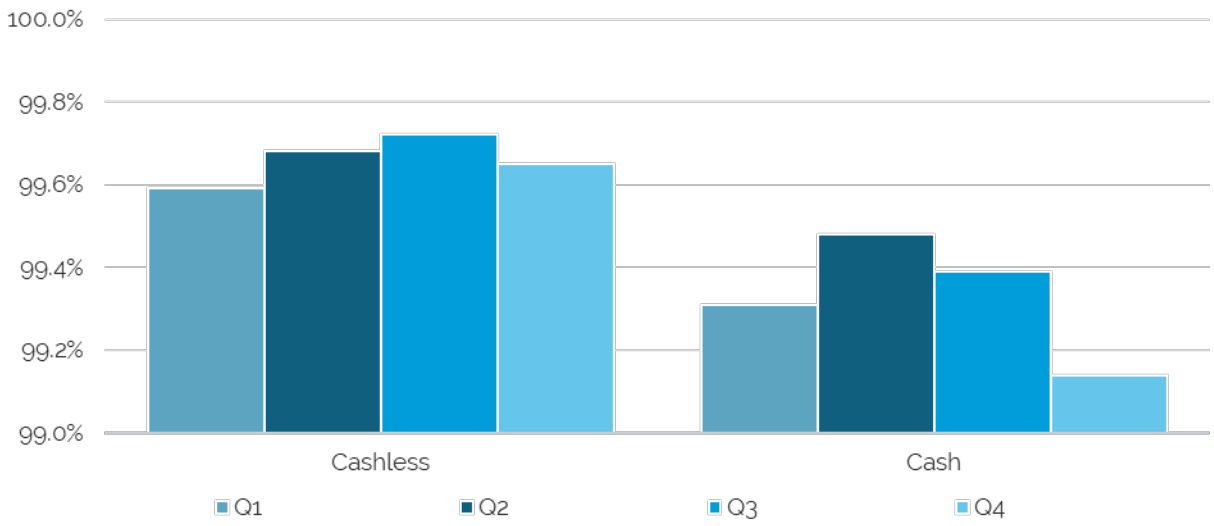
Figure D.2 Percentage of operational Opal readers 2023



Source: Transport for NSW, Ticketing Quarterly Operations Dashboard – Q4, February 2024, p 11.

We also found a similarly high level of operational performance for ticketing payment machines, see Figure D.3.

Figure D.3 Percentage of operational ticketing payment machines 2023



Source: Transport for NSW, Ticketing Quarterly Operations Dashboard – Q4, February 2024, p 11

D.2 Alternative measures of the efficiency of public transport

In addition to the efficiency measures discussed in Section 5.2 and our draft report, we have investigated some alternative measurements of efficiency, these are set out below.

Cost and revenue per passenger trip

We calculated the cost and revenue that each mode of public transport generates per passenger trip, over a four year period. Cost per trip increased in real terms for all modes of public transport in 2020-21 and in 2021-22. Cost per trip has declined in 2022-23. The change in cost per trip is directly impacted by the patronage of the public transport service.

The revenue per trip for each mode in 2022-23 was relatively similar to the revenue per trip in 2019-20, although some modes experienced relatively more or less volatility in the intervening years (Table D.3). Bus revenue per trip decreased in real terms from 2019-20 to 2022-23. The decline in revenue per trip for buses was most likely due to the introduction of off-peak fares for buses. In our 2020 determination, we recommended off-peak fares for bus travel with a 30% discount. Off-peak fares for buses were first introduced in 2020-21.

Bus revenue per trip continued to decline in real terms in the following 2 years, this likely occurred because the fare for the shortest distance (0-3km) was set at the maximum fare under our determination in the first year that our determination applied (2020-21). This means that the price for this distance stayed the same for 3 years. Short distances are the most commonly travelled distance on buses.

Table D.2 Cost per passenger trip ($2019-20)

Mode	2019-20	2020-21	2021-22	2022-23
Sydney Trains	$9.69	$14.41	$22.20	$14.35

Mode	2019-20	2020-21	2021-22	2022-23
NSW TrainLink	$19.41	$28.43	$58.04	$33.05
Light Rail	$3.12	$4.61	$5.32	$2.34
Ferry	$12.01	$22.14	$23.58	$10.20
Buses	$5.88	$8.56	$11.63	$7.05

Note: Metro cost per passenger trip has not been included in our analysis. We were informed by Sydney Metro and Transport for NSW that they are currently undertaking a contract procurement process and these metrics at this date may impact the ongoing process. We have committed to releasing the metrics for Sydney Metro once this process has been concluded, which is expected to be March 2025.
Source: Transport for NSW, Information request provided to IPART. IPART analysis.

Table D.3 Revenue per passenger trip ($2019-20)

Mode	2019-20	2020-21	2021-22	2022-23
Sydney Trains	$2.56	$2.54	$2.43	$2.55
NSW TrainLink	$1.87	$1.78	$1.81	$1.93
Metro	$1.62	$1.91	$1.61	$1.68
Light Rail	$1.27	$1.26	$1.34	$1.40
Ferry	$3.02	$3.28	$3.08	$3.38
Buses	$1.56	$1.44	$1.44	$1.50

Source: Transport for NSW, Information request provided to IPART. IPART analysis.

Cost and revenue per passenger kilometre

We have updated our cost and revenue per passenger kilometre metrics that we calculated in the draft report. We have been able to refine these efficiency calculations because we have been able to include the Newcastle light rail, bus and ferry services into the calculations of each mode.

Table D.4 Cost per vehicle service km per vehicle service hour ($2019-20)

Mode	2019-20	2020-21	2021-22	2022-23
Sydney Trains [a]	$12.04	$11.86	$13.30	$14.56
NSW TrainLink [a]	$8.22	$7.73	$9.91	$10.55
Light Rail [a]	$1.74	$1.50	$1.72	$1.36
Ferry [b]	$1,030.39	$1,094.55	$1,189.09	$1,001.09
Buses [a]	$7.07	$7.00	$7.29	$7.01

a. For Train services the output is carriage service kilometres, for light rail and buses the output is vehicle service kilometres
b. For ferries the output is timetabled hours not timetabled kilometres.
Note: Metro cost per vehicle km/service hour has not been included in our analysis. We were informed by Sydney Metro and Transport for NSW that they are currently undertaking a contract procurement process and these metrics at this date may impact the ongoing process. We have committed to releasing the metrics for Sydney Metro once this process has been concluded, which is expected to be March 2025.
Source: Transport for NSW, Information request provided to IPART. IPART analysis.

Table D.5 Revenue per vehicle service km per vehicle service hour ($2019-20)

Mode	2019-20	2020-21	2021-22	2022-23
Sydney Trains	$3.18	$2.09	$1.46	$2.59
NSW TrainLink	$0.79	$0.48	$0.31	$0.62
Metro	$1.30	$1.12	$0.89	$1.41

Mode	2019-20	2020-21	2021-22	2022-23
Light Rail	$0.71	$0.41	$0.43	$0.82
Ferry	$259.46	$162.18	$155.41	$331.94
Buses	$1.88	$1.18	$0.90	$1.49

a. For Train services the output is carriage service kilometres, for light rail and buses the output is vehicle service kilometres
b. For ferries the output is timetabled hours not timetabled kilometres.
Note: Sydney Trains and NSW TrainLink underwent some cost and funding restructuring over the determination period. TAHE access and licence fees were introduced as operating costs part way through the financial year 2021-22. Sydney Trains and NSW TrainLink receive specific funding for these costs.
Source: Transport for NSW, Information request provided to IPART. IPART analysis.

Trip speed of public transport services

The trip speed of public transport services is a measure of efficiency that coincides with operational performance. The Household Travel survey publishes information on the average distance of trips and the average time these trips take. We have used this data to calculate kilometres travelled per minute for bus and train services between 2009-10 and 2018-19.

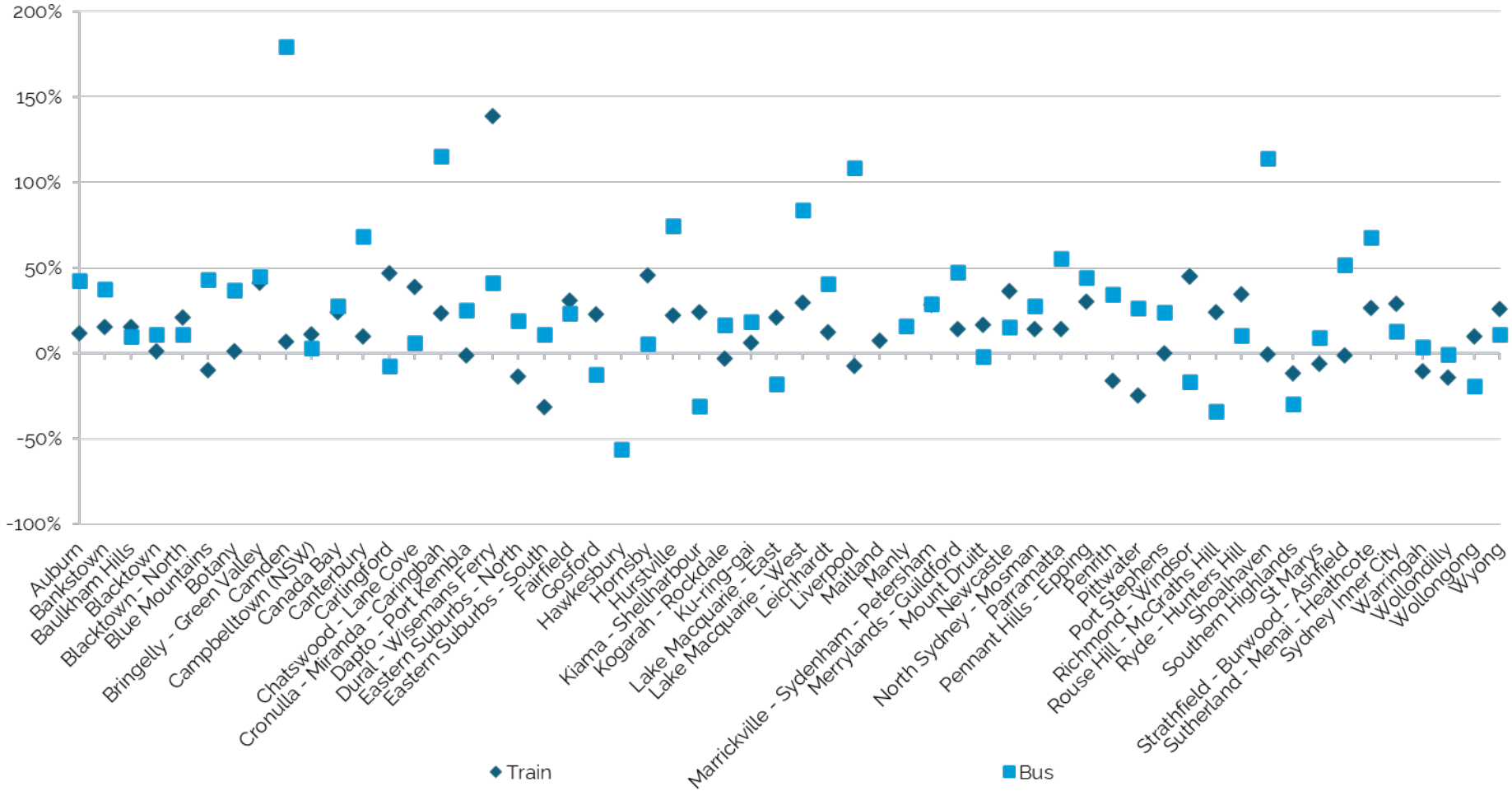
We only examined years prior to COVID-19 as the disruptions caused by the pandemic might have impacted public transport use and traffic levels (i.e. due to restrictions and greater use of working from home arrangements).

We analysed the change in average kilometres travelled per minute for statistical areas in the Opal network. The median change in train services was an improvement of kilometres travelled per minute of 14%, for buses the median change was an improvement of 19%.

Presented in Figure D.4 are our findings of this analysis within these statistical areas for train and bus services. Some areas that saw considerable increases included Camden, Dural-Wisemans Ferry, Lake Macquarie West, Liverpool and Cronulla-Miranda-Caringbah. Some areas that saw decline included Eastern Suburbs -South, Southern Highlands and Wollondilly. Most statistical areas saw improvement over the period.

These results are less timely in 2024, but they do illustrate that prior to the COVID-19 disruptions there was an increase in the trip times provided by public transport services over the previous decade. Continued increases in public transport trip times may be experienced following a return to pre-COVID-19 patronage.

Figure D.4 Percentage change in average kilometre travelled per minute (2009-10 to 2018-19) Statistical Area Level 3 – Trains and Buses



Note: Statistical Area Level 3 is defined by the ABS, they are often the functional areas of regional towns and cities with a population in excess of 20,000 or clusters of related suburbs around urban commercial and transport hubs within the major urban areas.
Source: Transport for NSW, Household Travel Survey, accessed September 2024. IPART analysis

Service punctuality

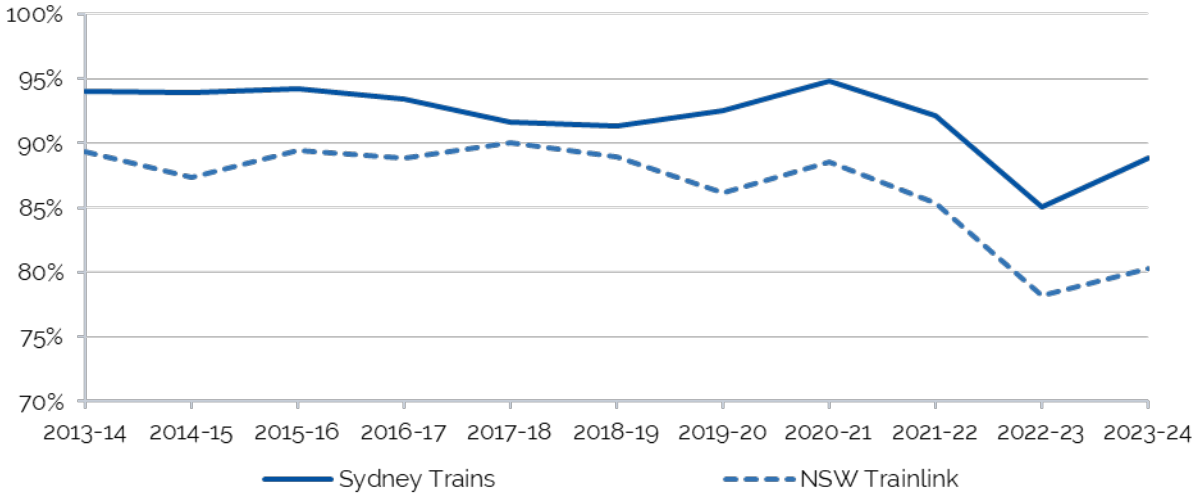
This measurement relates to operational reliability and efficiency. We have examined the peak hour punctuality of train services and the overall punctuality of bus services over several years. We consider that examining punctuality over a long time period is an indication of how efficiency improvements over time are incorporated into improvements in operational performance.

We have also examined the efficiency of metro and outer metro services to understand how efficiencies of scale may contribute to service reliability and performance.

The peak punctuality performance for train services in the Opal network is presented Figure D.5.

Sydney Trains has consistently been more punctual than NSW TrainLink services. Punctuality for both services was relatively stable until 2020-21 after which it began to decline. Punctuality has increased in 2023-24 for both services.

Figure D.5 Trains peak punctuality performance (%)

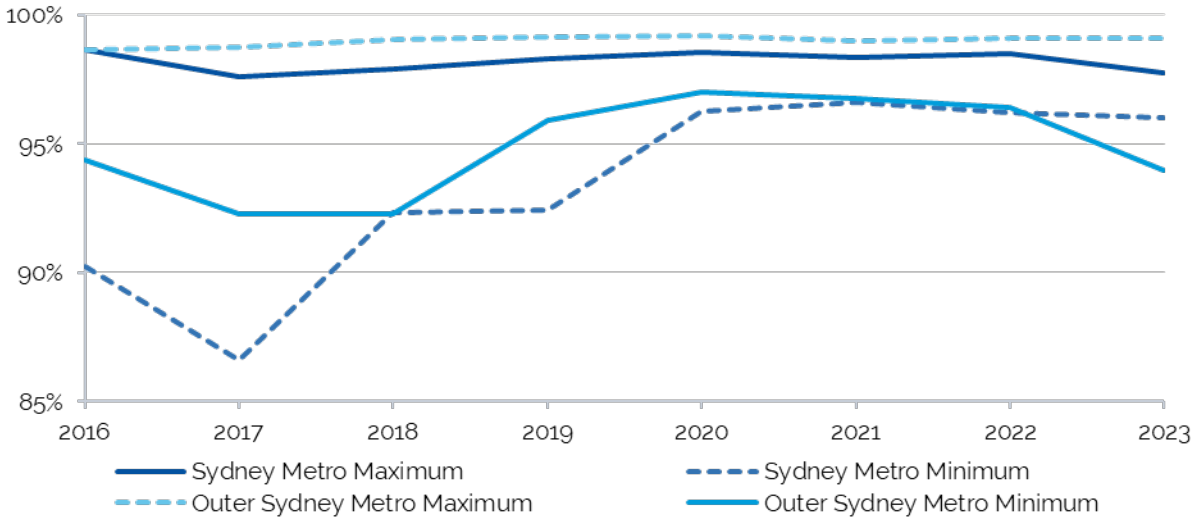


Note: The punctuality performance target is to have at least 92% of peak services arrive within five minutes for Sydney Trains services, and six minutes for NSW TrainLink services.
Source: Transport for NSW, Sydney Trains and NSW TrainLink (Intercity) performance reports, accessed September 2024. Sydney Trains, 2014 Annual report, p 2. Sydney Trains, 2014-15 Annual report, p 2. Sydney Trains, 2015-2016 Annual report, p 5. Sydney Trains, 2016-17 Annual report, p 8. Sydney Trains, 2018-19 Annual report, p 28. Sydney Trains, 2019-20 Annual report, p 27. NSW Trains, Annual report 2015-16, p 14. NSW Trains, Annual report 2017-18, p 10. NSW Trains, Annual report 2018-19, p 22. NSW Trains, Annual report 2019-20, p 26.

We also considered the percentage of services running on time for buses across the Opal (Figure D.6) network. Bus services are operated by several contractors across the network, this figure shows the result for the worst and best performing operator for both the Sydney Metropolitan Area bus services and the Outer Sydney Metropolitan Area bus services.

The punctuality reported by the highest performing operators has been mostly consistent since 2016. However, the punctuality performance of the lowest performing operators has been inconsistent, though it has been relatively stable since 2020. In contrast to trains, the outer metro services for buses tend to be more punctual than Sydney Metro services.

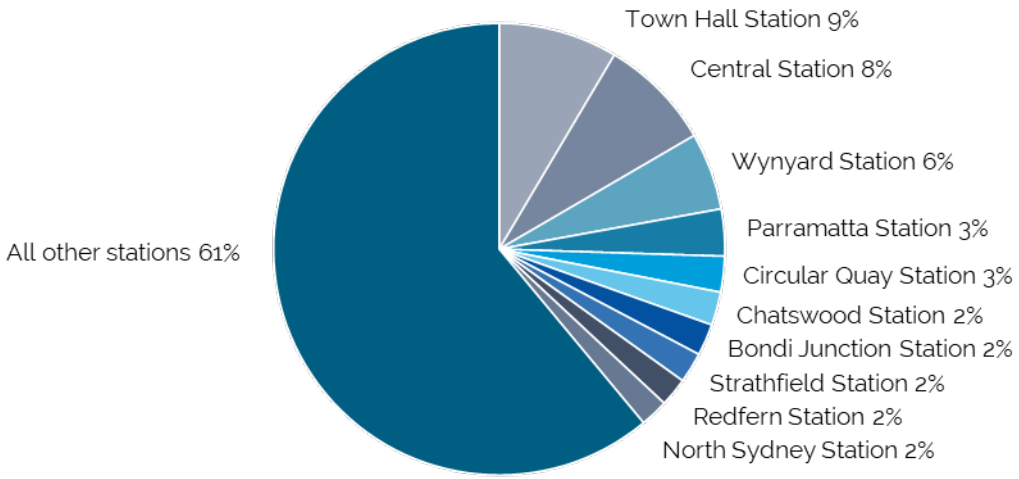
Figure D.6 Bus punctuality performance



Source: Transport for NSW, Buses – On-time running, accessed September 2024.

We also present some data on train stations usage noting that the rail network operates like a wheel and spoke, with services being directed towards the centre of the network. Each of the most frequently used stations is near the centre of the network, i.e. Central, Town Hall, Wynyard, or very close to it such as Strathfield, Chatswood and Bondi Junction.

Figure D.7 Percentage of tap ons by Train station (2016-17 to 2023-24)



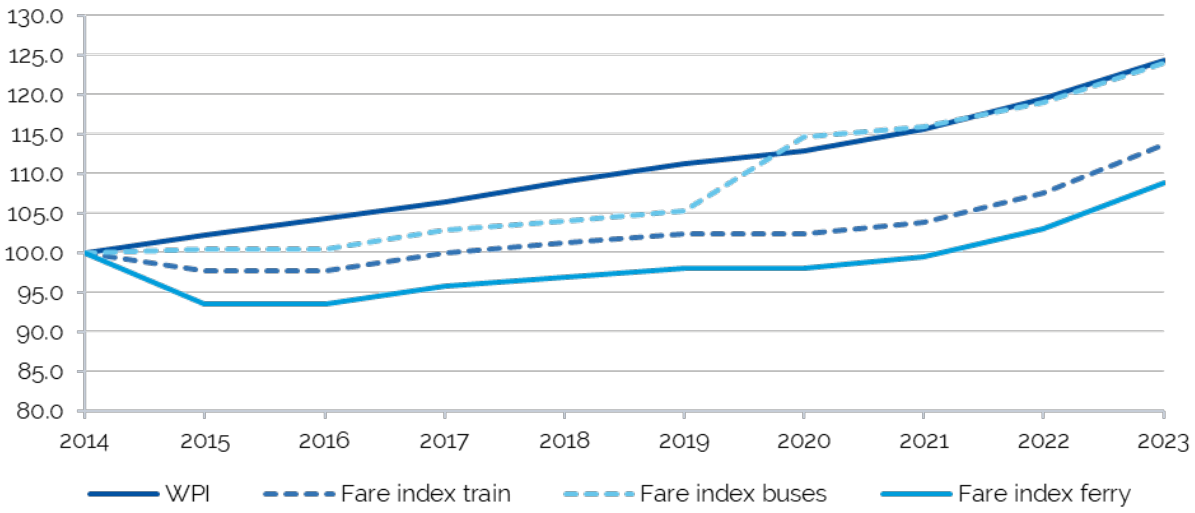
Source: Transport for NSW, Train and Metro Station Monthly Usage, accessed September 2024.

E Affordability

E.1 How do public transport fares compare with other economic indicators?

In nominal terms (i.e. without adjusting for inflation), Opal fares have generally increased less than wages since 2013. The ABS Wage Price Index has increased by more than 24% since 2013 while we found that public transport fares have increased by between 9% and 24% over the same period.

Figure E.1 Change in fares compared to change in Wage Price Index

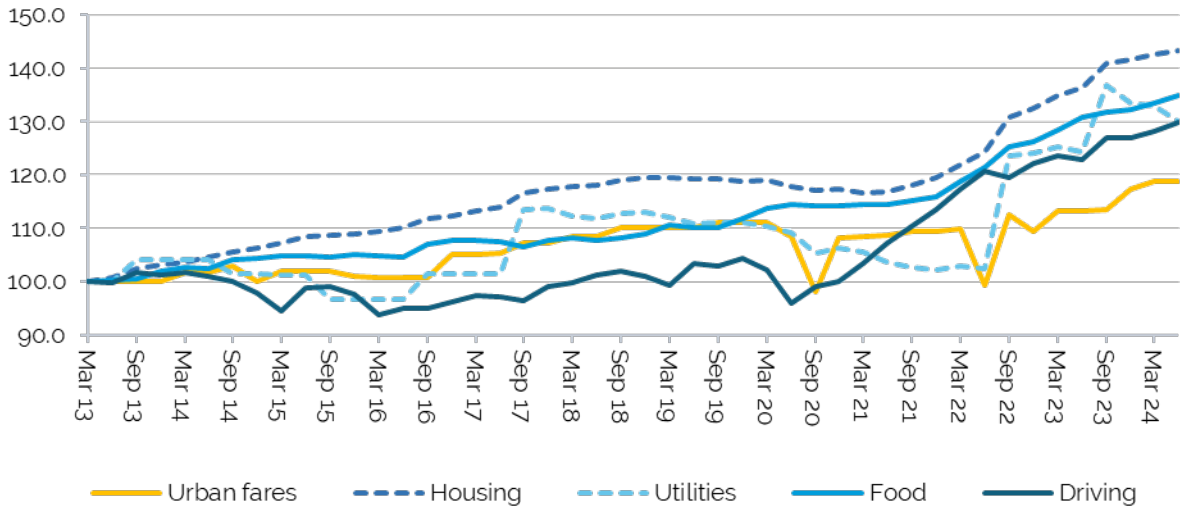


Note: We adjusted the WPI to align the base year with the fare indexes.

Source: Transport for NSW historical data on fares, ABS Data on Wage Price Index, IPART analysis

Public transport fare increases have also been less than other major expenditure categories in recent years. The ABS publishes indexes for all expenditure categories and releases updated figures for each major city in Australia. Since 2013, housing and utilities expenditure have increased the most (42% and 32% respectively), while the price of urban transport has increased by 17% over the same time (less than half the rate). Since 2020, indexes for driving and other expenditure categories have increased at a faster pace than urban fares.

Figure E.2 CPI increase for major cost categories in Sydney



Note: The CPI for Sydney has been used for each cost category, including Urban fares. The ABS calculates the urban fares index on the following transport modes: bus, train, ferry, tram, taxi and ride-sharing fares, not for holiday travel.

Source: ABS Data on quarterly CPI changes, IPART analysis

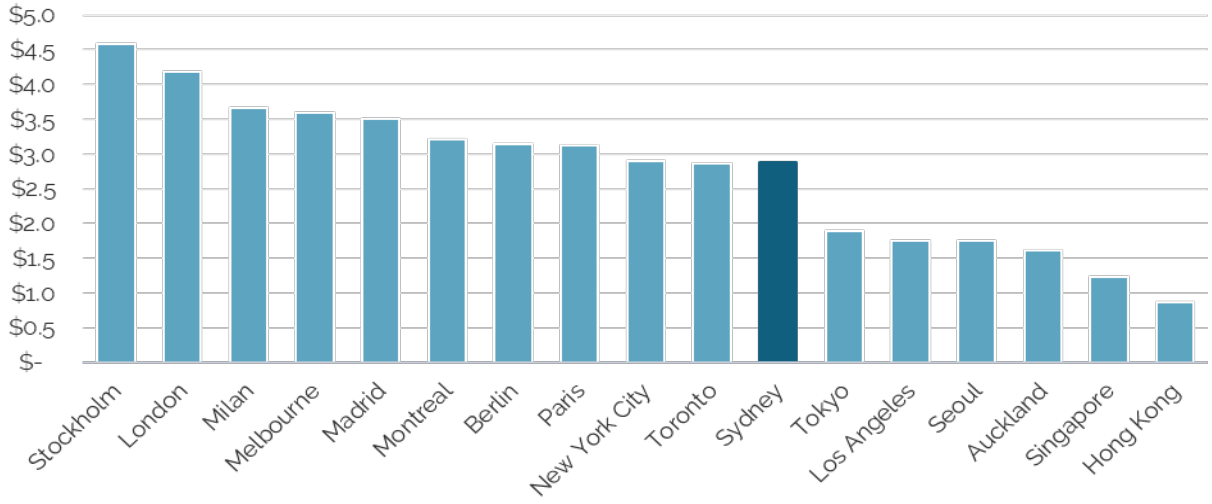
E.2 How do Opal fares compare with public transport fares around the world?

We compared some transport fare options in the Opal network with a sample of cities worldwide.

There are many factors that determine the rate of fares in a transport network. For example, some cities (e.g. Hong Kong, Singapore) are very densely populated and can maintain high patronage with relatively shorter journey distances; others (e.g. Sydney and Los Angeles) are spread over large distances and low-density areas. Car usage also varies across countries. Finally, the purchasing power of each country's currency depends on many economic factors.

Fare systems are also different around the world. Some offer a flat fare for all modes and distances or divide the networks in different fare zones. Some systems offer subscription passes with unlimited travel, while others have price caps.

We found that Opal fares are generally in line with comparable cities in our sample. For example, we compared the shortest distance or lowest fares for metro/train services and the cost of monthly passes/caps in our sample after adjusting them by purchasing power parity (PPP).[q]Figure E.3 Shortest train/metro fare adjusted for purchasing power, PPP USD 2023



Note: Depending on fare structure and geography for each city, the shortest available distance was calculated either as the shortest distance band offered (e.g. Opal network 0-10 km), the Zone A/city limits area fare for zone-based systems (e.g. London, Paris, and Milan subway systems), or the fare charged for a trip between the closest apart stations (e.g. Singapore, Hong Kong).
PPP weights are taken from the World Bank's latest available data on Purchasing Power Parity exchange rates.

Source: Régie Autonome des Transports Parisiens, Transport for London, Metropolitan Transportation Authority (NYC), Consorcio Regional de Transportes Madrid, Toronto Transit Commission, Auckland Transport, Public Transport Victoria, Transport for NSW, Société de transport de Montréal, Azienda Trasporti Milanesi, Berliner Verkehrsbetriebe, MTR Corporation Limited (HK), Tokyo Metro, Land Transport Authority (Singapore), Seoulmetro, Storstockholms Lokaltrafik.

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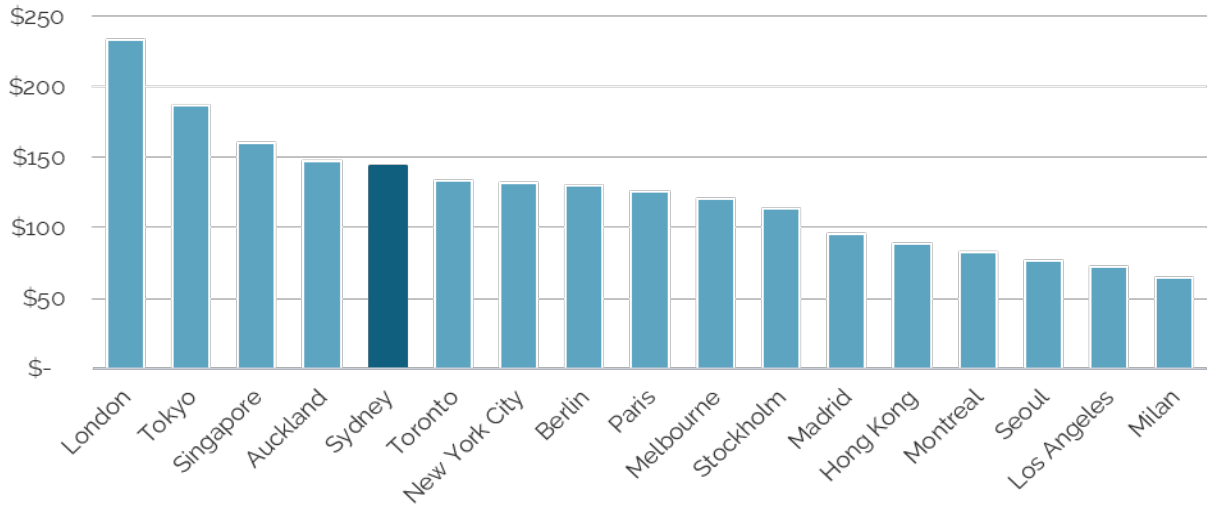
[q] The value of a currency relative to another changes based on the exchange rate, which fluctuates due to various macroeconomic phenomena. However, the price of goods in a country also depends on a variety of factors. That is, the purchasing power of a currency can vary too. For example, if 10 USD equal 15 AUD, the purchasing power of 10 USD in the US might not be the same as 15 AUD in Australia. PPP is used to calculate the rate at which the currency of one country would have to be converted into that of another country to buy the same amount of goods and services in each country. PPP rates convert currencies to a hypothetical 'international' currency that has equal purchasing power to the USD in the US.

Figure E.4 Monthly train/metro pass (or cap) adjusted for purchasing power, PPP USD 2023

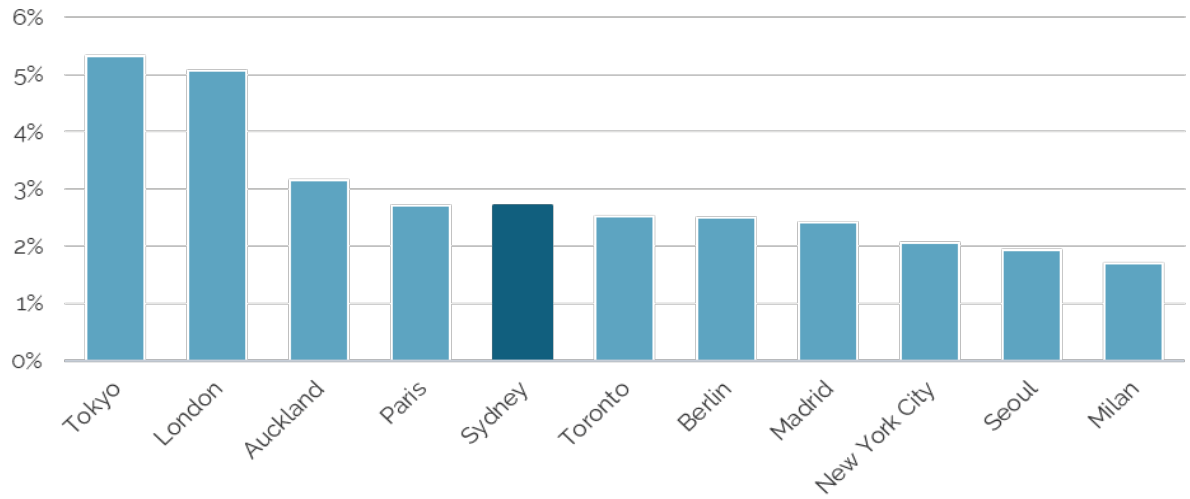


Note: Subscription price, where available, was based on the standard, full price, Adult monthly pass, without concession discounts and without surcharges for long-distance routes. For cities without a monthly pass or monthly cap, the weekly or daily caps have been multiplied accordingly.

Source: Régie Autonome des Transports Parisiens, Transport for London, Metropolitan Transportation Authority (NYC), Consorcio Regional de Transportes Madrid, Toronto Transit Commission, Auckland Transport, Public Transport Victoria, Transport for NSW, Société de transport de Montréal, Azienda Trasporti Milanesi, Berliner Verkehrsbetriebe, MTR Corporation Limited (HK), Tokyo Metro, Land Transport Authority (Singapore), Seoulmetro, Storstockholms Lokaltrafik.

We also compared fares with different measures of income. Figure E.5 shows the cost of monthly passes in selected cities as a percentage of the average monthly income in their country (as adjusted to PPP USD). Figure E.6 shows how many minutes would be required for someone earning the minimum hourly wage in their jurisdiction to pay for the shortest metro/train fare in the corresponding city.

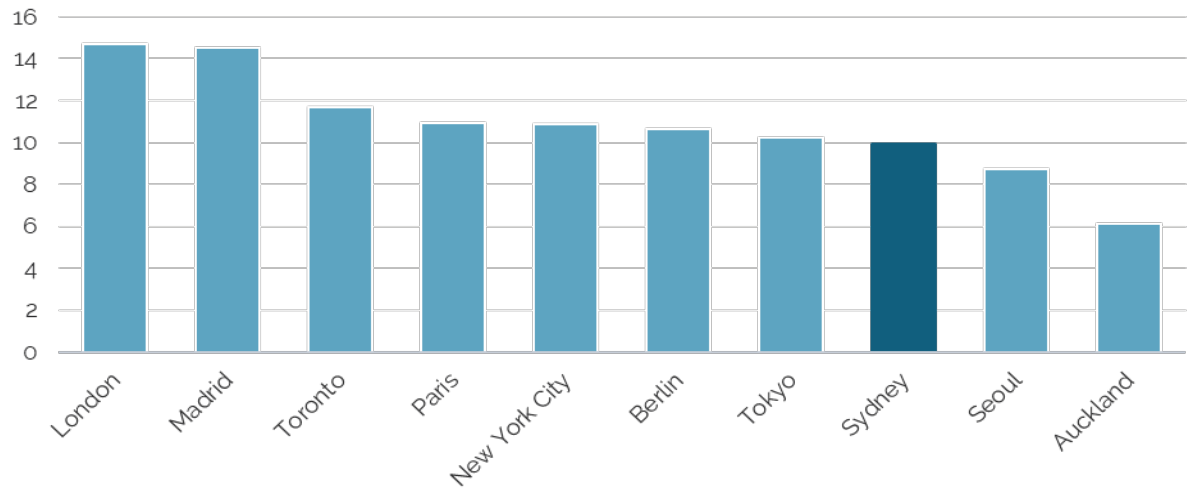
Figure E.5 Monthly public transport pass as a percentage of average monthly income



Note: Average monthly income refers to average annual wages calculated by the OECD for member countries, adjusted for PPP.

Source: Source: Régie Autonome des Transports Parisiens, Transport for London, Metropolitan Transportation Authority (NYC), Consorcio Regional de Transportes Madrid, Toronto Transit Commission, Auckland Transport, Transport for NSW, Azienda Trasporti Milanesi, Berliner Verkehrsbetriebe, Tokyo Metro, Seoulmetro.

Figure E.6 Minutes on minimum wage required to pay for the shortest train/metro fare



Note: Minimum wage refers to either the national or federal minimum wage (Spain, the UK, Germany, France, Japan, Australia, South Korea, New Zealand) or the state minimum wage (Ontario for Canada, New York State for New York City).
All fares and minimum wages have been converted to PPP USD.

Source: Régie Autonome des Transports Parisiens, Transport for London, Metropolitan Transportation Authority (NYC), Consorcio Regional de Transportes Madrid, Toronto Transit Commission, Auckland Transport, Transport for NSW, Azienda Trasporti Milanesi, Berliner Verkehrsbetriebe, Tokyo Metro, Seoulmetro.

Box E.1 Free public transport around the world

Some jurisdictions in Australia and overseas offer free or very low public transport fares for part or all of their networks. In most cases, the objective of free public transport is to improve affordability and access for disadvantage individuals, increase patronage, and reduce congestion, pollution, and ticketing and enforcement costs.

In Europe, Malta and Luxembourg, and the cities of Hasselt (Belgium), Dunkirk and Montpellier (France), and Tallinn (Estonia) offer free public transport. In the US, Kansas City introduced a fare-free regime in 2020. In Australia, Melbourne introduced a free tram zone in its CBD in 2015. The governments of Queensland, Tasmania, and the Northern Territory have announced significant fare discounts for limited periods in 2024.

Box E.1 Free public transport around the world

Evidence on the beneficial impact of free public transport is mixed. In some cases, zero or very low fare regimes have increased the uptake of public transport. However, higher patronage did not always correspond to a decrease in private vehicle use and has in some cases resulted in overcrowding of services. Jurisdictions that decide to implement free public transport need to cover the revenue shortfall through other means, most often through tax contributions.

Luxembourg's free transport initiative costs the equivalent of $65m a year.[r] Studies have shown that car use and traffic congestion in Luxembourg is equivalent or higher than prior to the introduction of free public transport. Most of the increase in public transport patronage is attributable to travellers who would have otherwise walked or cycled.[54] The Belgian city of Hasselt experienced a similar situation, before it revoked its fare-free regime due to financial constraints.

In Tallinn, public transport patronage is lower than it was before free fares. Conversely, car usage has surged, and it has increased relatively more for more disadvantaged households. Urban planning, the availability of transport options, and cultural preferences around car use are more significant determinants of public transport use.[55]

In Kansas City, free fares in a portion of its transport system have increased patronage, removed significant costs for fare enforcement, and stimulated growth in its CBD. While access to public transport has mostly improved for higher-income users in well-serviced areas, it did not significantly improve for more disadvantaged groups.[56]

In Melbourne, a Parliamentary inquiry into the free tram zone found that it significantly increased patronage and provided economic benefits, such as tourism revenue, to the CBD. Surveys also show improved customer satisfaction on the price of public transport after the introduction of the free zone. However, it also found evidence of overcrowding, increased dwell times and slower services, uncomfortable passenger experience, safety issues and boarding difficulties for passengers with mobility needs and other tram commuters. This was accompanied by no notable impact on traffic congestion in city roads. indicating many of the new public transport trips would have otherwise been walking or cycling trips. The inquiry found the impact to farebox receipts was approximately a 10% reduction in farebox receipts after the introduction of the free tram zone.[57]

[r] On a per capita base, Luxembourg is the highest income country in the world, and its GDP per capita is almost twice that of NSW.

E.3 How much do people in NSW generally spend on public transport?

A 2023 report from the Australian Automobile Association[58] calculates that transport spending in Sydney (including on private vehicle) is $534 per week per household, comprising 16.6% of income[s].

In this study public transport expenditure is estimated to equal $50 per week per household and only makes up 10% of individuals' transport spending (1.6% of income), the rest being mainly made up of car loan payments, fuel, tolls, and insurance. Related driving expenses such as parking fees were not included.

In 2021 the Australian Productivity Commission calculated that Australian households with some public transport spending use at most 4.4% of their income on public transport. It also found annual public transport spending is highest in dollar terms for the highest income households, but lowest in percentage terms.[59]

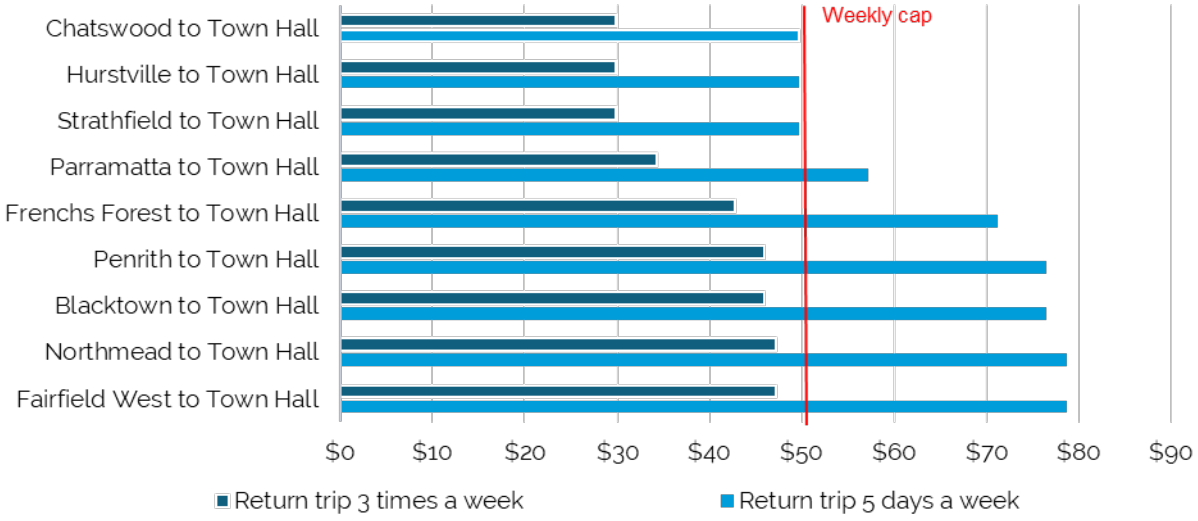
An alternative approach to measuring affordability involves calculating the cost of a hypothetical basket of public transport consumption. This basket would represent a typical set of public transport journeys undertaken by an individual. In fact, relying solely on actual public transport expenditure might underestimate the true financial cost of fares. Existing expenditure data reflects adjustments households have already made in response to fare levels. For example, low public transport spending among low-income households may not always signify affordability but could also signal other patterns such as a shift towards alternative modes of transportation.[60]

We selected a list of popular public transport routes for commuters to the CBD and calculated how much it would cost under current fares to travel several times a week for work.

For those who commute 3 or less times a week into the CBD, total weekly fares remain below the $50 weekly cap even for longer distances. Those who travel 5 times a week or more would spend more if there was no weekly cap. Having to switch public transport mode also results in higher costs. We selected the Fairfield West, Northmead, Frenchs Forest and Marsden Park routes as they involve a bus trip followed by a train trip. The total fare for these journeys includes a $2 inter-mode discount per mode switch, but it is still significantly higher than commuters who only take one mode for their trip.

[s] To calculate income, the report uses a 'typical' household of two individuals in their late 30s with children living in a detached house, both of whom work fulltime in the CBD.

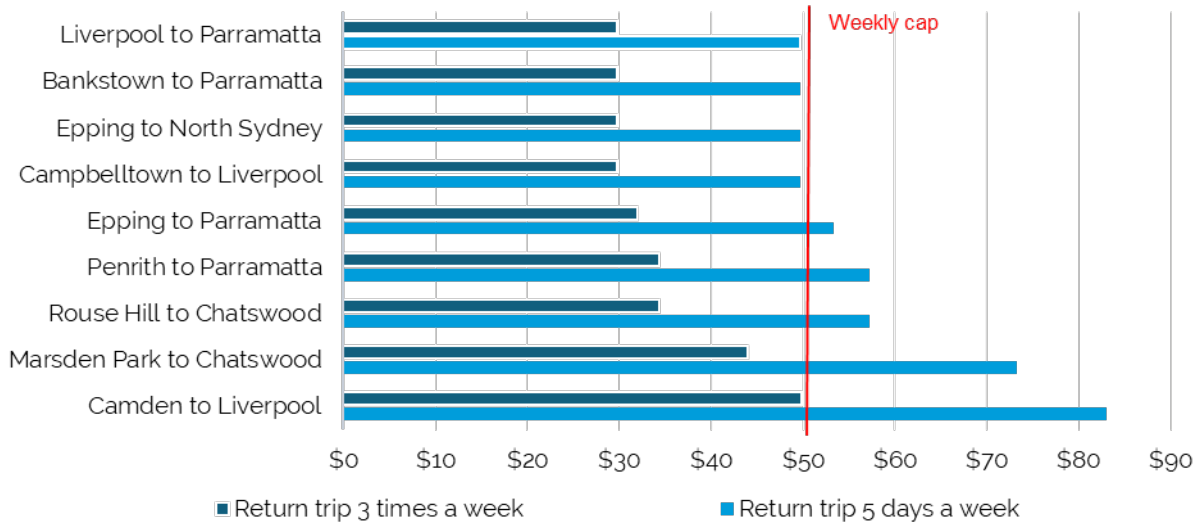
Figure E.7 Typical weekly travel expenditure for selected trips to the CBD



Note: All trips are at peak times with no concession discounts.
The red line corresponds to the $50 weekly cap

Source: Transport for NSW trip planner, IPART analysis

Figure E.8 Typical weekly travel expenditure for selected trips to major hubs



Note: All trips are at peak times with no concession discounts.
The red line corresponds to the $50 weekly cap

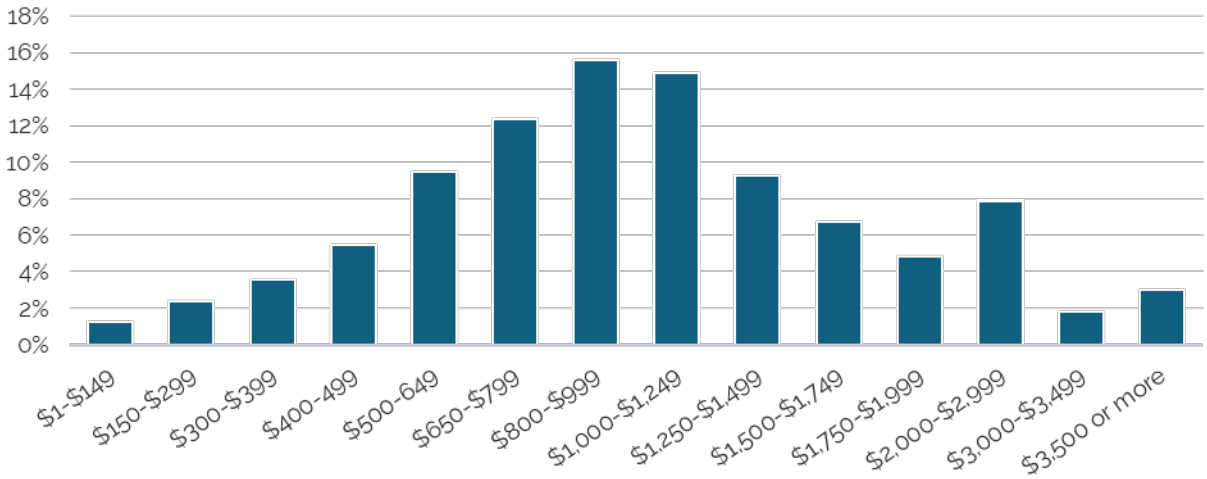
Source: Transport for NSW trip planner, IPART analysis

We complemented our study of affordability with an analysis of Census[t] data on public transport commuters. The purpose of this analysis is to provide context to the findings of public transport expenditure outlined above by considering the incomes of those who spend money on public transport.

We found that geography, availability of services, and commuting patterns are all factors that mediate the relationship between income and public transport use. We found middle-income earners are more likely to commute via public transport (Figure E.9), but we acknowledge that level of usage could be influenced by factors such as greater access to public transport options in the areas these workers reside in. We found that higher income areas are more highly correlated to public transport use (Figure E.10) and with higher working from home rates (Figure E.11). These areas are usually closer to the CBD and have better transport options (Figure E.12). We also found that the average income of public transport users is relatively similar across areas, while the income of drivers is higher for areas closer to the CBD (Figure E.13).

These findings suggest that access to public transport options and services might be a better indicator of public transport use than income. In addition, from an affordability perspective, location and distance affect fares (and as a result, expenditure on public transport), but not the capacity to pay of commuters.

Figure E.9 Proportion of commuters travelling via Public Transport by weekly income

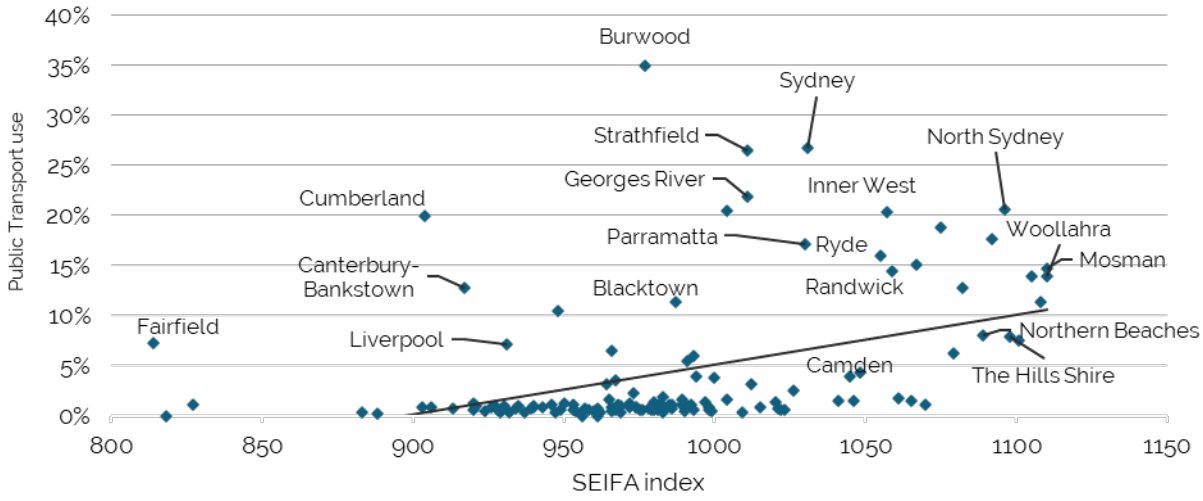


Note: Income in this analysis refers to gross weekly income, inclusive of employee income, investment income, private transfers, government pensions and allowances.

Source: ABS 2021 Census Data, IPART analysis

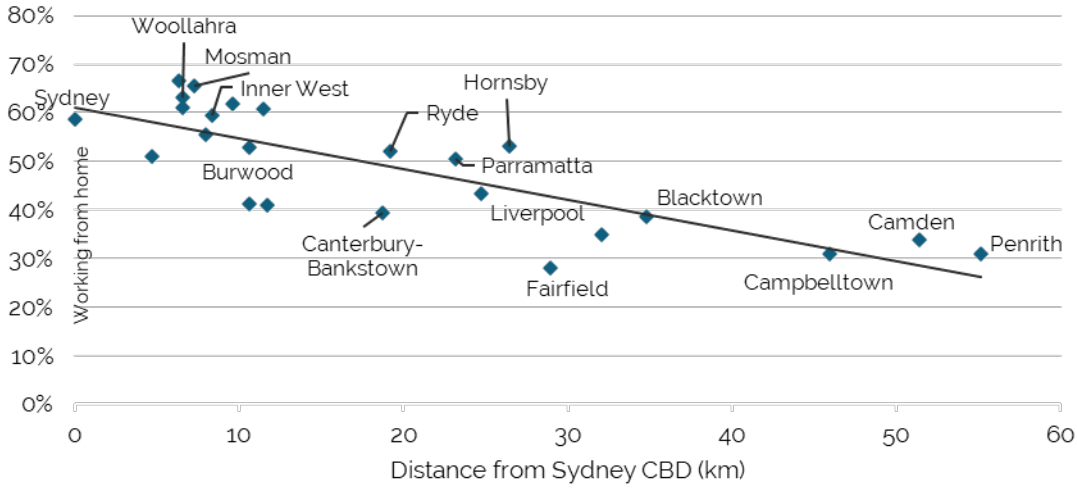
[t] We acknowledge the complexity involved with deriving causal relationships between income and public transport use, as these are influenced by a variety of inter-related factors. There are also limitations with using Census data, as it is only available up to 2021 and it restricts our analysis to public transport usage for the purpose of commuting to work (excluding other types of travel).

Figure E.10 Greater Sydney LGAs by SEIFA index and proportion of employees using Public Transport



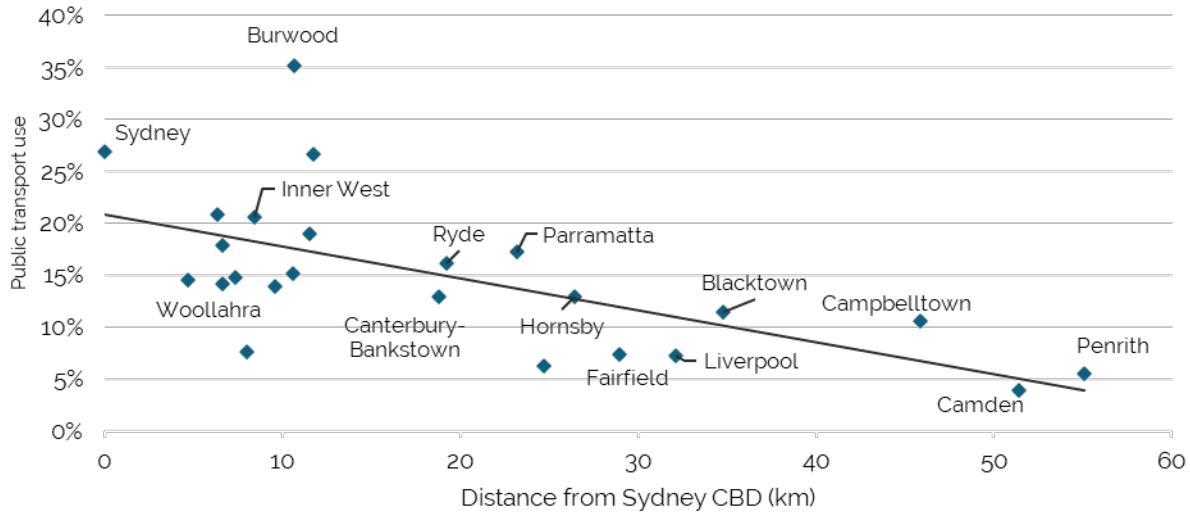
Note: The Socio-Economic Indexes for Areas (SEIFA) is a product developed by the ABS that ranks areas in Australia according to relative socio-economic advantage and disadvantage. A higher index corresponds to higher advantage.
'Employees' refers to Census respondents that reported having an occupation on Census Day and answered the question on mode of travel to work.
Source: ABS 2021 Census data, IPART analysis

Figure E.11 Sydney LGAs by proportion of employees working from home and distance to the CBD



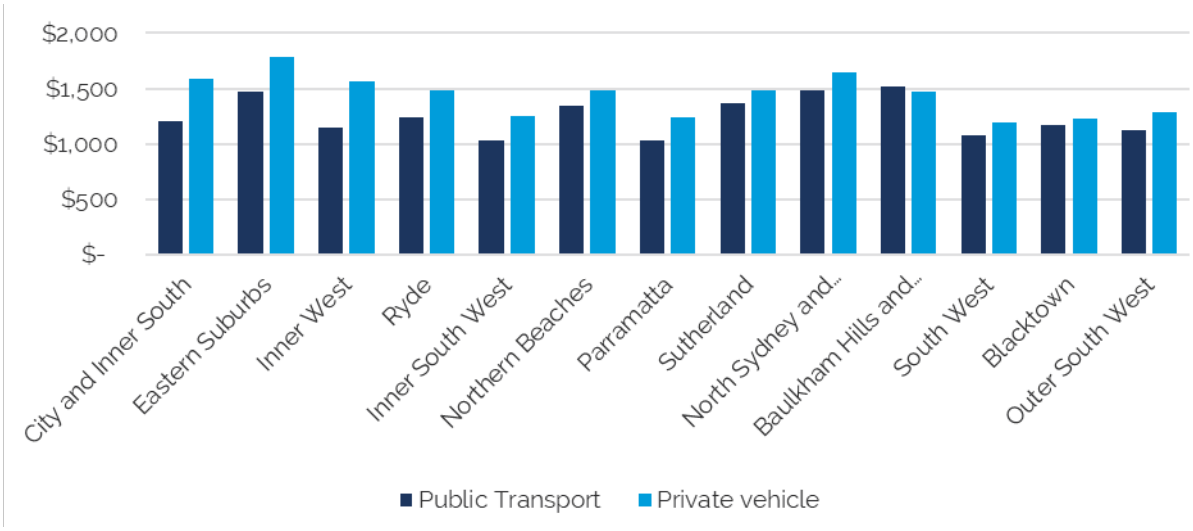
Source: ABS 2021 Census data, IPART analysis

Figure E.12 Sydney LGAs by proportion of employees using public transport to travel to work and distance to the CBD



Source:: ABS 2021 Census data, IPART analysis

Figure E.13 Greater Sydney Statistical areas by distance to the CBD and median weekly income – private vehicle vs public transport users



Note: Income refers to average weekly personal income. The ABS provides income distribution by income band. Income in this chart has been calculated as a weighted average (number of people in each band x mid-point of each band).

Source: ABS Census Data, IPART analysis

F Legislative considerations

We are required under the *Passenger Transport Act* 2014 and the *IPART Act 1992* to have regard to certain matters when determining appropriate maximum fares. These considerations are set out in Table F.1 and Table F.2.

Table F.1 Mandatory considerations under the *Passenger Transport Act* 2014

Matters we are required to consider under the *Passenger Transport Act 2014* and the Referral for the review	**What regard IPART's Tribunal has had for the following matters**
Matters listed in the *Passenger Transport Act* 2014	
(a) the cost of providing the services	The Tribunal had regard to the cost of providing services for the different modes of public transport and this was included in the calculations of cost recovery, see Section 5 and our Information Paper – Financial and operational performance.
(b) the need for greater efficiency in the supply of services so as to reduce costs for the benefit of consumers and taxpayers	The efficiency of public transport services was considered, including a range of metrics that measured improvements without being impacted by the patronage disruptions over the previous determination period, see Section D.2. and our Information Paper – Financial and operational performance.
(c) the protection of consumers from abuses of monopoly power in terms of prices, pricing policies and standards of service	The Tribunal had regard to protecting consumers in the limiting of fare increases for Opal services through the maximum fares allowed under the determination. See chapters 2, 6 and Appendix D of this report, and our Information paper – Form of determination.
(d) the social impact of the determination or recommendation	The Tribunal considered the external benefits that public transport provides to the community when modelling socially optimal fares, which informed our decision on appropriate maximum fares, see our Technical Paper- Modelling socially optimal fares
(e) the impact of the determination or recommendation on the use of the public passenger transport network and the need to increase the proportion of travel undertaken by sustainable modes such as public transport,	When determining the appropriate maximum Opal fares the Tribunal considered the value this would create for customers. This included affordability (see Section 3), the impact of changing fares on demand, and external benefits of public transport (see Technical Paper- Modelling socially optimal fares),
(f) standards of quality, reliability and safety of the services (whether those standards are specified by legislation, agreement or otherwise)	The Tribunal considered performance of Opal services with standards of quality, reliability and safety. See chapters 6 and Appendix D of this report, and our Information Paper – Financial and operational performance.
(g) the effect of the determination or recommendation on the level of Government funding	The impact of the recommendation on the level of government funding was considered in the forecasts of cost recovery over the determination period (see Section 5.1) and the revenue foregone if maximum fares were not implemented (see Section 5.1.2).
Matters specified in the referral to IPART	
1. The Opal mode and distance based fare structure	The Tribunal set a methodology that had regard to both the existing Opal mode and distance based fare structure as well as opportunities to provide flexibility for other fare structures. The Tribunal also considered improvements to the determination see our decisions on the CBD increment and rail trip distance, and our recommendations on shorter ferry fare bands, see Section 1.1
2. Incorporating new services into the Opal fare structure.	The determination of maximum Opal fares also considers new services which satisfy the definition of Opal services such as new metro lines which may charge fares under this determination.

Matters we are required to consider under the *Passenger Transport Act 2014* and the Referral for the review	What regard IPART's Tribunal has had for the following matters
3. Managing demand and optimising the efficiency of transport networks.	The Tribunal considered the changing patterns of demand for public transport services and the impact that fares would have on patronage. The service quality and operational performance of public transport services was also considered. See Section 6.2, Section D.1, our Information Paper – Financial and operational performance and our Information Paper - Patronage. The Tribunal has also made recommendations to Transport for NSW that include considering the appropriateness of the current peak and off-peak structure, see Section 1.1.
4. Ensuring affordability and accessibility for disadvantaged groups	The Tribunal considered the affordability impacts when deciding appropriate maximum Opal fares. The current fare package rules (e.g. transfer discounts, caps and concession eligibility)was also considered in making recommendations to Transport for NSW. See Section 3 and our Information Paper – Affordability.
5. Cost recovery in the post COVID-19 environment.	The Tribunal measured and reported cost recovery in the COVID impacted and Post-COVID impacted years, and has prepared a forecast of cost recovery of the 2025-2028 determination period.
6. The appropriateness of the current methodology for determining maximum Opal fares	The determination of maximum Opal fares also considers new services which satisfy the definition of Opal services such as new metro lines which may charge fares under this determination.

This table addresses the requirement under s 124(4) of the *Passenger Transport Act*, 2014 to for IPART to indicate what regard it has had to the matters specified in section 124(3) (including any matter specified in the referral) in any report.

Table F.2 Considerations under the *IPART Act* 1992

Matters IPART may have regard to under s14A of the *IPART Act 1992* when setting a methodology for fixing prices	What regard IPART has had to these matters
(a) the government agency's economic cost of production,	The Tribunal has considered the cost of providing public transport services by measuring the cost recovery of each mode of public transport and the network as a whole. See Section 5.1 This was further considered in IPART's estimates of efficiency for public transport services, see Section D.2.
(b) past, current or future expenditures in relation to the government monopoly service	The Tribunal has considered this matter by calculating historical cost recovery, see Section 5.1 and by modelling cost recovery over the determination period with the determined maximum fares and forecasts of patronage over the determination period, see Section 5.1.2.
(c) charges for other monopoly services provided by the government agency,	Other public transport services are provided outside of the Opal network. The cost of these services was not considered by the Tribunal when setting maximum Opal fares.
(d) economic parameters, such as— (i) discount rates, or (ii) movements in a general price index (such as the Consumer Price Index), whether past or forecast,	When setting maximum fares over the determination period the Tribunal considered the applicability of the Consumer Price Index and alternative price indexes, see Section 2.1.
(e) a rate of return on the assets of the government agency,	When modelling socially optimal fares, we used a weighted average cost of capital of 4.3% (real post-tax), see our WACC Biannual Update.
(f) a valuation of the assets of the government agency,	When modelling socially optimal fares, we considered the cost of replacing public transport vehicles. This factored into our calculation of socially optimal fares, which informed the decision on maximum Opal fares, see our Technical Paper-Modelling socially optimal fares.

Matters IPART may have regard to under s14A of the *IPART Act 1992* when setting a methodology for fixing prices	What regard IPART has had to these matters
(g) the need to maintain ecologically sustainable development (within the meaning of section 6 of the *Protection of the Environment Administration Act 1991*) by appropriate pricing policies that take account of all the feasible options available to protect the environment,	The Tribunal considered the extent to which public transport provides an external benefit to society by reducing pollution from other vehicles. This external benefit, among others, was factored into the modelling of socially optimal fares, which in turn informed the decision on maximum Opal fares, see our Technical Paper- Modelling socially optimal fares.
(h) the need to promote competition in the supply of the service concerned,	The Tribunal did not consider the need to promote competition for the supply of public transport services. The Tribunal did consider other modes of transport usage (such as active transport and taxi and rideshare usage) as well as the impact of fare changes on the use of private vehicles. See Appendix C of this report and the Technical Paper – Modelling Socially Optimal Fares.
(i) considerations of demand management (including levels of demand) and least cost planning	The Tribunal had regard to patterns of peak usage of the network and demand management measures such as peak pricing and related hours and timetabling. For more information see chapter 4 of this report and our Information Paper - Patronage. and Information paper – Fare package options.

This table is included because when IPART sets a methodology for determining fares, IPART must, in any report, indicate what regard it has had to the matters in section 14A. of the IPART Act, 1992.

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