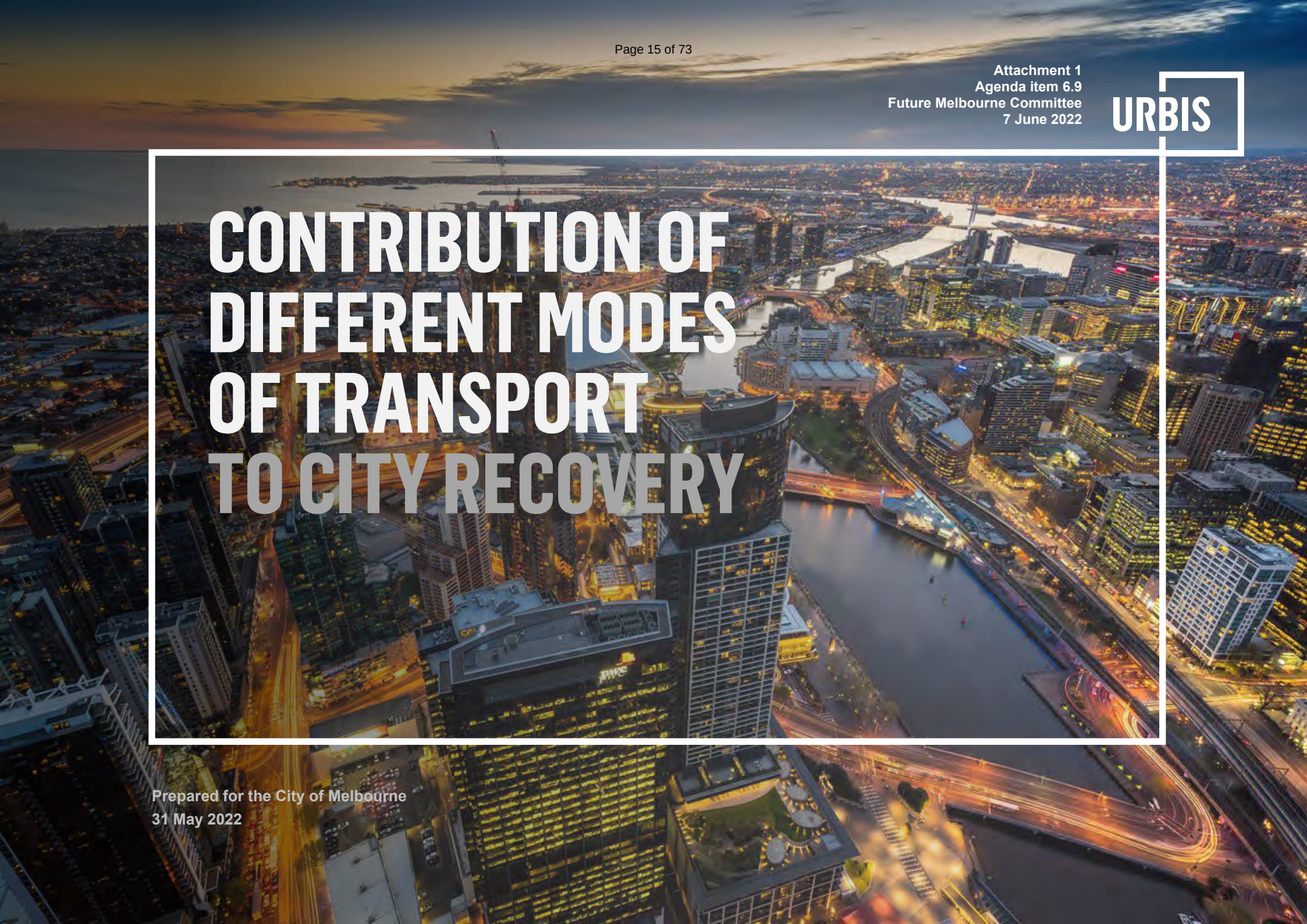
Attachment 1
Agenda item 6.9
Future Melbourne Committee
7 June 2022

URBIS



CONTRIBUTION OF DIFFERENT MODES OF TRANSPORT TO CITY RECOVERY

Prepared for the City of Melbourne
31 May 2022

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Urbis acknowledges the important contribution that Aboriginal and Torres Strait Islander people make in creating a strong and vibrant Australian society.

We acknowledge, in each of our offices, the Traditional Owners on whose land we stand.

Urbis staff responsible for this report were

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Project code	P0037947
Report number	Final Report

EXECUTIVE SUMMARY

KEY FINDINGS

1. **CBDs could take longer to recover.** CBDs could take more time to recover than many suburban and regional locations due to the relatively slow / subdued return of office workers to the city.
2. **Some degree of WFH will persist.** During Covid Recovery there has been a 19 per cent increase in WFH compared to pre-Covid.
3. **Work, socialising and shopping account for 80 per cent of trips to the Central City.** The interconnectedness of these industries is significant. If one changes, the others are impacted.
4. **The majority of trips to and around the Central City are by sustainable modes.** 58 per cent of trips to the Central City are by walking, cycling/scootering and public transport and 94 per cent of trips around the central city are by these modes.
5. **It will be important for the City of Melbourne to support people to come back into the Central City for work** as well as strengthen other sectors which are likely to be affected by work-from-home trends.
6. **Walking, cycling/scootering and public transport modes are the most efficient ways of moving large volumes of people.** The degree to which the Council can influence the movement of more people within the available space will see more people accessing the Central City.
7. **2026 will see a mode shift toward sustainable modes.** The opening of Melbourne Metro forecast a 3.5 per cent shift in mode share from 2026 towards public transport. Similarly bicycles and scooters are anticipated to experience a mode shift of seven per cent.
8. **A person walking to the Central City makes the greatest contribution to the Central City economy compared to all other modes.** Specifically, walking economic contribution is 8 per cent higher than the average contribution across all modes. Freight trips also provide significant economic contribution.
9. **Road space used for sustainable modes represents the highest return on investment compared with cars.** The space required for a pedestrian returns $321,175 p.a whereas the space required for a car returns $93,277 p.a in economic benefit.

Contribution of people coming in to the Central City

	PRE-COVID	COVID-RECOVERY (PROJECTED 2026)
Annual contribution of walking to the Melbourne CBD	$3.7 B	$3.3 B
Annual contribution of cycling to the Melbourne CBD	$2.1 B	$3.5 B
Annual contribution of public transport to the Melbourne CBD	$37.8 B	$35.4 B
Annual contribution of driving to the Melbourne CBD reduced due to mode shift associated with State and local Government targets	$11.9 B	$7.5 B

*Note this study evaluates the economic contribution of people coming into the city rather than the trips made within the Central City. Trips within the Central City are largely made on foot and when considering these trips it is likely that the contribution of pedestrians to the Central City Economy is much larger (see Page 24 for more).

CONTENTS

INTRODUCTION

01

BACKGROUND

The Covid-19 pandemic has been a shock to the Melbourne CBD's economy. As the city moves into its next post-lockdown phase, it is necessary to understand how the transport system contributes to recovery, in order to guide a reconfiguration that will increase economic activity, according to the value of each mode of transport.

COVID-19 IMPACTS ON CITIES

Across the world the Covid-19 pandemic has impacted cities as people were told to stay home. The interconnectedness of sectors such as retail and food/drink on office and education came into stark relief as the former were heavily impacted by the move to online work and study. Responses to the Covid-19 pandemic have varied, but common to many cities has been the reallocation of street space to support social distancing through

- Bicycle travel.
- Wider footpaths for pedestrians.
- Outdoor dining to support businesses with indoor capacity limits.

Transport provides a critical connection between homes and the Central City and needs to be provided in a way that supports economic activity to its maximum extent.

A SHARP, DEEP RECESSION

Covid-19 has led to a recession that has been sharper and deeper than any in recent history. In work undertaken for the City of Melbourne in 2021, PWC pointed out that it has been comparable to

- The effects of combining the impacts of the Spanish Flu and WW2.
- Three times worse than job losses experienced in the recession in the 1990s.

This recession has had a disproportionate impact on Melbourne's economy which relies on the confluence of multiple industries. Melbourne has been the most locked-down city in the world with 262 days spent under lockdown orders through 2020-21.

PWC data shows that compared to pre-Covid forecasts, the City of Melbourne economy would be up to $23.5 billion – or 22 per cent - smaller in 2020. Although the economy shrunk in the rest of Victoria also, the reduction was less (15 per cent).

A CITY IN RECOVERY

In the aftermath of the Covid-19 pandemic, the focus has been on economic recovery of the Central City.

The City of Melbourne is interested in developing a greater understanding of the role transport can play in city recovery. Key to the recovery of the city is ensuring people can access the city, noting that

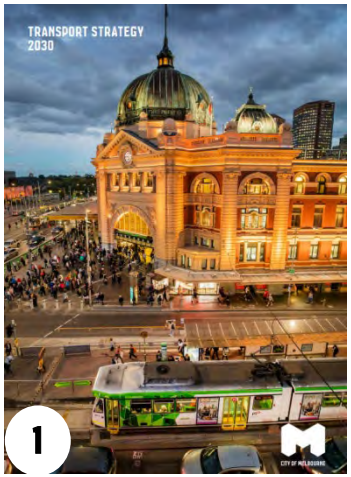
- There has been reluctance by some to use public transport out of fear of catching Covid.
- Many office workers are now choosing to work hybrid work weeks only partially in the office.

There is a role for local government in managing the transport network in a manner that supports economic recovery by seeking to attract people back to the central city. Decisions regarding how road space is managed should be informed by an understanding of the value that is derived from transport modes.

The City of Melbourne's existing policy to support economic development and transport is on **Page 7.**

POLICY BACKGROUND

The City of Melbourne has a long history of supporting the Central City through transport and economic policy aimed at increasing its attractiveness as a place to do business, work, study, shop and visit.



1. TRANSPORT STRATEGY 2030

The Transport Strategy 2030 establishes a long-term vision for all city visitors and comprises of projects which will see enhanced amenities including city greening. The 2030 plan will see

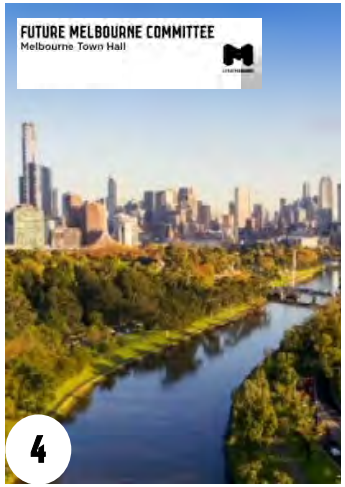
- Reduced through traffic.
- Conversion of ‘Little Streets’ into pedestrian priority shared zones. Providing more space for pedestrians, cyclists and
- Create a network of more than 50 KM of protected bicycle lanes.
- More space for people on footpaths (emphasising major transport hubs).

2. ECONOMIC DEVELOPMENT STRATEGY 2031

In 2021, the City of Melbourne released Melbourne’s Thriving Economic Future, which highlights the massive drop in daily population (90 per cent lower in mid-2020, compared with previous data), the impact of this on the sharpness and deepness of the ensuing recession, and the critical role of active and public transport on the economic life of the city.

3. INDEPENDENT TRANSPORT REVIEW

In 2021, the City of Melbourne adopted the Independent Transport Review (ITR). The ITR identified interventions for city recovery including the reallocation of “road and parking spaces for local activation”.



4. FUTURE MELBOURNE COMMITTEE RESOLUTION

The Future Melbourne Committee adopted the following resolution when the Independent Transport Review was endorsed on 19 October 2021 –

That the Future Melbourne Committee

Notes the need for improved data on the role of the transport system in city recovery and requests a report in 6 months outlining the contributions of different modes of transport to city activation and recovery including the economic uplift associated with each mode of transport.

This resolution has led to this work which will be reported back to the Future Melbourne Committee in 2022.

ABOUT THIS PROJECT

This project looks at the Central City as the engine room of economic activity in the state and asks how it can be best supported by its transport networks.

PROJECT OBJECTIVE

The objective of this project is to –

Understand how each mode makes up the entire transport system and quantify the contributions of different modes of transport to city activation and recovery including the economic uplift associated with each mode of transport.

PROJECT SCOPE

This project looks at the Central City area of Melbourne – the engine room of Victoria's economy, and the principal place of economic activity in Melbourne as a place of work, shopping, education, entertainment, and visitors – and how different transport modes contribute to this economic activity within the Melbourne Central City.

This project is focused on macro-level travel activity and does not account for the low-level variation that occurs within modes, including the different value-added per trip type.

This project was undertaken by Urbis on behalf of the City of Melbourne. The project was undertaken from March to May 2022.

KEY QUESTIONS AND WHERE TO FIND ANSWERS IN THIS REPORT

What is meant by City 'recovery'?

Sections 1 and 2 of this report provide a deeper understanding of the relationship between transport and recovery including a definition of 'city recovery' and a blueprint for how economic contribution can be measured in this context.

How and why do people come to the Central City? When they're in the Central City, how do they get about?

Section 3 summarises what mode people use to get to the Central City, how people move about the Central City and their reason for visiting.

How much economic contribution is made by each transport mode?

Section 4 collates data to determine the economic contribution of each mode and provides a snapshot of economic activity pre-Covid during and post-Covid. This section also reveals the Annual GVA per worker by mode, as well as the GVA contribution of each mode per metre width of transport space.

METHOD AND DATA

HOW DO PEOPLE GET TO AND AROUND THE CITY? WHY DO THEY COME?

Trip mode

Analysis of the 2017-2018 Victorian Integrated Survey of Travel and Activity (VISTA) and ABS Journey to Work (JTW) data, provides information on how and why people travel to and around the Central City.

HOW DO WE MEASURE ECONOMIC ACTIVITY?

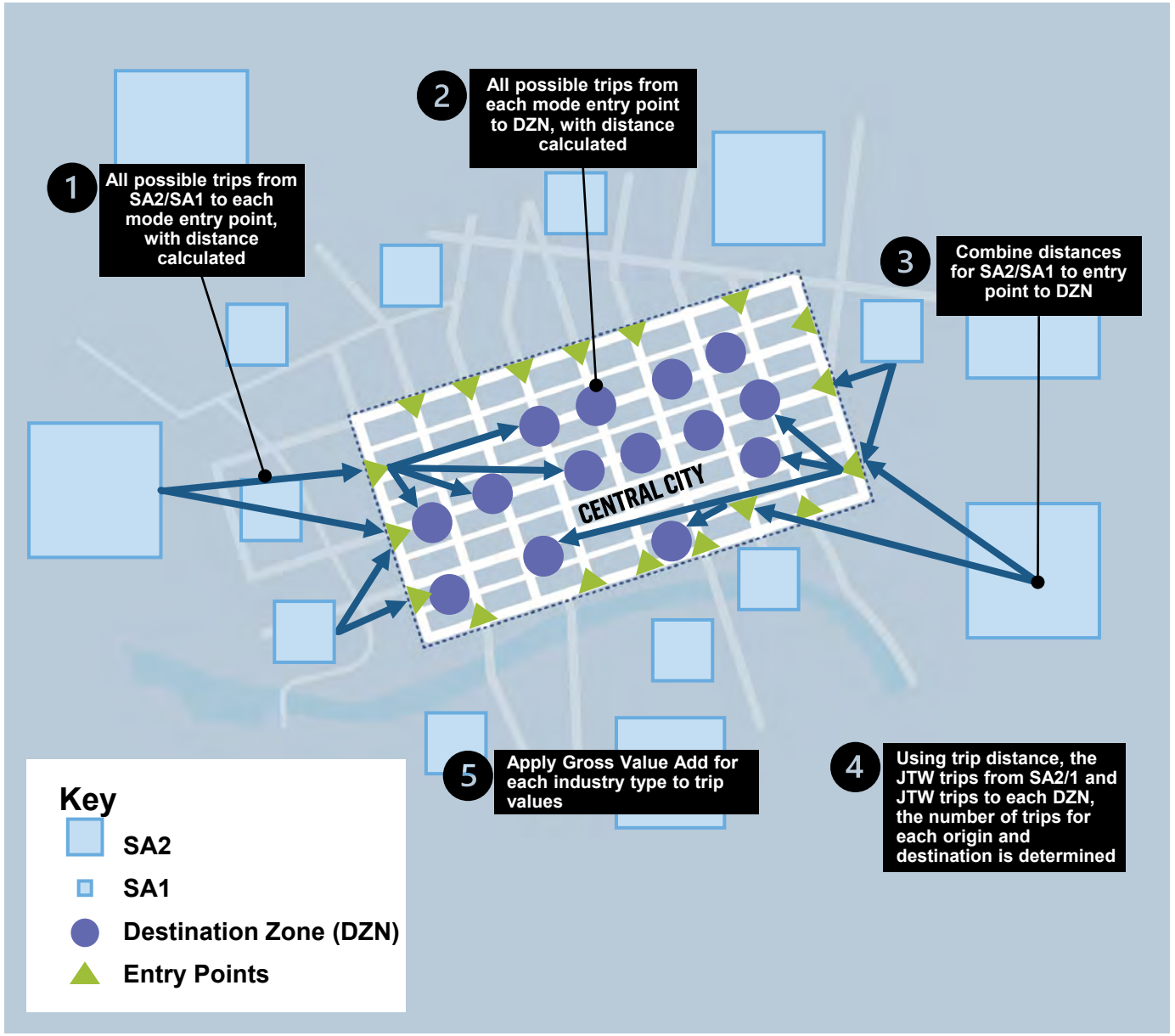
Economic activity is most commonly measured by Gross Value Add (GVA) within a region. It represents the making, provision, purchase and selling of goods and services. In addition to GVA, several factors were applied in this analysis to represent mode-splits, work from home, and employment growth.

WHERE DOES ECONOMIC ACTIVITY OCCUR?

Using the ABS standard industry codes (ANZCO), the location of economic activity (GVA) is assigned to census Destination Zones (DZN) as a proxy for economic activity. As JTW is the most reliable source of industry, DZN and economic activity, trips are mapped from their source statistical area (SA1 for nearby areas and SA2 for the remainder of Melbourne) to their logical entry point by transport mode to the city (station, tram stop or CBD edge) using standard transport modelling processes. This method allowed Urbis to identify the effects of transport on the economy at locational level for entry to the central city and the destination.

This analysis has enabled the determination of the value of one metre in width of transport space for each transport mode.

Methodology Visual Representation



WHAT IS 'CITY RECOVERY'?

This examination of 'city recovery' on this page and Page 11 looks at the sectors of

- Office
- Tourism
- Education
- Retail.

In July 2021 the City of Melbourne commissioned SGS Economics and Planning to examine the potential scenarios for recovery. Under the expected recovery international migration and travel returns to pre-Covid levels from 2022-2024. The overall jobs forecasts are shown right with Retail and Education and Training on the following page.

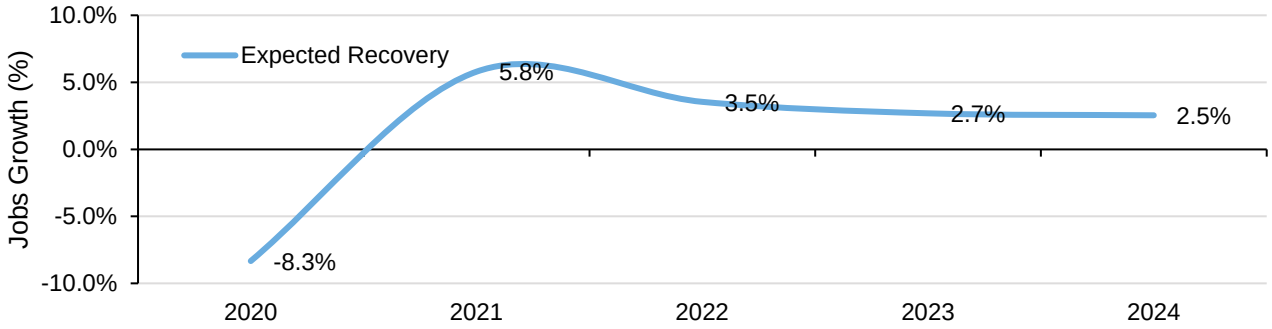
OFFICE SECTOR RECOVERY

The economic recovery from the Covid-19 pandemic has tended to progress more slowly in CBD locations due to the relatively subdued return of office workers. The impact of remote working not only affected the office sector but has had downstream impacts on other activities in the CBD. There are some clear trends emerging from attitudinal data (VISTA) on remote working, as follows

- During-Covid there were significantly greater opportunities to work from home, particularly "all or most of the time".
- Post-Covid office workers are still more likely to work from home than pre-Covid despite a significant decrease in working remotely compared to during-Covid.
- The 'new normal' involves greater flexibility with hybrid work-weeks becoming common.

The Property Council of Australia has indicated a similar trend with higher office occupancies reported during the latest reported monthly survey (March 2022). This survey indicated a 32 per cent occupancy of CBD office space, around double the result of a month earlier.

Central City Total Jobs Forecast Recovery



Source - City of Melbourne Population and Jobs Forecasts 2020-2040 SGS Economics and Planning (July 2021).

Attitudes to Working from Home (WFH) Trends, Before, During and Post-Covid

Frequency (responses as a % of WFH responses)	Pre- Covid	During Covid	Post- Covid
Occasional opportunities to work from home	59%	21%	46%
Frequent opportunities to work from home	28%	23%	39%
All or most work is delivered from home	14%	56%	15%

Office Occupancy

NOV-21 12% ↓ **JAN-22** 4% ↑ **FEB-22** 15% ↑ **MAR-22** 32%

Source - Property Council of Australia (April 2022).
https://research.propertycouncil.com.au/blog/office-occupancy-rates-doubles-in-most-cbds

WHAT IS 'CITY RECOVERY'?

RETAIL SECTOR RECOVERY

Retail recovery in Central City is forecast to follow the return to work in the office sector. Retail is considered a customer-facing sector and, largely requires workers to be in store. During Covid, CBDs had a reduced number of people visiting daily, and many retailers closed or operated as click and collect due to lockdown orders or to avoid more significant losses. Recovery to a new normal is expected to occur by 2024, due to a stabilisation of population and employment growth and a slow tourism recovery. Retail jobs growth of 1.4 per cent is forecast for 2024.

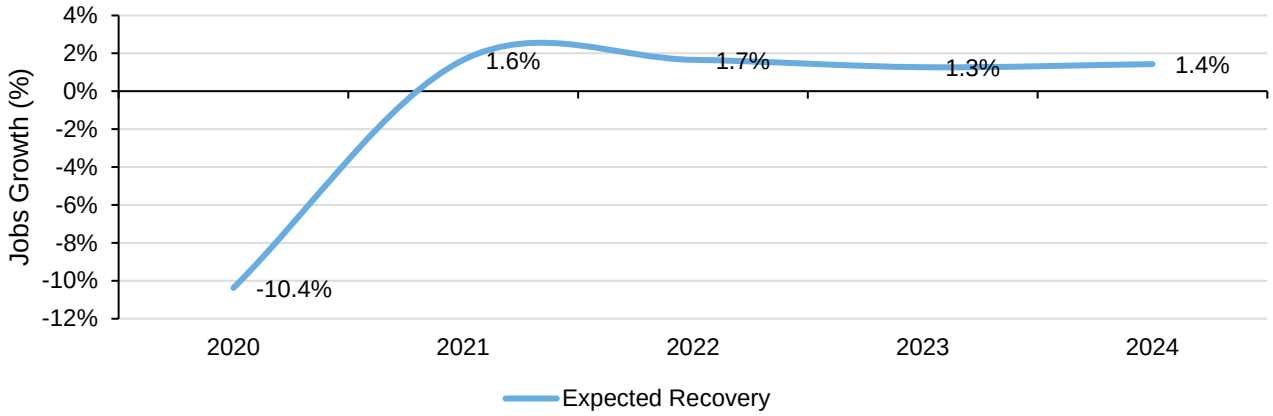
EDUCATION SECTOR RECOVERY

The recovery of the education sector is expected when international students return. While education jobs are likely to rebound in 2022 more sustainable levels are expected in 2023 and 2024, it is likely that a full return of international student numbers will occur in 2024 as the 2020 and 2021 enrollments will continue to impact until these cohorts graduate.

TOURISM SECTOR RECOVERY

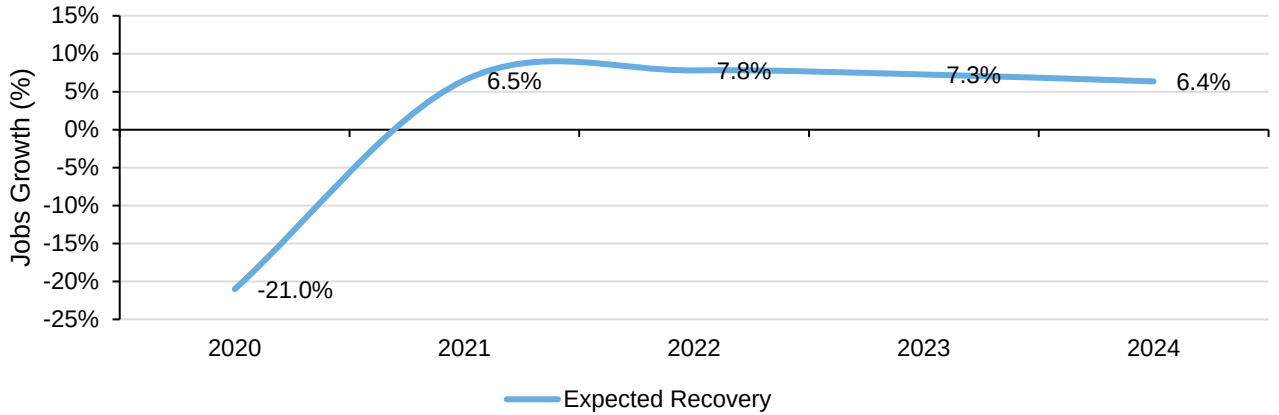
The recovery of the tourism sector is expected to return once borders fully reopen internationally and confidence in travel safety/certainty returns. A rebound is expected in 2022-2023 and sustainable levels reached in 2023-2024.

Central City Retail Jobs Forecasts Recovery



Source - City of Melbourne Population and Jobs Forecasts 2020-2040 SGS Economics and Planning.

Central City Education and Training Forecast Recovery



Source - City of Melbourne Population and Jobs Forecasts 2020-2040 SGS Economics and Planning.

TRANSPORT A KEY ENABLER OF RECOVERY

The transport network is tasked with facilitating access to and travel within the city by providing high-quality transport alternatives suiting a wide range of Central City visitors' needs and budgets. All transport plays a role in the economic life of the Central City. The vast majority of access to and around Melbourne's Central City is by sustainable modes (walking, cycling/scootering and public transport), as they are the most effective travel option in dense urban spaces - Refer to page 19 for more on this.

These modes play a significant role in supporting the Central City's recovery and Sections 4 and 5 of this report quantify the economic contribution of each mode and where the economic activity takes place.

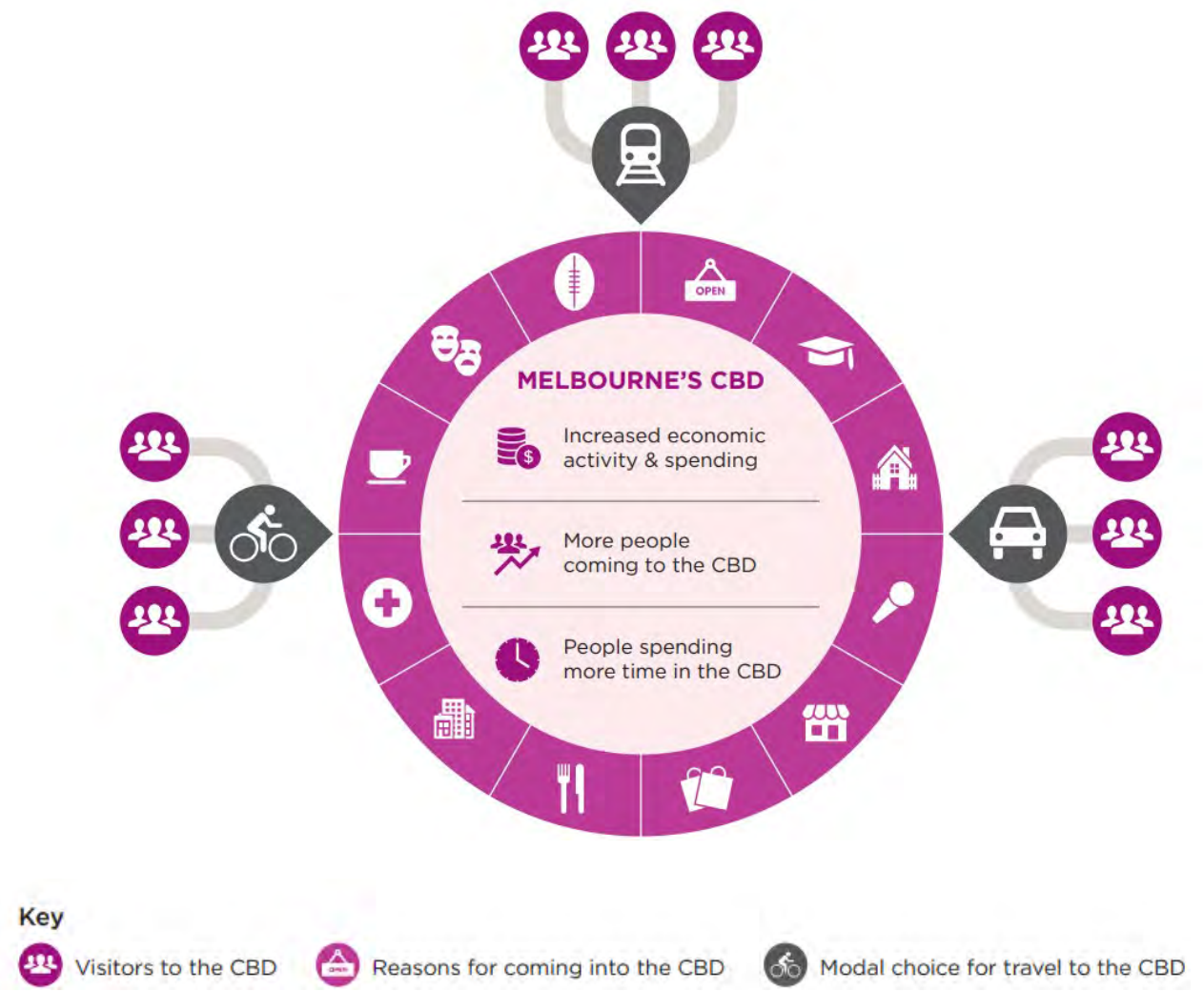
GROSS VALUE ADDED (GVA)

GVA is one way of measuring economic output to measure the contribution made to the economy by individual producers, industries, sectors or regions. In this study we have used GVA to measure the economic contribution of people using different modes of transport to access the Central City.

TRANSPORT ENABLES GVA

Transport is an enabler of economic growth within an area. Workers are the key underpinning of GVA and value creation in CBDs. Transport brings in the resources and products that are required to produce GVA. For this reason, journey to work data underpins the analysis of contribution to GVA, where profession GVA is apportioned by transport mode type per worker. This gives an estimate of the per-mode contribution to the economy that is enabled by different transport modes.

Transport In, Out and Within the Central City Enabling Recovery



Source - City of Melbourne and Deloitte, Independent Transport Review, 2021

ECONOMIC CONTRIBUTION OF TRANSPORT MEASUREMENT

02

MEASURING ECONOMIC CONTRIBUTION

DEFINING CUSTOMER-FACING AND NON-CUSTOMER FACING

Industry sectors have been broken into customer-facing and non-customer facing categories. These are used to consider the need for travel to and from the Central City as a necessary condition for the work/activity to take place. Customer-facing roles are reliant on a consumer being present in the place of operations, such as a retail store or a bank teller. The customer is defined as a shopper/user, as opposed to an individual who requires a service (such as someone requiring electricity servicing), which helps separate key worker and non-key worker positions.

ECONOMIC CONTRIBUTION OF CUSTOMER-FACING AND NON-CUSTOMER FACING ROLES

For customer-facing roles, the proportion of visitors by mode of transport has been used to apportion the Gross Value Added (GVA) contribution of each industry. For non-customer facing roles, the GVA value has been calculated based on the assumed number of days in the office. For the assumed proportion of work from home days, 30 per cent of the GVA has been attributed to the Central City, to reflect the ongoing costs and maintenance of maintaining the office/workspace and office services.

The lower GVA for non-customer facing roles also reflects the lower levels of incidental local spending in the economy that results from the working from home paradigm change (see **Page 10**). The onset of the Covid-19 pandemic resulted in the incidence of unprecedented and synchronised cyclical and structural shocks. In the event there are structural shifts in the relative GVA contributions of specific sectors, a permanent shift in GVA contributions to the City may result.

Customer-facing

- Accommodation & Food Services
- Retail Trade
- Education & Training
- Transport, Postal & Warehousing

Non-Customer Facing, in person

- Health Care & Social Assistance
- Electricity, Gas, Water & Waste Services
- Construction
- Information Media & Telecommunications
- Wholesale Trade
- Manufacturing
- Auxiliary Finance & Insurance Services

Non-Customer Facing, can work from home

- Public Administration & Safety
- Finance
- Mining
- Insurance & Superannuation Funds
- Administrative & Support Services
- Professional, Scientific & Technical Services
- Agriculture, Forestry & Fishing

BENEFITS OF CO-LOCATING IN THE CENTRAL CITY

TRIP PURPOSE AND GVA TO INDUSTRY SECTORS

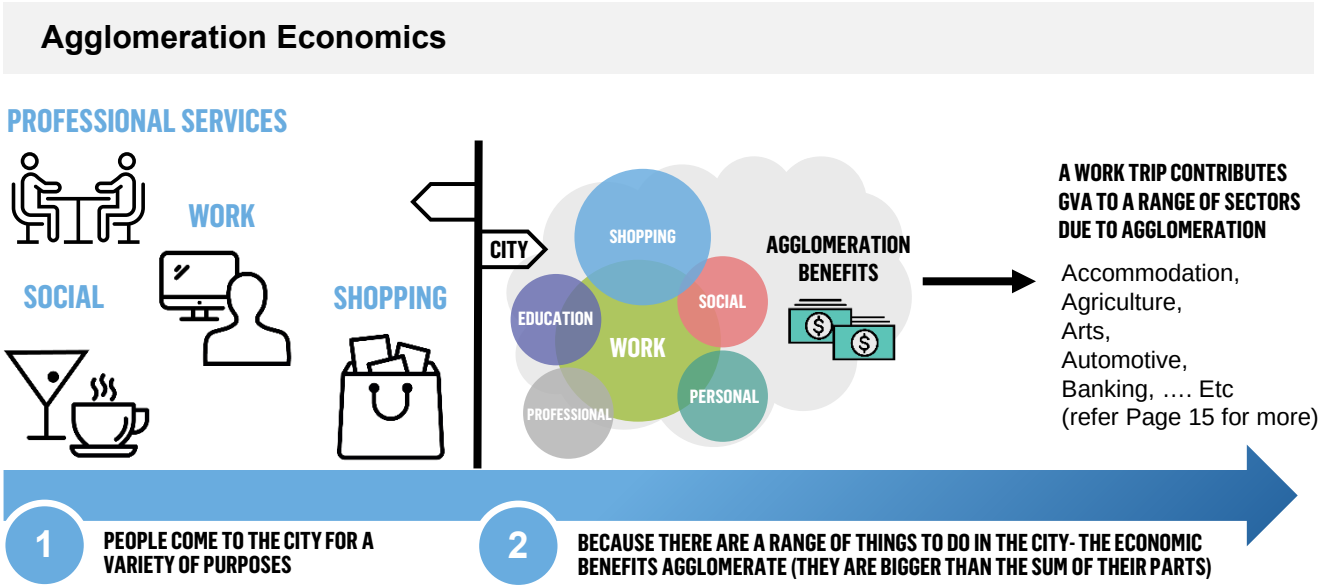
The economic value that people bring when they come to the Central City is spread across a range of industry sectors. A person who comes to the Central City for work doesn't just produce an economic relationship between themselves and the entity they are employed by, rather, there are a range of industries which benefit from this trip. For example - a worker may buy their lunch in the Central City during their lunch-break providing benefit to the

- Agricultural Sector as the raw ingredients for their lunch was grown on farms.
- Automotive Sector as the raw ingredients were delivered to the café by delivery van.
- Education Sector as the barista can pay her university fees.

AGGLOMERATION OF BENEFITS IN THE CENTRAL CITY

In the example above, there are benefits to the café being located close to workers. Similarly, there are benefits from educational institutions being located next to workers and cafes as students can be employed while they are studying. This relationship is known as Agglomeration Economics and describes the economic benefit of co-locating multiple businesses so that the economic benefits derived from this ecosystem are greater than would otherwise be derived were they not near one another. Trips within the central city are therefore extremely important for Agglomeration Economics to occur, however, are not included in the core scope of this analysis as they are challenging to measure.

The relationship between trip purpose, benefits to industry sector and agglomeration benefits is shown in the image on the right.



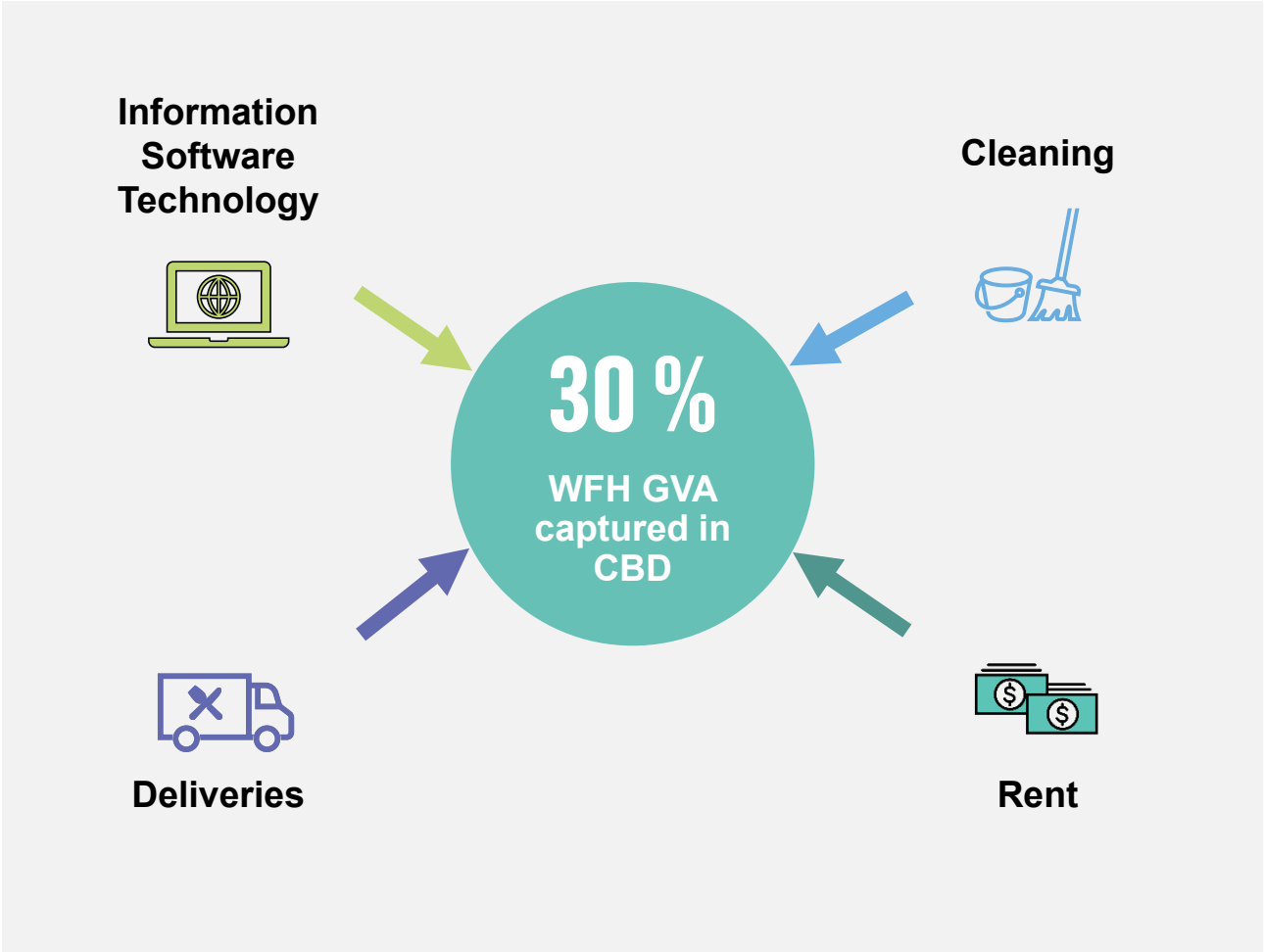
IMPACTS ON GVA OF COVID-19 AND RECOVERY

The Covid-19 pandemic has seen a significant change in the patterns of work. This impact has been particularly acute in metropolitan centres due to the emergence of work from home modes. Consequently assumed GVA contribution to the City of Melbourne has needed to be changed. This is due to the fact that the economic activity is no longer being geolocated in the CBD, but rather is also located in the outer suburbs.

We have assumed that 30 per cent of GVA contribution by workers in roles that can be done through a work from home mode is still captured in the CBD while working from home. This is because there is still activity related to rental payments, cleaning, Information Software Technology (IST) and delivery services that are being undertaken within the CBD.

Given the government requirements during Covid-19, it is assumed that jobs that can be done in a WFH model were completed entirely outside of the CBD. Consequently, 30 per cent of the GVA contribution is captured in a standard working week.

Post-Covid-19, a banded approach has been taken, given emerging trends that indicate between 2 and 4 days will be worked in offices across all industries. As a result, three working days in the week have been calculated on the 30 per cent GVA work from home assumption. This is the assumed norm in the recovery state, given it is anticipated that these working norms are likely to be permanent.



MODES OF TRIPS MADE TO THE CENTRAL CITY

03

WHY DO PEOPLE COME TO THE CENTRAL CITY?

TRIP PURPOSES

People come to the city for a broad range of reasons. The top three reasons people come to the city are for work (58 per cent), socialising (16 per cent) and shopping (six per cent). Together these trips account for a significant majority (80 per cent) of all trips to the city.

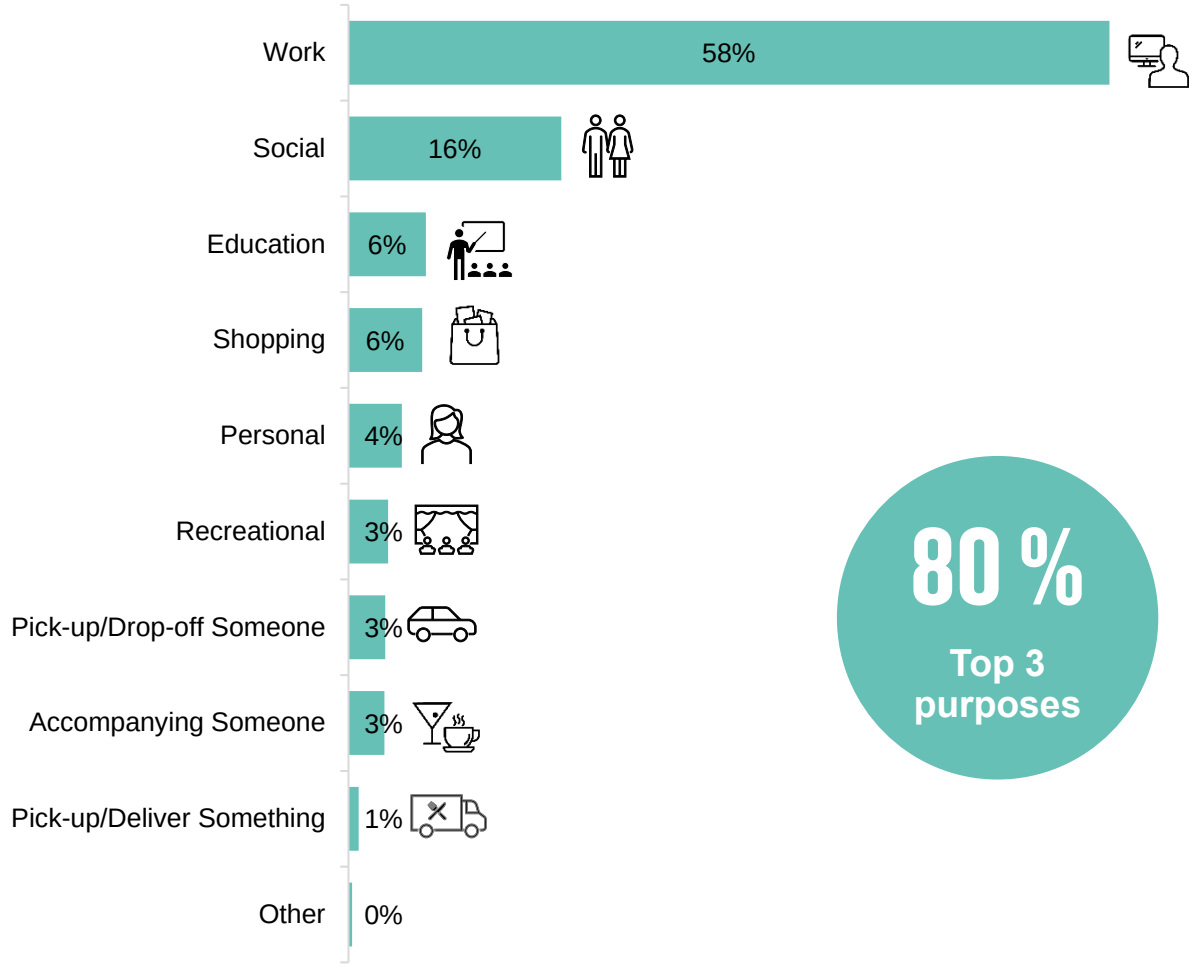
It is important to note that the VISTA data indicates a relatively low number of pick-up and delivery trips being made into Melbourne city. This is likely due to VISTA being a survey-based form of data collection, which delivery drivers are less likely to partake in.

INTERDEPENDENCIES BETWEEN TRIP PURPOSES

Understanding trip purpose matters as it can begin to develop an understanding of the ecosystem of a city's economy. As discussed on **Page 15**, there is an interdependency between businesses that co-locate together (agglomeration benefits). In the case of the Central City of Melbourne we can see that although half of the people come for work purposes, a reduction in this number (as indicated will result from long-term work-from-home trends on **Page 10**) will impact other trips. It is anticipated that this would be mostly felt in social and shopping trips.

It will be important for the City of Melbourne to support people to come back into the Central City for work as well as strengthen other sectors which are likely to be affected by work-from-home trends. This can be encouraged through the provision of events and city activation, as well as prioritisation of public transport access to the city based on each mode's relative economic contribution. Alongside this, it is important to ensure necessary car and freight access to the city, but not through the city.

Melbourne Central City – Trip Purposes



80 %
Top 3 purposes

Source – Based on VISTA, 2017-2018

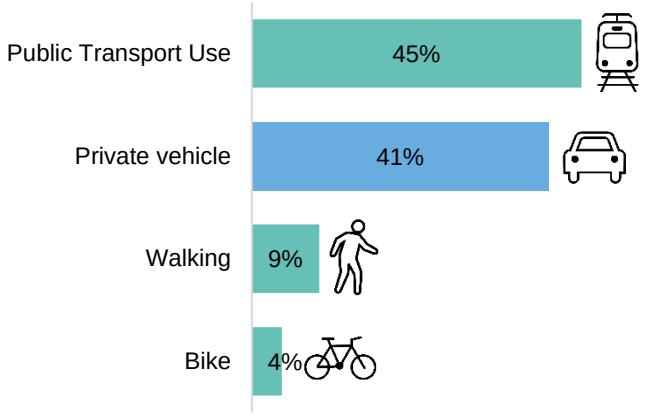
HOW DO PEOPLE COME TO AND MOVE AROUND THE CENTRAL CITY?

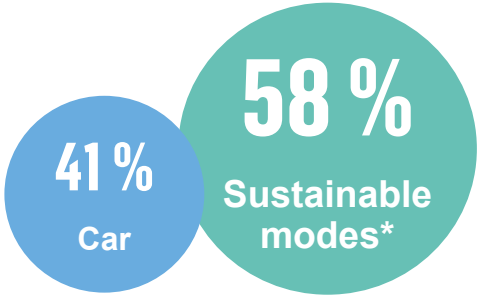
The majority of trips to and around the city are by sustainable modes (58 per cent and 94 per cent respectively). Sustainable modes include walking, cycling/scootering and public transport use. Walking is clearly a vitally important mode of transport for moving around the city.

Private vehicle trips, including car as driver, car as passenger, motorbike and taxi passenger, are a substantial proportion (41 per cent) of trips to the city but much fewer trips within the city (6 per cent). This data excludes business deliveries and collections made by trucks and vans to the Central City.

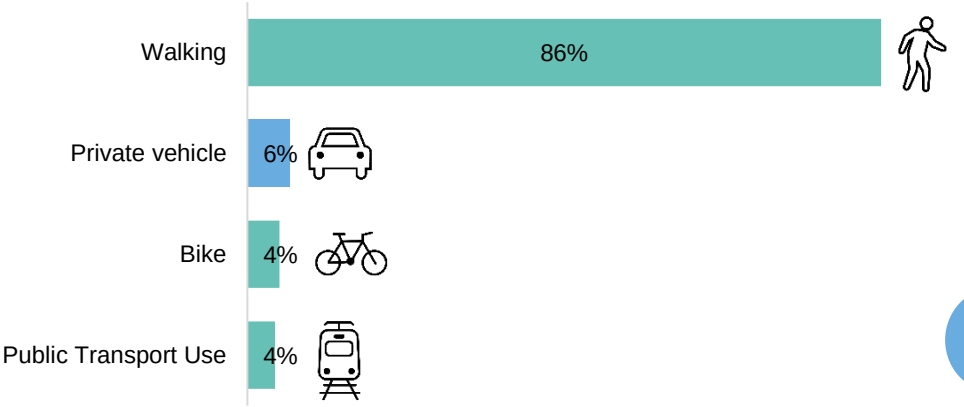
Note: 2 KM has been used as a proxy for the maximum trip length to occur within Central Melbourne, due to the lack of available data.

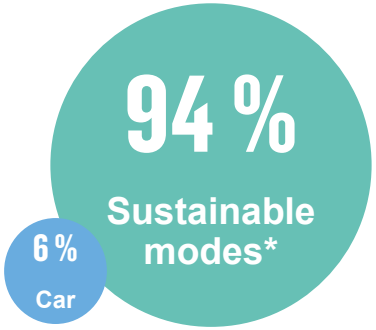
Movement to Melbourne Central City – Mode Split





Movement around Melbourne Central City – Mode Split





Source – Based on VISTA, 2017-2018

** Sustainable modes includes walking, cycling and public transport use (precludes car use)*

HOW AND WHY DO PEOPLE COME TO AND MOVE AROUND THE CENTRAL CITY?

TRIPS BY MODE AND PURPOSE – ACCESS TO THE CITY

When considering both how and why people travel to the city some key trends emerge including

- The highest proportion of walking trips occurs for recreational purposes, followed by picking up or delivering something.
- The highest proportion of public transport trips occurs for educational, followed closely by work-related trips.
- The highest proportion of car trips occurs for picking up and dropping off someone, followed by personal trips.
- The highest proportion of bike trips occurs for picking up or delivering something, followed by education.

TRIPS BY MODE AND PURPOSE – MOVEMENT AROUND THE CITY

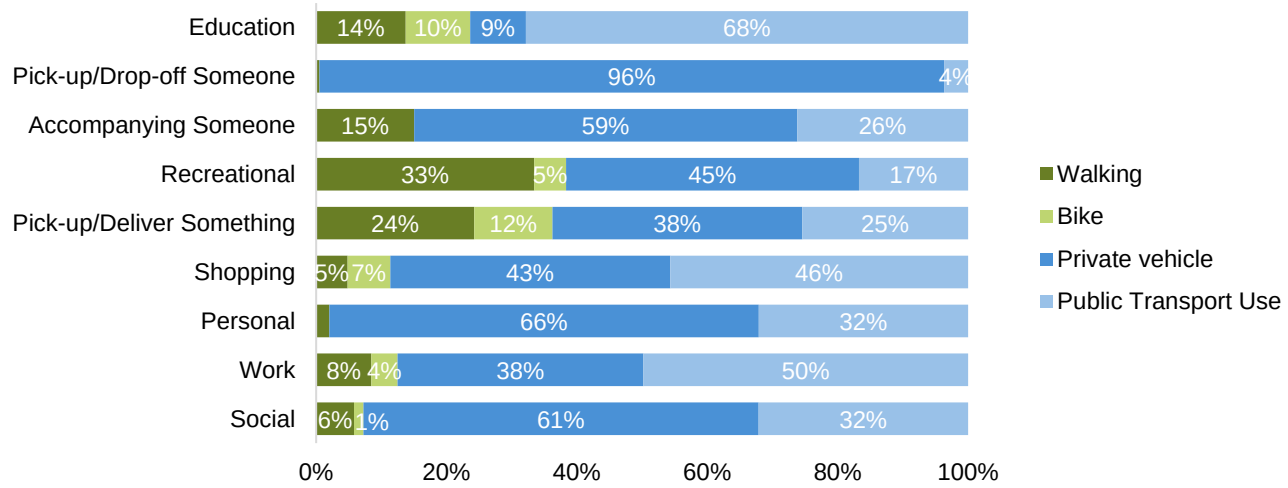
Active modes are seen to be the dominant forms of transport around the city, particularly walking.

EMPHASIS ON SUSTAINABLE MODES

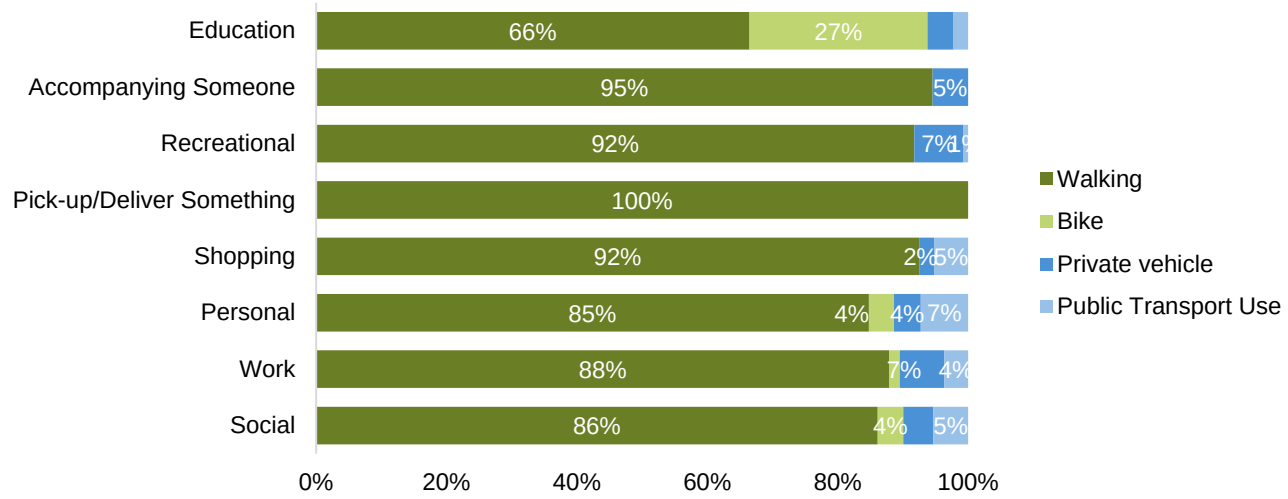
Walking, cycling/scootering and public transport modes are the most efficient way of moving large volumes of people in a space-constrained urban environment, such as the City of Melbourne. The degree to which the Council can influence the movement of more people within the available space will see more people being able to access the Central City.

Note: This data excludes business deliveries and collections made by trucks and vans to the Central City.

Movement to Melbourne Central City – Mode Split and Trip Purpose



Movement around Melbourne Central City – Mode Split and Trip Purpose



Source – Based on VISTA, 2017-2018

JOURNEY TO WORK MODE SHARE

Determining the economic contribution of each transport mode over three time periods (Pre-Covid in 2019, during Covid in 2021 and Covid Recovery in 2026) involved the use of Journey to Work Data, using the base year of 2016 (when the last ABS Census was taken). ABS Journey to Work provides detailed data that can be categorised according to multiple transport and industry groups, allowing for insightful comparisons between different modes of travel.

Significant transport changes have occurred since 2016 and will continue to occur including

- IMAP Bicycle Network Model, identifying a significant shift to cycling/scootering between 2019 and 2026 (with an assumed mode share of eight per cent in 2026).
- Introduction and legalisation (trial) of e-scooters in 2021, with approximately eight per cent of bicycle lane usage being e-scooters.
- The opening of Melbourne Metro and associated tram network changes forecasting a 3.5 per cent shift in mode share from 2026 towards public transport.
- Potential long term reductions in the number of days at work, with the ITR in line with other surveys capturing a return to the office of 3.3 days per week. A study undertaken by McKinsey & Company in 2020, revealed that the finance (76-86 per cent), management (68-78 per cent), professional (62-75 per cent), and information (58-69 per cent) sectors have the highest potential for remote work. Since these sectors also attract the majority of trips to the Central City (see **Page 28**), work from home continuation and uptake will continue to reduce the number of car trips to the Central City.

Scenario mode split for Journey To Work (2016 baseline = 100 per cent)*

Scenario	Train	Bus	Ferry	Tram	Taxi	Car	Truck	Motorbike	Bikes/ e-scooters	Walk
2016	53%	3%	0.01%	12%	0.2%	20%	0%	1%	3%	5%
2019	53%	3%	0.01%	12%	0.2%	19%	0%	1%	4%	5%
2021 Covid	36%	2%	0.01%	8%	0.2%	39%	0%	1%	4%	5%
2026 Recovery	56%	3%	0.01%	13%	0.2%	13%	0%	1%	7%	5%

*Note Excluding work from home and did not work

Growth in Journey To Work trips (2016 baseline = 100 per cent)

Scenario	Train	Bus	Ferry	Tram	Taxi	Car	Truck	Motorbike	Bikes/ e-scooters	Walk	Other	Worked at home or no work
2016	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
2019	100%	100%	100%	100%	100%	96%	100%	100%	128%	100%	100%	100%
2021 Covid	68%	68%	68%	68%	100%	192%	207%	207%	148%	100%	100%	171%
2026 Recovery	105%	105%	100%	105%	100%	62%	207%	207%	241%	100%	100%	62%

Source – Based on City of Melbourne and Deloitte, Independent Transport Review, 2021, DoT PT Patronage, DoT SCATS, and Bicycle Sensors, McKinsey & Company What's next for remote work: An analysis of 2,000 tasks, 800 jobs, and nine countries, 2020

CENTRAL CITY THROUGH TRIPS

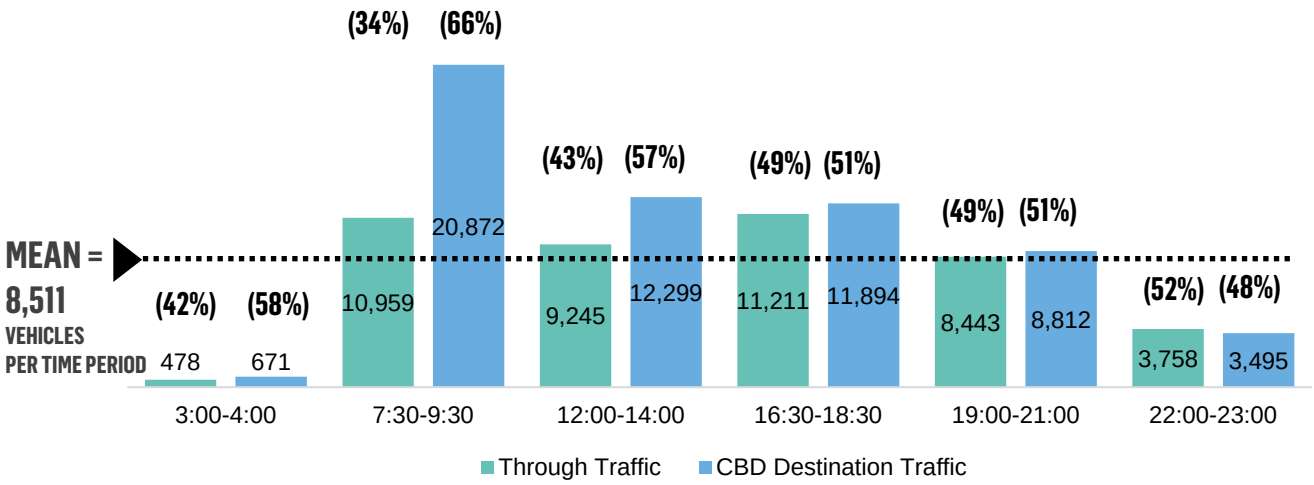
In addition to trips to the Central City, many vehicles pass through on their way to other destinations, otherwise known as a 'through trip'. These trips do not provide any economic contribution to the Central City, as no exchange of goods or services is associated with such trips. Through trips increase city congestion levels, and contribute to poor air quality and noise pollution. They often also make road space reallocation projects more difficult as decision makers see that there is demand for road space and there is often poor data on where vehicles are actually going.

Determining the proportion of through traffic and CBD destination traffic required input from the Austraffic Traffic Count OD Survey from 2018. This data provided traffic volumes for all vehicle types, as well as freight vehicle traffic.

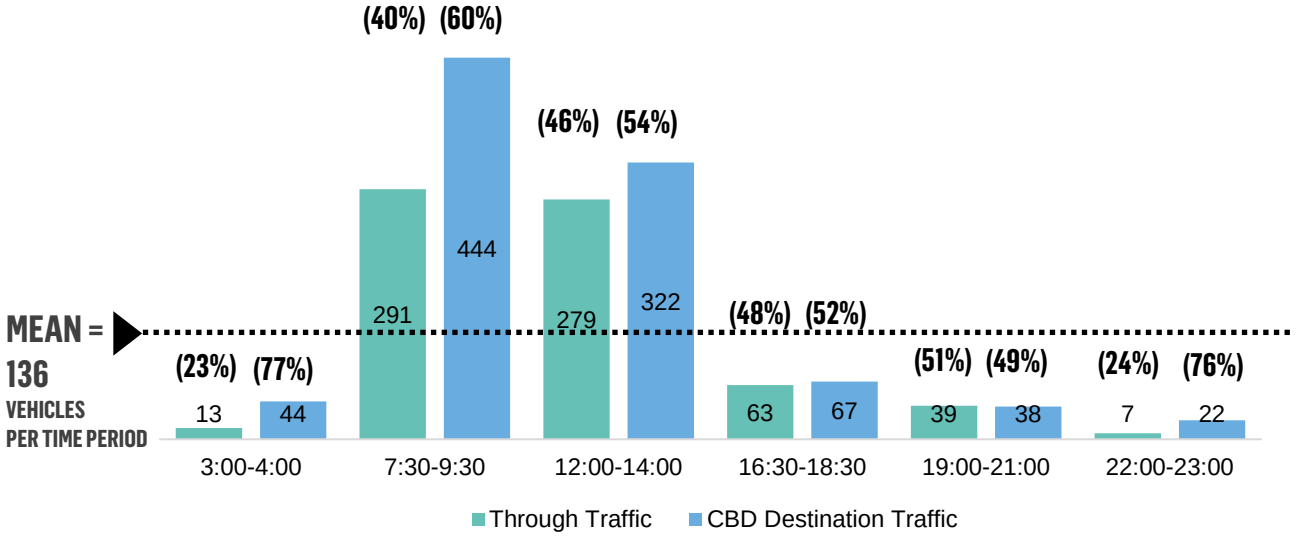
It is important that through trips are discouraged in the Central City, and there are a number of measures used by other international cities that, if appropriate, could be applied to Melbourne Central City

- Investigate a Central City congestion charge for through vehicles, which will re-direct through traffic to other roadways.
- Reducing car access through the Central City, by re-designating lanes for cyclists and other modes, thereby reducing the number of car lanes and making it less attractive as a through route.
- Increasing trip times for through traffic by implementing traffic calming measures such as lane narrowing, reducing speed limits, speed humps, part time street closures and reallocation of road space etc.

Through traffic vs CBD destination traffic – All vehicles



Through traffic vs CBD destination traffic – Freight



Source – Based on Austraffic CBD Traffic Count OD Survey 2018

ECONOMIC CONTRIBUTION BY MODE AND TYPE

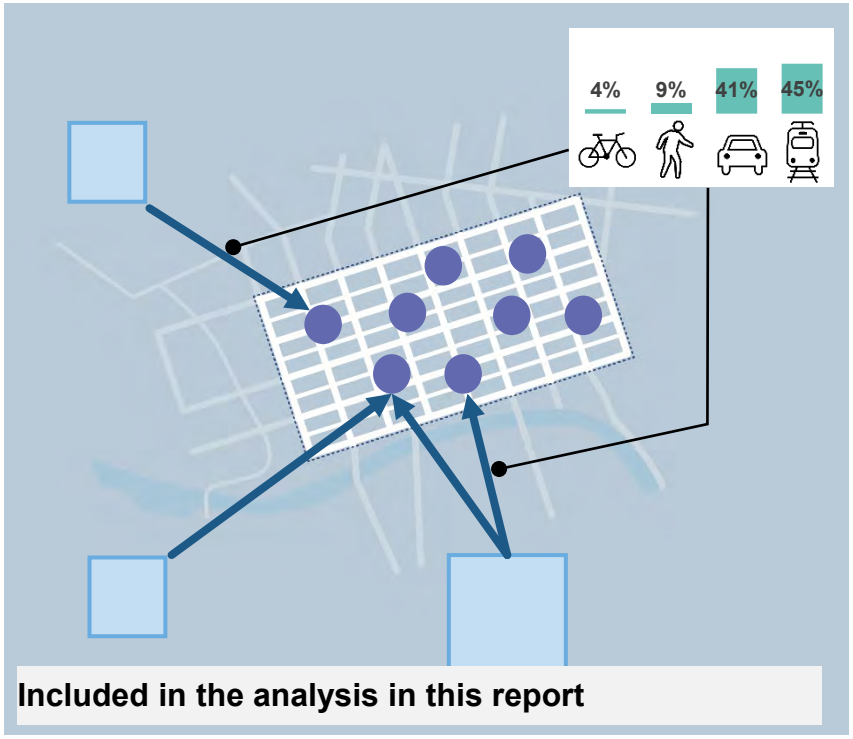
04

WHAT WE HAVE MEASURED WHEN WE CONSIDERED ECONOMIC CONTRIBUTION?

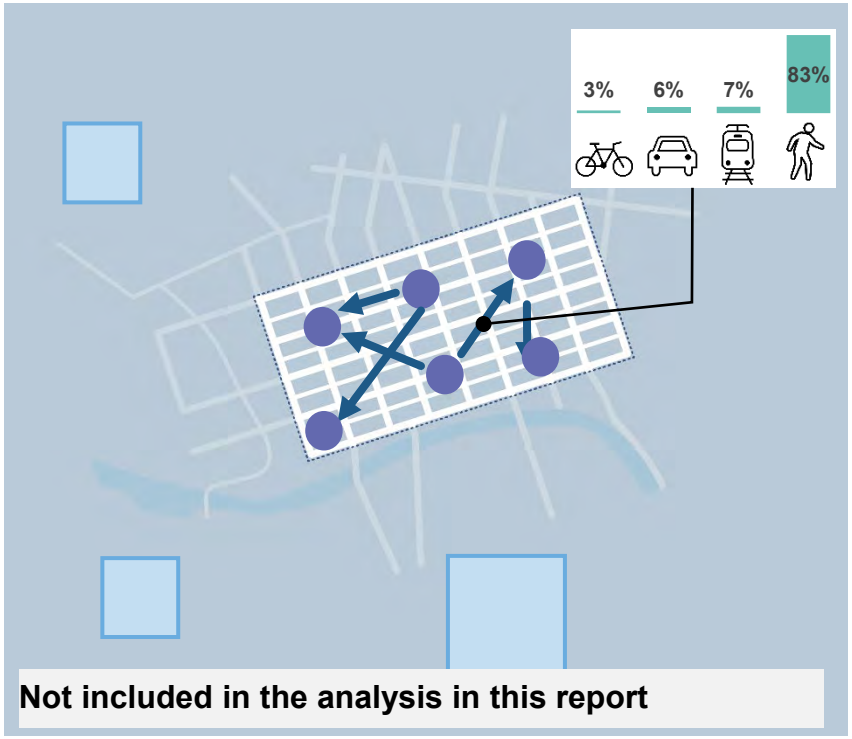
Internal trips around the Central City contribute a significant amount of GVA to the economy. These encompass trips which may take place over the course of a workday for example to buy lunch, purchase something from a shop, or visit a barber or hairdresser after work. These are potentially a significant source of economic activity, in addition to the economic activity that is derived from work. As shown on **Page 19** and on this page, the majority of internal trips around the City are walking trips (83 per cent). However, these trips cannot be captured in this project, as we are using GVA of work trips to the Central City and our data source (the ABS Journey to Work data) does not also capture the mode of travel used once at work.

The data in **Chapter 4** captures GVA based on the workers who support and create economic activity for all other trips and activities The role of walking for trips within the Central City is recognised as making a significant contribution to the economic life of the Central City. For example, the worker who wants to buy lunch, purchase something from a shop or get a haircut won't choose to do these things if they can't easily access them by foot from their place of work. However, the value of these activities is captured based on the workers who provide these services being able to access the Central City.

Trips ' To' Melbourne Central City (including Central City resident workers)



Internal Trips ' Around' Melbourne Central City (excluding Central City resident workers)



Source – Based on VISTA, Survey 2017-2018

WHAT IS THE ECONOMIC VALUE OF DIFFERENT WORKERS?

The city derives economic value from people visiting. The economic value is measured by GVA (see **Page 14** for more on GVA), which can be specified for different industries and evaluated for each individual worker.

This may be through things such as

- The money the worker spends on their lunch.
- Social/recreational activities such as visiting the gym or meeting friends after work.
- The rent that the workers' employer pays for their office space/retail space etc.
- The contractors that the workers' employer pays to maintain their building/shop.
- The foreign students that the worker in education brings into the country.
- Value added by company management based in the Central City (mining and public administration for example) where the income generation is located elsewhere, but the value is attributed locally. In addition, locating businesses within proximity allows for efficient business activity i.e. lawyers or accountants attending meetings etc.

Note: Mining and agriculture GVA per industry worker values are for office-based jobs in the Central City.

Annual GVA per industry worker

INDUSTRY	Average GVA per industry worker
Accommodation and Food Services	$63,048.58
Administrative and Support Services	$196,122.38
Agriculture, Forestry and Fishing	$180,128.10
Arts and Recreation Services	$89,196.05
Construction	$163,160.39
Education and Training	$114,012.45
Electricity, Gas, Water and Waste Services	$589,389.11
Financial and Insurance Services	$416,906.80
Health Care and Social Assistance	$92,356.05
Information Media and Telecommunications	$313,650.02
Manufacturing	$169,242.89
Mining	$1,063,315.71
Other Services	$100,839.18
Professional, Scientific and Technical Services	$151,463.27
Public Administration and Safety	$157,146.40
Rental, Hiring and Real Estate Services	$677,685.22
Retail Trade	$69,189.46
Transport, Postal and Warehousing	$156,068.11
Wholesale Trade	$209,212.59

Source – REMPLAN 2022, Based on ABS 2016 Census Place of Work Employment (Scaled), ABS 2018 / 2019 National Input Output Tables, and ABS June 2021 Gross State Product.

ASCRIBING GVA TO MODES OF TRAVEL

An important relationship exists between public transport and walking, wherein all public transport trips start and end with a walking trip. Therefore, the process of ascribing Gross Value Added to each transport mode has incorporated this trip context. For all public transport trips, the GVA has been apportioned based on the weighted average trip (crow flies) distance by industry type. These public transport modes and their average portions ascribed to walking are listed below

- Train, with average proportion ascribed to walking of 0.04.
- Bus, with average proportion ascribed to walking of 0.03.
- Tram, with average proportion ascribed to walking of 0.03.

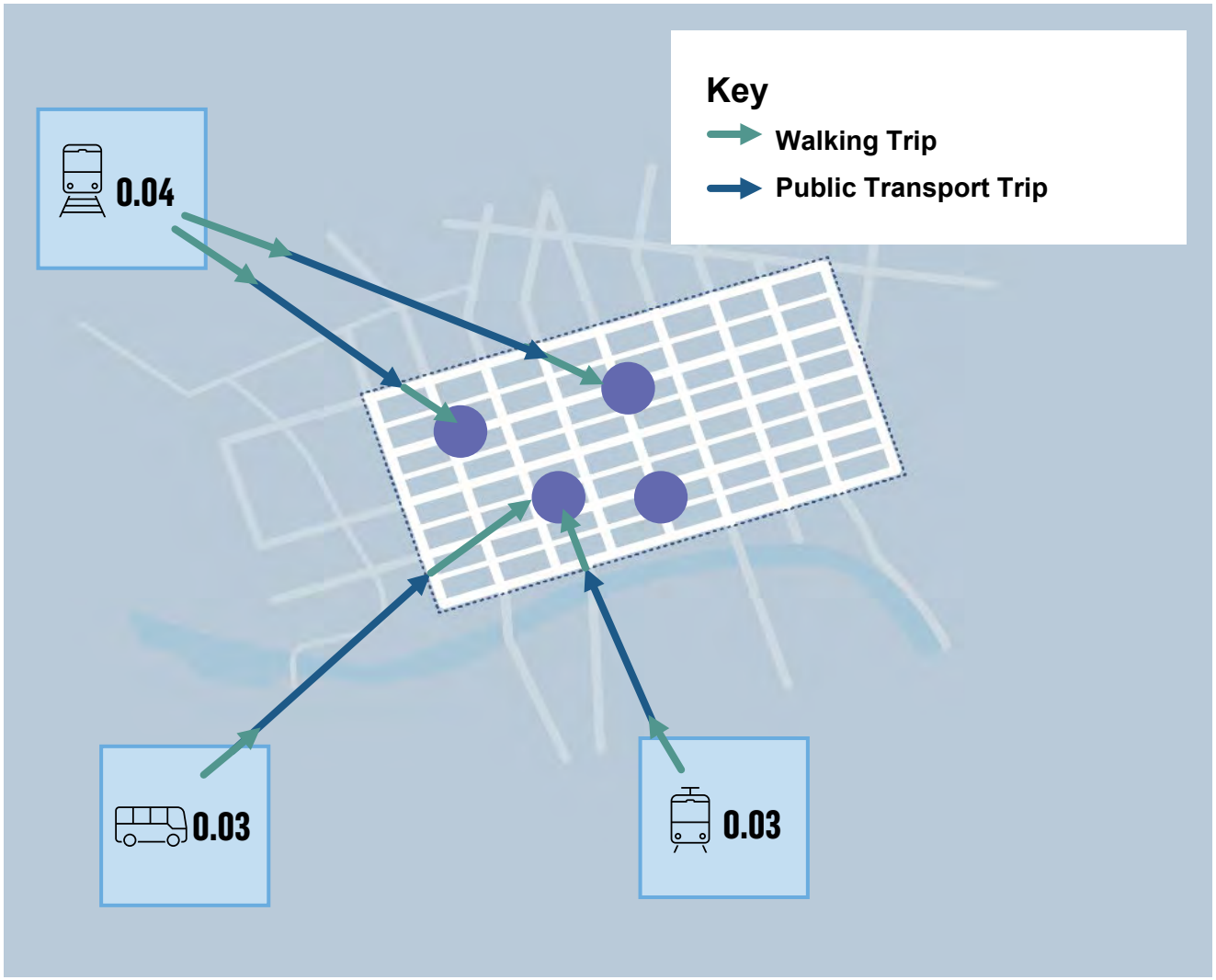
For trips that could be considered to be single-mode, no apportionment was ascribed.

- Walked Only.
- Cycling/scootering.

For trips in private vehicles, no apportionment was ascribed as it was assumed they would park/be dropped off in their closest possible location to their workplace.

- Car as driver.
- Car as passenger.
- Taxi.
- Truck.
- Motorcycle.

Proportion of trips ascribed to walking



Source – Based on VISTA, PWC and ABS

ECONOMIC ACTIVITY PRE, DURING AND IN COVID RECOVERY

CHANGES DURING COVID

During covid (in 2021) there was a drop in access to the Central City across all modes. Public transport saw the greatest decrease (76 per cent) as people avoided settings in which they were in close proximity to others. Car use experienced the lowest decrease during covid (28 per cent). This is likely in response to people feeling more comfortable in settings where they were isolated from others. In addition, the drop in overall access to the Central City meant there was less congestion, which acted as an incentive for car use.

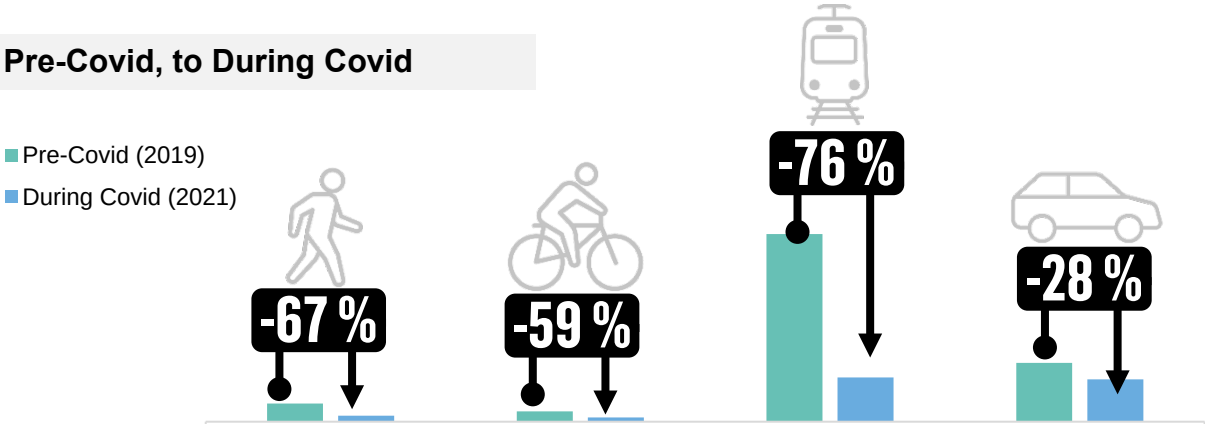
CHANGES EXPECTED DURING COVID RECOVERY

Comparing pre-covid (in 2019) to the Covid Recovery time period (2026) It is predicted that there will be a slight decrease in walking access to the Central City, as those within walking proximity to the Central City who are working in office settings undertake more working-from-home. The upswing in cycling and scootering (including partially in response to the e-scooter trial and mode shift identified in the IMAP Bike Plan) indicates significant growth in these modes. The significant decline in car use presents an opportunity to rethink street space allocation and re-purpose space for improved active transport and public transport.

Note these calculations are modelled using Journey to Work data.

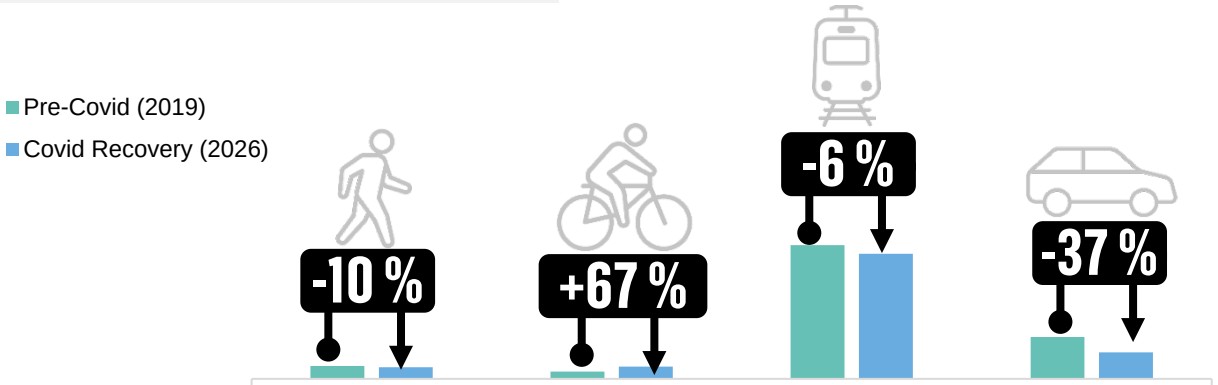
Economic Activity GVA ($M) by Mode travelled to the Central City

– Pre-Covid, to During Covid



	Walking	Cycling	Public Transport	Car
Pre-Covid (2019)	$3,660	$2,079	$37,825	$11,864
During Covid (2021)	$1,198	$851	$8,908	$8,510

– Pre-Covid, to Covid Recovery



	Walking	Cycling	Public Transport	Car
Pre-Covid (2019)	$3,660	$2,079	$37,825	$11,864
Covid Recovery (2026)	$3,280	$3,472	$35,370	$7,489

Source - Urbis based on VISTA, PWC and ABS
Note This analysis precludes GVA generated by trips within the Central City.

PRE-COVID ECONOMIC ACTIVITY BY MODE

PROPORTION OF ECONOMIC ACTIVITY DERIVED BY MODES

The majority (58 per cent) of economic activity is generated by people who use public transport to access the Central City. However, results from 2021 reveal a significant change in this proportional split during Covid (refer to **Page 29** for more discussion on this).

INDUSTRY SECTORS AND MODES

If the City of Melbourne was going to look at the top three industry sectors and mode combinations that were contributing the greatest amount of economic activity in their Central City, these would be

- People catching public transport and working in Financial and Insurance Services.
- People catching public transport and working in Professional, Scientific and Technical Services.
- People catching public transport and working in Information Media and Telecommunications.

All industries and modes are important to building the economic life of the city, as industry sectors work in a complex ecosystem that support each other (refer to **Page 15** on agglomeration benefits). Consideration should be given to the costs (including capital, operating and spatial costs) of providing infrastructure for each mode. The costs associated with providing road and parking infrastructure for the 40 per cent of people driving to the Central City (and deriving 21 per cent of economic activity) are likely to be much higher than other modes.

Note these calculations are modelled using Journey to Work data.

Pre-Covid (2019) - Economic Activity by Mode and Industry Sector ($M)

Industry Sector	Walking	Cycling/scootering	Public Transport	Car	TOTAL
Accommodation and Food Services	$183	$34	$726	$240	$1,183
Administrative and Support Services	$165	$56	$1,741	$479	$2,442
Agriculture, Forestry and Fishing	$1	$2	$25	$7	$35
Arts and Recreation Services	$22	$18	$160	$47	$247
Construction and Engineering	$24	$19	$373	$387	$802
Education and Training	$111	$74	$1,079	$215	$1,479
Electricity, Gas, Water and Waste Services	$229	$176	$2,896	$757	$4,058
Financial and Insurance Services	$1,053	$574	$12,775	$3,464	$17,865
Health Care and Social Assistance	$33	$19	$313	$117	$483
Information Media and Telecommunications	$376	$248	$4,123	$1,237	$5,984
Manufacturing	$17	$14	$192	$86	$310
Mining	$52	$28	$388	$131	$599
Personal and Other Services	$39	$15	$256	$102	$413
Professional, Scientific and Technical Services	$727	$448	$6,183	$1,766	$9,123
Public Administration and Safety	$251	$230	$3,074	$743	$4,298
Rental, Hiring and Real Estate Services	$194	$49	$1,891	$1,459	$3,593
Retail Trade	$75	$18	$607	$167	$866
Transport, Postal and Warehousing	$45	$45	$797	$352	$1,239
Wholesale Trade	$61	$12	$225	$109	$408
TOTAL	**$3,660**	**$2,079**	**$37,825**	**$11,864**	**$55,427**
TOTAL (per cent)	7%	4%	68%	21%	

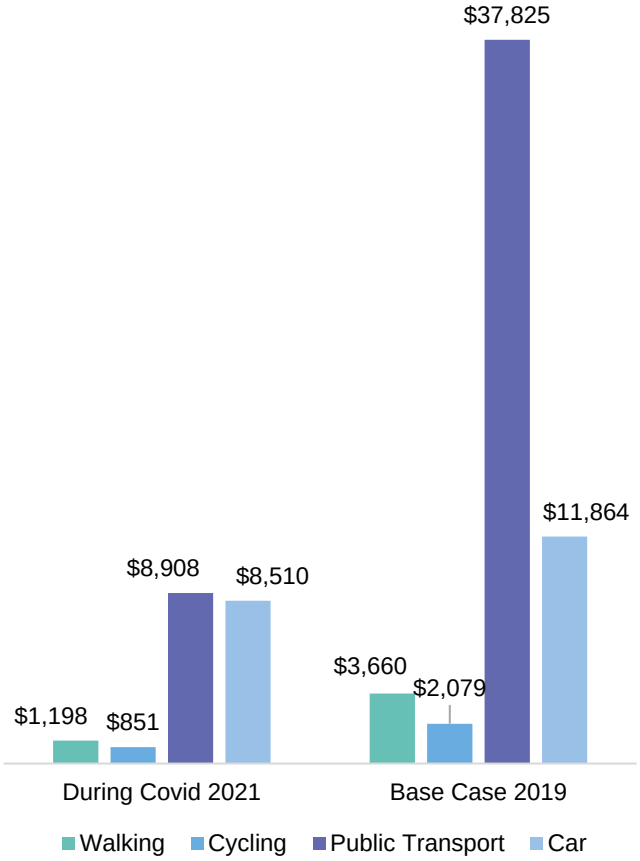
Source - Urbis based on VISTA, PWC and ABS

DURING-COVID ECONOMIC ACTIVITY BY MODE

CHANGES DURING COVID (2021)

During Covid, in 2021, economic activity decreased overall and there was a shift towards more economic activity being derived from people travelling by car.

Note these calculations are modelled using Journey to Work data.



During Covid (2021) - Economic Activity by Mode and Industry Sector $M)

Industry Sector	Walking	Cycling/scootering	Public Transport	Car	TOTAL
Accommodation and Food Services	$19	$4	$50	$49	$122
Administrative and Support Services	$51	$20	$362	$294	$726
Agriculture, Forestry and Fishing	$0	$1	$5	$4	$10
Arts and Recreation Services	$2	$2	$11	$9	$25
Construction and Engineering	$19	$18	$206	$634	$878
Education and Training	$11	$9	$75	$44	$139
Electricity, Gas, Water and Waste Services	$188	$168	$1,604	$1,235	$3,194
Financial and Insurance Services	$324	$205	$2,653	$2,116	$5,298
Health Care and Social Assistance	$10	$7	$65	$72	$154
Information Media and Telecommunications	$116	$89	$856	$757	$1,818
Manufacturing	$5	$5	$40	$53	$103
Mining	$16	$10	$81	$80	$187
Personal and Other Services	$12	$5	$53	$63	$134
Professional, Scientific and Technical Services	$223	$160	$1,284	$1,074	$2,742
Public Administration and Safety	$77	$82	$638	$455	$1,253
Rental, Hiring and Real Estate Services	$60	$18	$393	$896	$1,366
Retail Trade	$8	$2	$42	$34	$86
Transport, Postal and Warehousing	$37	$43	$442	$574	$1,095
Wholesale Trade	$19	$4	$47	$67	$137
TOTAL	**$1,198**	**$851**	**$8,908**	**$8,510**	**$19,465**
TOTAL (per cent)	6%	4%	46%	44%	

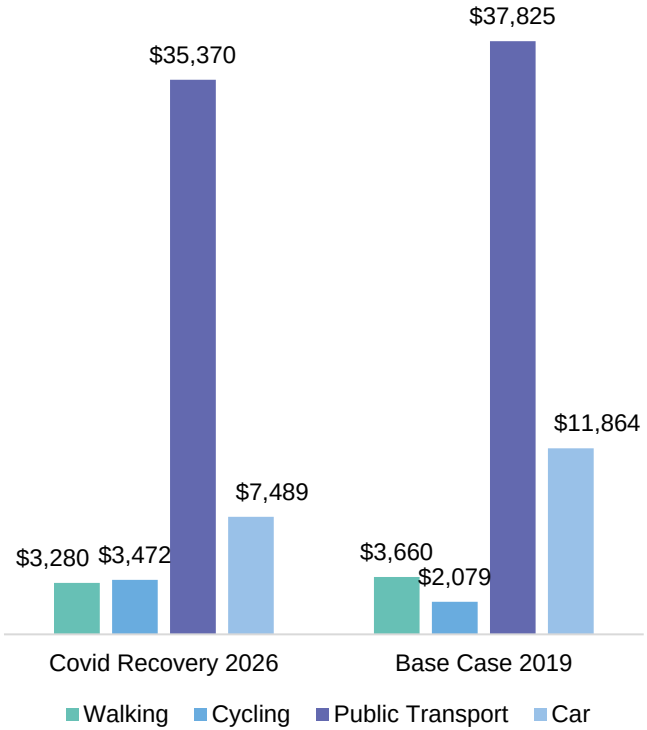
Source - Urbis based on VISTA, PWC and ABS

COVID-RECOVERY ECONOMIC ACTIVITY BY MODE

CHANGES DURING COVID RECOVERY

The Covid Recovery period, in 2026, represents a resetting of the 'new normal' for economic activity. There is an increase in public transport and active transport compared to pre-covid (2019) and a corresponding decrease in car access to the city as people favour other modes. This reduction in car access/demand represents an opportunity to rethink street space allocation and re-purpose space for improved active transport and public transport.

Note these calculations are modelled using Journey to Work data.



Covid Recovery (2026) - Economic Activity by Mode and Industry Sector $M)

Industry Sector	Walking	Cycling/scootering	Public Transport	Car	TOTAL
Accommodation and Food Services	$199	$69	$828	$186	$1,281
Administrative and Support Services	$136	$87	$1,513	$272	$2,008
Agriculture, Forestry and Fishing	$1	$3	$22	$4	$29
Arts and Recreation Services	$24	$36	$183	$34	$277
Construction and Engineering	$26	$39	$425	$287	$776
Education and Training	$120	$151	$1,230	$161	$1,662
Electricity, Gas, Water and Waste Services	$249	$360	$3,301	$573	$4,483
Financial and Insurance Services	$870	$895	$11,097	$2,016	$14,877
Health Care and Social Assistance	$36	$39	$357	$84	$517
Information Media and Telecommunications	$311	$387	$3,581	$725	$5,003
Manufacturing	$19	$29	$219	$63	$330
Mining	$43	$44	$337	$70	$494
Personal and Other Services	$33	$24	$223	$56	$335
Professional, Scientific and Technical Services	$600	$698	$5,371	$1,026	$7,694
Public Administration and Safety	$207	$359	$2,670	$435	$3,672
Rental, Hiring and Real Estate Services	$210	$101	$2,156	$1,032	$3,499
Retail Trade	$82	$36	$692	$129	$939
Transport, Postal and Warehousing	$49	$92	$909	$258	$1,307
Wholesale Trade	$67	$25	$256	$80	$428
TOTAL	**$3,280**	**$3,472**	**$35,370**	**$7,489**	**$49,612**
TOTAL (per cent)	7%	7%	71%	15%	

Source - Urbis based on VISTA, PWC and ABS

ECONOMIC CONTRIBUTION BY MODE

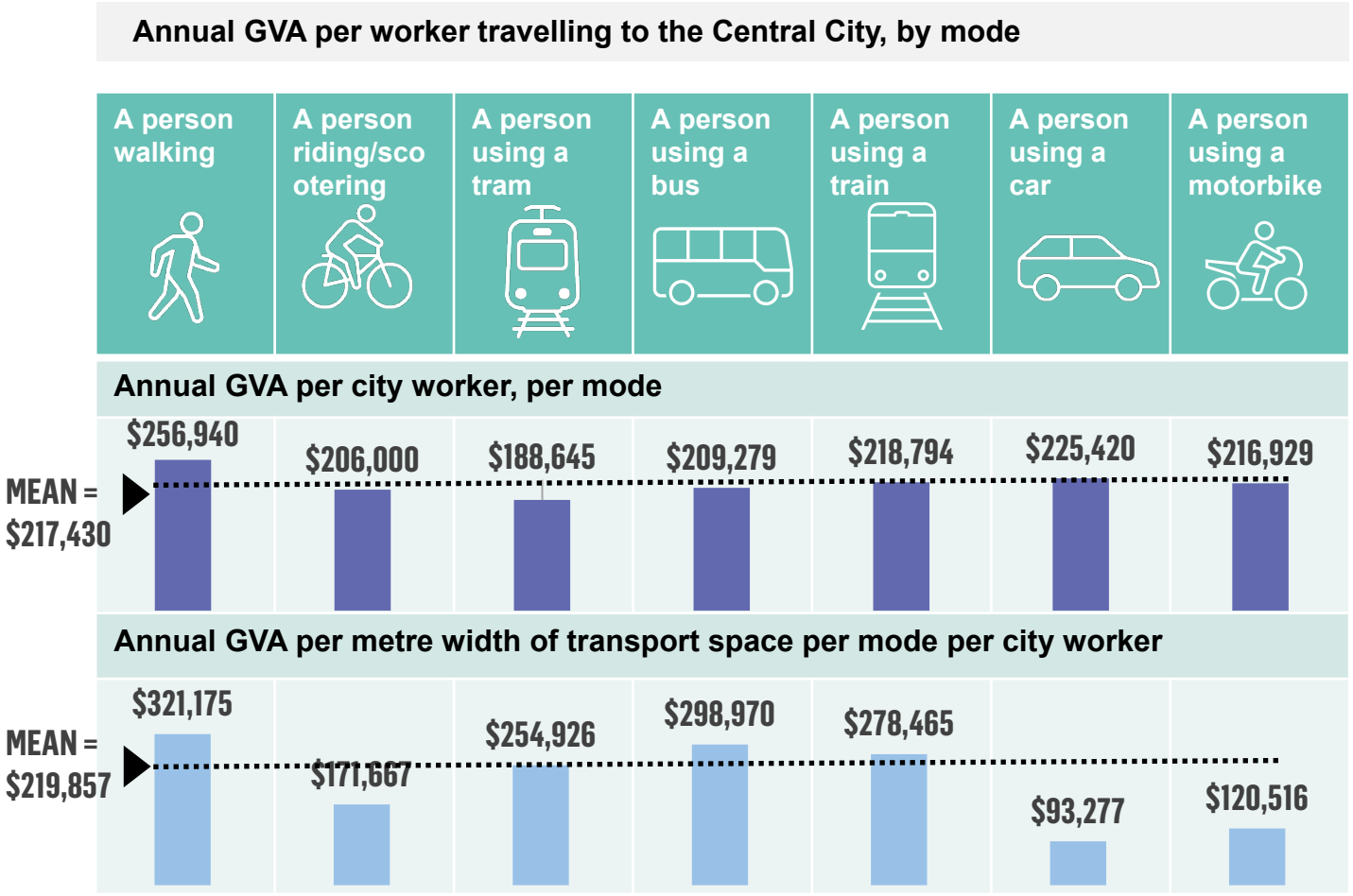
ANNUAL GVA PER WORKER TRAVELLING TO THE CENTRAL CITY

There is a broad spectrum of economic contributions made by different transport modes shown on this page. These have been calculated according to the type of work undertaken by people using different modes of transport in the Central City.

Each mode has a different spatial requirement for accommodating users. Active and public transport is far more space-efficient than car use, resulting in the road space used for car access providing a below-average return on investment compared to the use of public space for other modes.

Whilst all modes are important to the Central City economy, sustainable modes offer greater potential to bring more people into the city, and therefore should be prioritised. There are opportunities to increase the GVA contribution of sustainable modes through the provision of new trams, the Melbourne Metro project, and encouraging uptake in walking and cycling, all of which do not require any additional transport space. Increasing the GVA contribution of cars can only be achieved by reducing through traffic or demolishing buildings to allow for new roads to be built, both of which are complex to undertake in the Central City environment.

Note these calculations are modelled using Journey to Work data.



*Assumptions
Approximate road space per user (m)
Train 0.785714286
Bus 0.7
Ferry 2.083333333
Tram 0.74
Taxi 1.933333333
Car 2.416666667
Truck 2.666666667
Motorbike 1.8
Bike/e-scooters 1.2
Walk 0.8

Source - Urbis based on VISTA, PWC and ABS

CONCLUSION

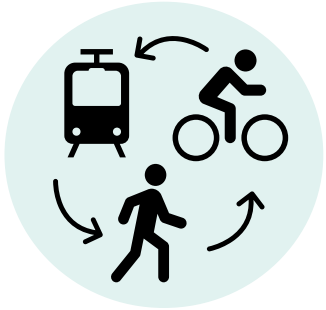
05

KEY FINDINGS

How and why do people come to the Central City?

The top three reasons people come to the city are for work (58 per cent), socialising (16 per cent) and education and shopping (six per cent). Most trips to the Central City are made by sustainable modes (58 per cent), of which public transport accounts for the largest portion of trips (45 per cent). The 'typical' Central City visitor is someone who has come for work via public transport. However, there are a myriad of reasons and modes used to access the Central City and each contribute to the economy to different degrees.

Refer to Pages 18-20.



When they're in the Central City, how do they get about?

Walking is an important mode of transport for moving around the city. Walking accounts for 86 per cent of trips within the Central City. Although, internal trips around the Central City contribute a significant amount of GVA to the economy they have not been measured as part of calculations in this study due to data limitations. It is recognised that walking trips within the Central City play a significant role in generating economic activity, and further analysis on such trips would be an insightful piece of work.

Refer to Pages 18-22.

How much economic contribution is made by each transport mode?

Two significant findings include public transports' overwhelming importance to the Central City economy and that walking to the Central City provides the greatest contribution compared to all other modes.
The space required for a pedestrian returns $321,175 p.a whereas the space required for a car returns $93,277 p.a in economic benefit.

Refer to Page 24-31.

How has Covid-19 changed things?

The Covid-19 pandemic has changed how the Central City functions, with hybrid work-from-home work schedules likely becoming a long-term trend. The downturn in public transport use experienced during Covid will swing strongly the other way with the Covid Recovery (2026) period seeing more people than ever using public transport, based on the assumption that concerns about Covid will reduce. Active transport is set to grow by 2026 also. There is likely to be a corresponding decline in car use.

Refer to Page 27-30.

KEY RECOMMENDATIONS

Attract workers back

Encouraging return to work in the Central City is vital for supporting the many businesses that rely on footfall past their premises. It is likely that there will remain a long-term working-from-home trend, but attracting back people to their offices as much as possible will provide economic flow-on more broadly. This could be achieved through the provision of events and city activation and prioritisation of public transport access to the city based on each mode's relative economic contribution.

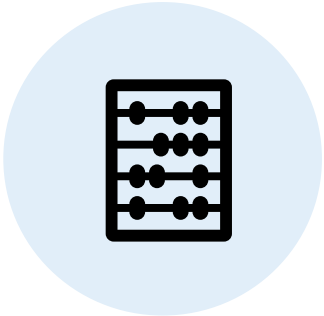
Emphasise active and public transport for Central City Access

Active and public transport have been shown to be the mainstays of access both to, and within the Central City. The City of Melbourne has a policy of supporting sustainable transport modes and should have comfort in knowing that in doing so they are supporting economic activity in the Central City. There will likely be further projects such as street/laneway pedestrianisation, and cycling/scootering encouragement programs and infrastructure development which will further support these endeavours.

Look for ways to remove through traffic from the Central City

Cars and trucks that have a destination in the Central City provide an economic contribution. However, cars and trucks that travel through the Central City without stopping inhibit these trips and provide no economic contribution to the Central City. These vehicles should be discouraged through an appropriate mechanism.
Other cities have achieved this by making travel through their central areas

- More expensive.
- Less convenient.
- Less time efficient.
- More circuitous.



Allocate road space based on its value to the Central City economy

People arriving by car do contribute to the Central City economy, however, the cost of providing for them (through land and infrastructure requirements) is far in excess of other transport modes which are more space-efficient and require less infrastructure. Council is encouraged to consider the value of road space and invest in space-efficient modes that will ultimately maximise visitation to the Central City.

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