

Fitzroy Street Route 16 Tram Stop Upgrade: Economic and Business Impact Assessment

Final Report

Port Phillip City Council
September 2013



Independent insight.



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EXECUTIVE SUMMARY

SGS Economics & Planning (SGS) was commissioned by the City of Port Phillip (Council) to investigate the business and economic impacts of the proposed tram stop upgrades on Fitzroy Street, which would allow new low-floor trams to run along the Tram Route 96 and parts of Tram Route 16, thereby increasing tram service reliability, efficiency and access for customers using these routes. Council was specifically interested in the impacts on footfall, property levels and rental values, trading mix and day and night time trading activity.

Presently, four upgrade options are under consideration, two of which have been proposed by Public Transport Victoria (PTV), and the other two by Council. Three of these options will involve amalgamation of current stops 132 and 133 into an accessible level access tram stop which is compliant with the Disabilities Discrimination Act 1992 (DDA) and will require removal of some car spaces and a narrowing of through lanes. The fourth option will see the removal of current stop 133 and provide no DDA compliant stop. A graphical representation of these options is shown in Figure 1.

To respond to the task, SGS undertook three separate exercises as follows:

- An analysis of factors underpinning present trading conditions on Fitzroy Street, and where possible, how these have evolved with time, having regard to: pedestrian and vehicular traffic; number of people alighting at, and getting on trams along Fitzroy Street; parking spaces; and property values.
- A literature review, to identify relevant case studies in Melbourne, which have or were about to receive tram stop upgrades (at the time of undertaking the research), to document realised and anticipated outcomes of such upgrades.
- On-site surveys of shopkeepers and shoppers on Fitzroy Street, St Kilda and High Street, Northcote, where level access tram stops have been introduced into a strip shopping centre in a similar fashion to that proposed for Fitzroy Street, to observe the respondent's expectations of impacts and their experience after the introduction of upgraded tram stops.

Key findings from these exercises

Collective findings from these exercises with significant bearing on the results of this report are summarised below.

- The pedestrian environment dominates on Fitzroy Street, with nearly as many pedestrians on the street as there are vehicles. Up to 1,450 pedestrians were present on different sections of Fitzroy Street during the last traffic survey in March 2013 compared with up to 1,200 vehicles during peak periods.
- Shopkeepers (in general) perceive trams as providing positive spinoffs for their businesses as they provide convenient shopping access to potential customers. Those shops in close proximity to a tram stop stand to gain most. Notwithstanding this, these shopkeepers are mindful that provision of level access tram stops reduce parking availability and may also lead to higher congestion levels, consequently, detracting shoppers who would prefer to drive or ride through, or to the street.
- Limited experience suggests that traders may not be accurate in their anticipation of the adverse impacts of removal of car spaces, especially when other 'background' factors are at play which might negatively influence trading. Moreover, presently, the availability of parking spaces on Fitzroy Street is limited in peak hours, however, any consequent reduction in parking spaces due to the provision of a

level access tram stop, will not completely eliminate unoccupied available parking spaces on the Street. Indeed there are large car parks centres available in the vicinity of the street which may mitigate parking availability.

- Shoppers and visitors prefer boarding and alighting from trams at a level access tram stop. Importantly, provision of such stops may induce some visitors and shoppers to visit the host street more frequently. This induced impact may be as high as 14%. Indeed, the use of level access tram stops on studied and surveyed locations was higher compared with other tram stops.
- Growth in property values along Fitzroy Street reveals that some types of retail outlets, including restaurants, shops and nightclubs, in close proximity to level access tram stops, experienced a higher growth in these values relative to similar properties elsewhere during the 2008 – 2012 period.
- Finally, the research and on-site surveys did not provide any indication of any significant changes in the retail mix, or day and night time trading activity that might result after the introduction of level access tram stops.

Estimated business and economic impacts

The discussion below summarises our findings on business and economic impacts for each option. More details are provided in Tables 6 -9 in the report.

The time and resources made available for this study did not support precise measurement of the impacts of each option. Nevertheless, the research we have assembled provides clear guidance on the direction of the business and economic effects of the various tram stop configurations.

Option 1 - 3

It is noted here that the first three options under consideration are largely similar as far as impacts on tram patrons are concerned, i.e. they are anticipated to result in an increase in tram patrons of a roughly similar magnitude (up to 14% if results of available research are to be believed). Consequently, the impacts on footfall arising due to a higher tram patronage might be largely similar too across these options. These three options also appear quite similar in terms of influencing cyclists and other pedestrians.

On this basis, it appears that footfall might increase marginally under all three options, arising due to increased tram patronage and the marginal increase in vehicles, pedestrians and cyclists who might use the Street after the introduction of the level access tram stop. Importantly, this increase may be most pronounced under Option 3.

The first three options also appear similar in their effects on improving the amenity of the Street, with no significantly different impacts expected for the retail mix and trading hours from current levels. The increase in frequency of trams may induce some late night time activity under all three options. This may result in some increased turnover for businesses that choose to extend late night trading hours.

Notably, however, these options differ in their provision of access to vehicles along the Street. Option 1 for instance, severely restricts vehicle access into and out of the St Kilda Sports Club and the primary school, while Option 2 also restricts access for vehicles into these key sites. Though, Option 1 would only see a reduction of two parking spaces as opposed to eight under the other two options. Nevertheless, all three options will involve a similar reduction in road space.

Option 4

Option 4 on the other hand may significantly impact some tram users in an adverse way (particularly those with limited mobility). Consequently, footfall may indeed decline in this option compared with current levels. Moreover, relative to the other three options, retail mix, property values, shopping turnover and trading hours are unlikely to be affected under this option.

Conclusions

Collectively, these findings indicate that Option 3 is best. This is because (refer table on the following page):

- Option 3 performs best in influencing footfall amongst all four options considered, and consequently, turnover.
- This option performs at par in influencing amenity levels, property values, retail mix and day and night time trading compared with Options 1 and 2, but better than Option 4.

Factors influencing trading activity	Option 1	Option 2	Option 3	Option 4	Preferred option
Overall footfall (impacted by tram patronage, number of cyclists, pedestrians and vehicular traffic)	Increase somewhat	Increase somewhat	Increase	May reduce	Option 3
Amenity/ surroundings	Increase somewhat	Increase somewhat	Increase somewhat	No change	Option 1 – 3 perform equally
Shopper turnover	May increase somewhat due to increased footfall and increased night time trading activity	May increase somewhat due to increased footfall and increased night time trading activity	May increase due to increased footfall and increased night time trading activity	May reduce	Option 3
Retail mix	Unlikely to change significantly			No change	-
Day-time trading activity				No change	-
Night-time trading activity	May increase somewhat	May increase somewhat	May increase somewhat	No change	Option 1 – 3 perform equally

Strategies to mitigate impact

Regardless of the option which is implemented, it is our recommendation that steps are taken to communicate the benefits of the upgrades to the community before implementing any changes, and to mitigate impacts of the upgraded infrastructure on users of the precinct. Several government organisations have sought to mitigate potential adverse impacts and leverage positives when considering introduction of level access tram stops in a community.

VicRoads conducted an extensive community consultation process on the proposed installation of tram platforms stops in Swanston Street, between Victoria Street and Grattan Street. The consultation process included a mass distribution of an information bulletin and feedback form; communicating with tram users by distributing brochures; hosting community information sessions; meeting with traders to allay fears and misconceptions; distributing information packs for specific stakeholders (included feedback forms); as well as hosting individual meetings, promoting the level stops in newspaper advertisements and on the their own website and monitoring feedback on social media.

With the changes to the sharing of road space that these level access stops introduce, it is also important that pedestrians, cyclists and drivers are informed on how to use the new environment safely. In this regard, the City of Darebin arranged for Yellow Men to be “on duty” at the new “kerb outstand’ tram stops outside the Northcote Social Club (Stop 32) and the Town Hall (Stop 31). Their role was to help pedestrians, tram passengers and cyclists to “share the road with care”. Yarra Trams also had customer service employees at the stops to assist passengers to board trams safely.

The City of Melbourne also utilised a similar approach with individuals directing traffic and pedestrians along Swanston Street dressed as lifesavers and umpires after the introduction of super-stops on Swanston Street.

It is our recommendation that Council also investigate steps, like engaging Yellow Men (similar to City of Darebin) to help users on the road after the introduction of the upgrades (indeed, if either of options 1 – 3 are finalised).

1 INTRODUCTION

1.1 Project context

Tram Route 96, and parts of Tram Route 16, have been selected for upgrades by Public Transport Victoria (PTV), to run the new low-floor trams, and consequently, improve tram service reliability, efficiency and access for customers using these routes. This will involve modifications to tram access arrangements on Fitzroy Street, between Princess Street and Grey Street, (i.e. between the current stops 132 and 133).

Presently, four options for tram-work upgrades to tram stops 132 and 133 are 'on the table'; two proposed by PTV and two by City of Port Phillip (Council).

Three of these options will involve amalgamation of current stops 132 and 133 into an accessible level tram stop which is compliant with the Disabilities Discrimination Act 1992 (DDA). These will also require removal of some car spaces and a narrowing of through lanes, thereby affecting the speed of car movements through the area.

The fourth option will see the removal of current stop 133 and provide no DDA compliant stop. This option works within a more traditional tram stop layout and would have a much reduced impact on through traffic and parking. Indeed through movements may be facilitated by the net reduction in tram stops.

Each of the four options is graphically represented on the following pages.

PTV, as the proponent of the tram-works, is consulting with the community about these changes. Council is also making its own assessments and talking with stakeholders in its capacity to *"create an environment where businesses can grow and new opportunities can be considered and explored."* (project brief).

In this capacity, and to respond appropriately to PTV, Council engaged SGS Economics and Planning (SGS) to independently assess the economic and business impacts of the suggested tram stop changes on Fitzroy Street, having regard to footfall, rent levels and property values, retail mix and patterns of day and night time trading.

Stop 133 Option 1

230m to next stop

220m

75m

Distance between stops

Routes 3a, 16

132

Lakeside Drive

Albert Park

Princes St

Combine Stop 132 with new Stop 133 (below)

St Kilda Park Primary School Driveway

St Kilda Sporting Club

Balluk William Ct

Route 96

132

St Kilda Station

Canterbury Road

Grey Street

Combine with Stop 132 in new location (above)

133

Stop 133 Option 2

140m

155m

Distance between stops

Routes 3a, 16

132

Lakeside Drive

Albert Park

Princes St

Combine Stop 132 with new Stop 133 (below)

St Kilda Park Primary School Driveway

St Kilda Sporting Club

Balluk William Ct

Route 96

132

St Kilda Station

Canterbury Road

Grey Street

Combine with Stop 132 in new location (above)

133

Fitzroy Street Stop 133

Fitzroy Street Option 3

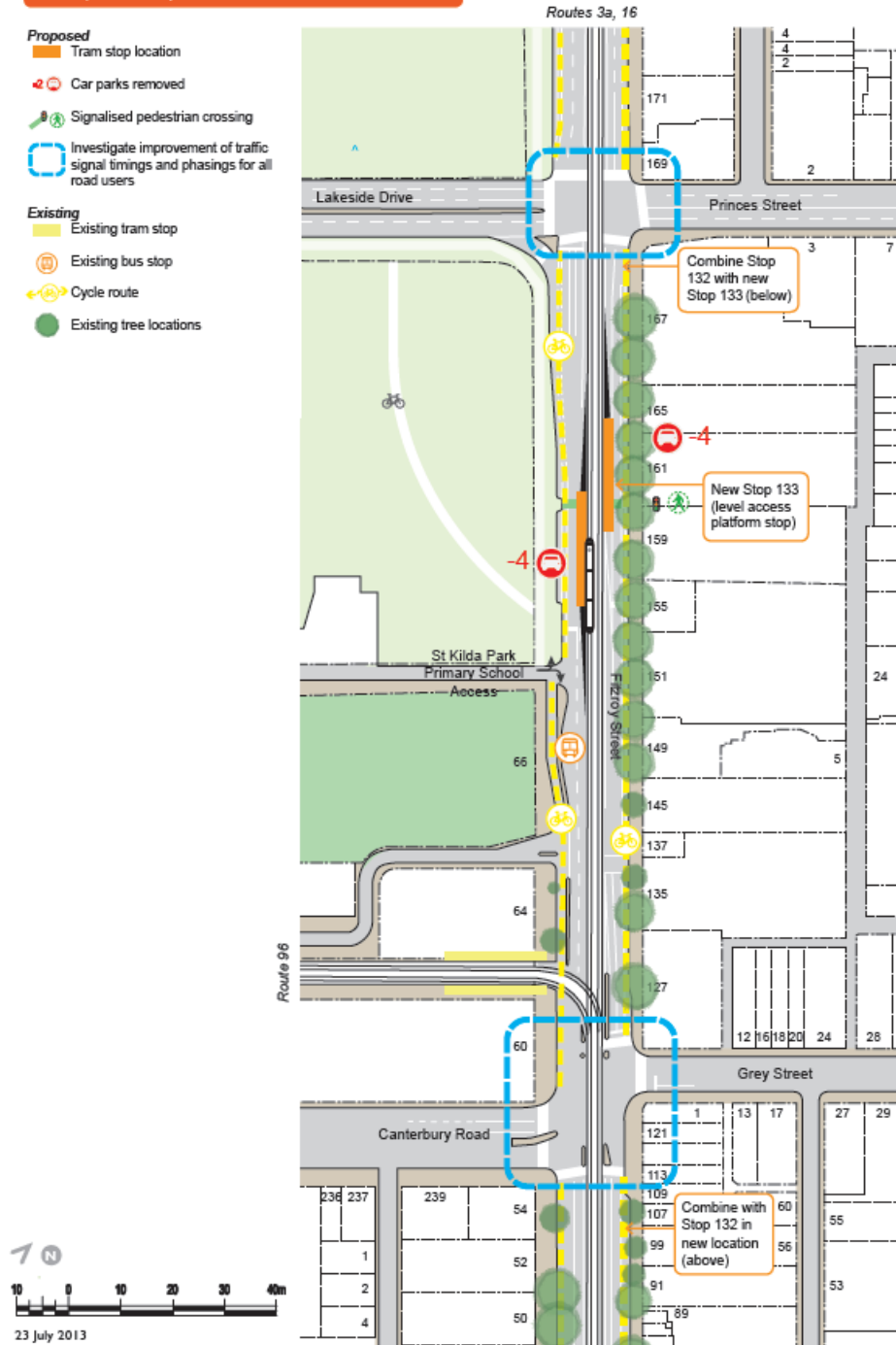


Proposed

- Tram stop location
- ⓧ Car parks removed
- Ⓜ Signalised pedestrian crossing
- Investigate improvement of traffic signal timings and phasings for all road users

Existing

- Existing tram stop
- Ⓜ Existing bus stop
- Ⓜ Cycle route
- Existing tree locations

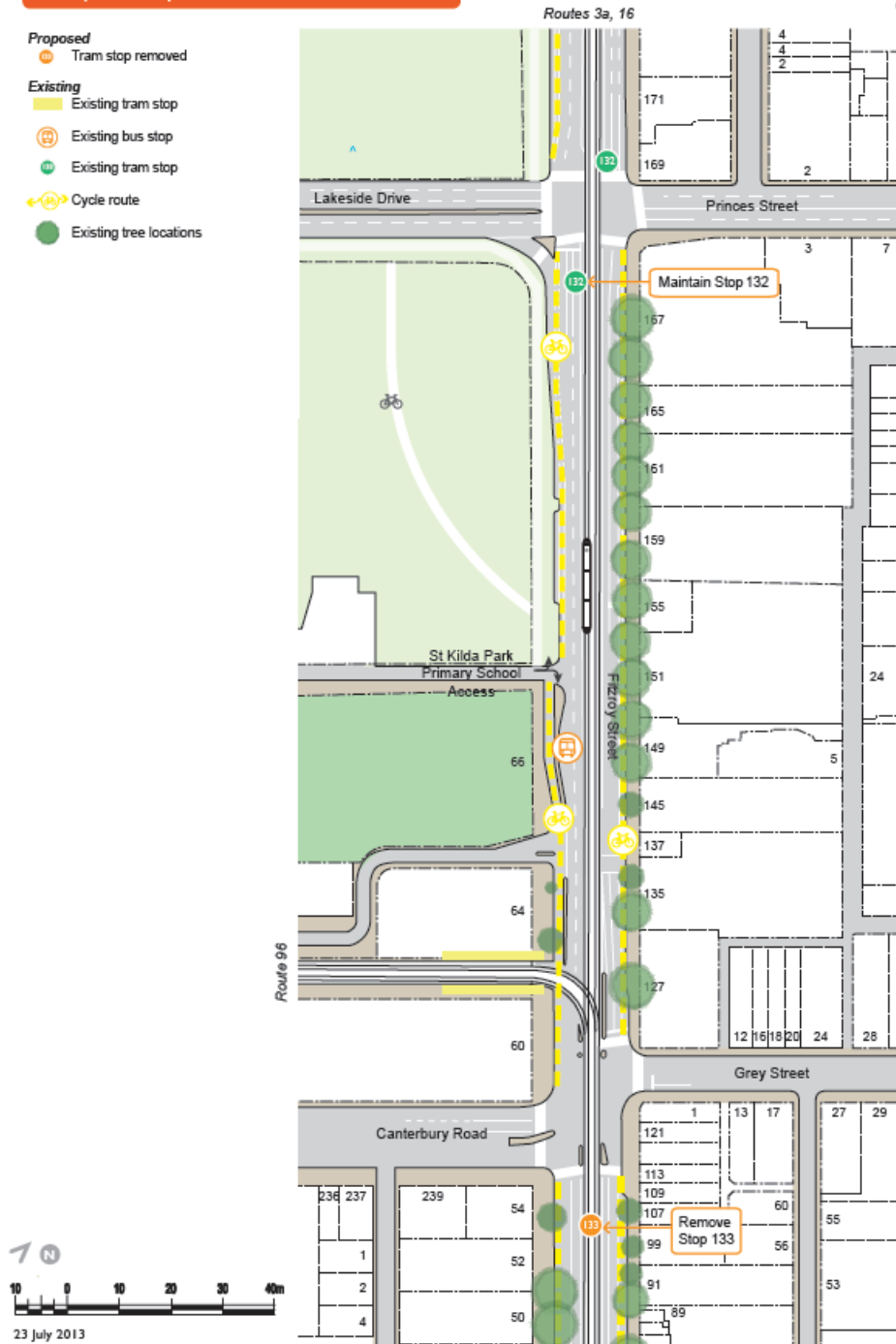


Fitzroy Street Stop 133

Fitzroy Street Option 4



- Proposed**
- Tram stop removed
- Existing**
- Existing tram stop
 - Existing bus stop
 - Existing tram stop
 - Cycle route
 - Existing tree locations



Source: City of Port Phillip website, <http://haveyoursayatportphillip.net.au/tram-route-96>.

1.2 Agreed tasks and report structure

Our approach to this project involved three key elements, as set out below.

Contextualising present trading conditions on Fitzroy Street

Using a variety of databases maintained by Council, and studies commissioned by Council and PTV, SGS analysed factors underpinning present trading conditions on Fitzroy Street, and where possible, how these have evolved with time, giving regard to:

- Pedestrian and vehicular traffic;
- Number of people alighting at, and getting on trams along Fitzroy Street;
- Parking spaces; and
- Property values

Findings from this analysis are reported in section two of this document.

This section sets the basis for comparison of the proposed business and economic impacts, later in the document.

Desk top review of case studies

SGS undertook a literature review, including sourcing documents from colleagues in PTV, to identify relevant case studies in Melbourne, which have or are about to receive tram stop upgrades, to document outcomes of such upgrades on:

- Overall impact on trade levels, footfall and general vibrancy;
- Shifts in rents and land values;
- Shifts in role and retail offer; and
- Strategies undertaken to mitigate adverse impacts and leverage positives.

Key lessons for Fitzroy Street are noted in section three of this document.

Included in this section are insights from consultation with SGS's in house strip centre adviser (Nigel Flannigan) regarding potential impacts of the Fitzroy Street arrangements.

Physical surveys of selected case study sites

Complementing the desk top review, SGS selected two case study locations around Melbourne (Fitzroy Street, St. Kilda and High Street, Northcote), where level access tram stops have been introduced into a strip shopping centre in a similar fashion to that proposed for Fitzroy Street. Tram Stop 135 on Fitzroy Street was upgraded in 2010, whilst tram stops 31 and 32 on high Street were upgraded to a DDA compliant tram stop in 2012. Tram stop 27 on High Street also hosts a central level-access platform.

For these locations, SGS undertook on-site surveys of shopkeepers and shoppers during two weeks in the month of August 2013. These surveys had a dual focus:

- Speaking with shop-keepers (selected on a stratified random sample basis) regarding their expectations of impacts and their experience after the introduction of the stops; and
- Observing shopper behaviour regarding impacts of upgraded tram stops on their travel behaviours.

Summary outcomes from these on-site surveys are reported in section four of this document.

Included in this section are insights from on-site surveys that SGS undertook on High Street, Armadale in Stonnington in 2011 uncovering trader perceptions on the impacts of removal of parking bays and institution of clearways on trading levels.

Conclusions

Finally, section five utilises findings from all of the above-mentioned sections to draw conclusions on the business and economic impacts of the suggested tram stop upgrades (under each option) on footfall, rent levels and property values, retail mix and patterns of day and night time trading.

It has not been possible, within the time and resources available for this study, to precisely quantify the business and economic impacts arising from the suggested tram stop upgrades. Nevertheless, the evidence set out in this report provides clear guidance as to the scale of these impacts, differentiated by option.

Before concluding this introductory section, a brief background to DDA compliant tram stops is provided for the interested reader below.

1.3 Policy Context

Victoria has an obligation under the Commonwealth Disability Discrimination Act 1992 (DDA) to significantly increase the number of level access stops and low-floor trams on the network over time.

These changes will not only benefit those passengers with a disability but also older passengers and those with prams, luggage and shopping, and consequently, result in faster and safer loading and alighting for all passengers.

The DDA Act stipulates that Victoria must achieve 100 percent DDA compliance on the tram network by 2032. The prioritisation of specific tram stops is occurring in line with the Disability Standards for Accessible Public Transport Guidelines 2004 so as to maximise accessibility on highly patronised routes.

There are 1,785 individual tram stops in the Melbourne network. Currently only 88 (5%) are fully accessible and DDA compliant with wheelchair-accessible platforms.

Yarra Trams is required to prepare a plan of action to comply with the Disability Standards for Accessible Public Transport (DSAPT) 2002. Yarra Trams is also required to undertake audits and prepare a two-year DDA Works Programs, updated on an annual basis¹.

The State Government has a policy to reduce tram travels times and unreliability by 20 per cent over the next 5 years. This will increase the system's competitiveness with car, reduce operating costs and enable more frequent services to be run with the same number of trams.

As part of these plans, it is emphasised that there is no general policy or strategy to increase tram stop spacing. Tram Plan (completed in 2003 but yet to be adopted) did not recommend increasing stop spacing as a general principle. It recommended looking at every situation (outside the CBD) where stop are within 200m of each other, to see if removal or combination of these stops was justified case-by-case².

¹ Accessible Public Transport in Victoria, Action Plan 2006 to 2012

http://ptv.vic.gov.au/assets/PTV/PTV%20docs/Accessible_Public_Transport_2006-2012.pdf

² Tram Route Initiatives in Bourke Street, SKM, 2006.

2 TRAFFIC COUNTS AND PROPERTY VALUES ON FITZROY STREET

2.1 Information sources

This section uses information from the following databases maintained by Council, and studies commissioned by Council, to analyse factors underpinning present trading conditions on Fitzroy Street, and where possible, how these have evolved with time:

- Council’s property valuations data covering premises on Fitzroy Street and the time periods of 2004, 2008 and 2012;
- Public Transport Victoria 2013 data, summarising on and off tram boarding numbers and tram load for all trams using stops 132 and 133;
- Traffic Works 2013 report containing traffic, pedestrian and parking surveys undertaken on Thursday 6th December and Saturday 8th December 2012;
- AECOM 2013 report containing pedestrian, vehicle and cyclist count surveys on Fitzroy Street between Lakeside Drive/ Prince Street and Canterbury Road/ Street; and
- Council’s BVY Traffic Survey 2013 data containing pedestrian counts on Fitzroy Street.

It is noted that all these databases and studies were provided to SGS confidentially, and only for the purposes of this report.

2.2 Footfall

Shoppers visiting Fitzroy Street arrive use multiple modes of public and private transport. Consequently, the number of shoppers, and, footfall in general on Fitzroy Street, is governed by a number of factors including; tram numbers and frequency; counts of vehicles, cyclists and pedestrians passing through the street; and the number of parking bays available on and off-street.

This section provides statistics on these factors, as assessed by most recent traffic surveys.

AECOM commissioned Nationwide Traffic Surveys to undertake surveys on Fitzroy Street between Lakeside Drive/ Princess Street and Canterbury Road/ Grey Street on Tuesday 16th October 2012, from 7am to 9am and 4pm to 6pm. These times were selected to represent the typical busy weekdays in the AM and PM peak periods. The surveys included tram frequency by tram route and counts of pedestrians, cyclists and vehicles.

Table 1 overleaf shows tram frequency, vehicle and cyclist count as presented in the AECOM report for Fitzroy Street, taken from the above surveys and pedestrian counts taken from the BVY traffic Survey 2013. Table 2 further overleaf shows boarding numbers for the route 16 tram recorded by Public Transport Victoria.

Before examining these results, it must be noted that tram stops 134 and 135 already provide level access to commuters travelling along this route.

TABLE 1. TRAM FREQUENCY AND COUNTS OF PEDESTRIANS, VEHICLES AND CYCLISTS

Assessed indicator	Location	Existing Conditions
Tram Frequency* *Route 96 tram services stop 133 but not stop 132 as it connects the St Kilda light rail line. Consequently, tram frequency for stop 133 is much higher compared with tram stop 132	Stop 132 (7am to 9am)	22
	Stop 132 (4pm to 6pm)	24
	Stop 133 (7am to 9am)	61
	Stop 133 (4pm to 6pm)	61
Pedestrian count Weekdays	Fitzroy Street (Northern Side West & East Bound) (7am to 9am)	565
	Fitzroy Street (Northern Side West & East Bound) (9am to 12pm)	1,125
	Fitzroy Street (Northern Side West & East Bound) (12pm to 3pm)	1,271
	Fitzroy Street (Northern Side West & East Bound) (3pm to 7pm)	1,498
	Fitzroy Street (Southern Side West & East Bound) (7am to 9am)	540
	Fitzroy Street (Southern Side West & East Bound) (9am to 12pm)	1,050
	Fitzroy Street (Southern Side West & East Bound) (12pm to 3pm)	1,273
	Fitzroy Street (Southern Side West & East Bound) (3pm to 7pm)	1,485
Pedestrian count Saturday	Fitzroy Street (Northern Side West & East Bound) (10am to 12am)	793
	Fitzroy Street (Northern Side West & East Bound) (12pm to 2pm)	826
	Fitzroy Street (Northern Side West & East Bound) (2pm to 4pm)	817
	Fitzroy Street (Southern Side West & East Bound) (10am to 12am)	810
	Fitzroy Street (Southern Side West & East Bound) (12pm to 2pm)	813
	Fitzroy Street (Southern Side West & East Bound) (2pm to 4pm)	773
Vehicle count	North East along Fitzroy Street (4pm to 6pm)	1,090
	South West along Fitzroy Street (4pm to 6pm)	1,188
Cyclist count	Total (AM)	218
	Total (PM)	188

Source: AECOM 2013. Fitzroy Street Traffic Impact Assessment and BVY traffic survey 2013.

In summary, these data suggests that:

- The pedestrian environment dominates on Fitzroy Street, with nearly as many pedestrians on the street as there are vehicles. Importantly, pedestrian activity increases quite significantly during off-peak hours and after the morning peak of between 7am and 9am (refer Table 1).
- Of all city bound commuters using route 16 tram, who board the tram between stops 135 and 131 along Fitzroy Street (refer Table 2), a majority choose to do so at level access stops 134 and 135, regardless of the day of the week. Tram stop 133 is also a popular stop to board the route 16 city bound tram on any day of the week.
- Of all commuters on a city bound route 16 tram, who alight the tram between stops 135 and 131 along Fitzroy Street (refer Table 2), a majority choose to alight at level access tram stops (tram stop 134 followed by 135), regardless of the day of the week. Few people alight from the tram at tram stop 133, except on a Saturday. Relatively few people alight at tram stop 132, regardless of the day of the week.

- Of all commuters who alight from a route 16 tram from the city along Fitzroy Street anywhere between tram stops 131 and 135 on a weekend, a higher number choose to do so at tram stop 133 when compared individually with those alighting at tram stops 134 and 135. However, collectively, a higher number of commuters alight at level access tram stops 134 and 135 compared with tram stop 133.
- On a weekday on the other hand, a much higher number of commuters alight at tram stop 133 compared with tram stops 134 and 135, further south along the Street.

Some interesting insights emerge from these observations. **Firstly**, tram stop 133 is certainly a popular stop for commuters using the route 16 tram to board and alight along Fitzroy Street. The number of commuters who use this tram stop to get on and off route 16 trams is much higher compared with those who use tram stop 132. **Secondly**, the use of level access tram stops 134 and 135 (collectively) is much higher compared with tram stop 133, especially on weekends, i.e. perhaps when those with higher access needs such as families with a pram or people with a disability use the tram route.

TABLE 2 BOARDING TIMES FOR THE NUMBER 16 TRAM

Day of the week	Stop Number	To City			From City		
		Ons	Offs	Loads	Ons	Offs	Loads
Saturday	138 Luna Park/ The Esplanade	739	222	1396	400	845	1014
	137 Robe Street/ the Esplanade	111	87	1421	31	89	1458
	136 Alfred Square/ The Esplanade	198	58	1561	13	102	1516
	135 Jacka Boulevard/ Fitzroy	159	77	1643	98	396	1605
	134 – Park Street/ Fitzroy Street	203	116	1730	191	111	1903
	133 Canterbury Road / Fitzroy Street	222	116	1836	107	405	1823
	132 Princes Street/ Fitzroy Street	111	58	1889	22	62	2121
	131 St Kilda road/ Fitzroy Street	19	10	1899	49	80	2161
Sunday	138 Luna Park/ The Esplanade	576	97	1190	175	171	669
	137 Robe Street/ the Esplanade	135	42	1283	16	97	988
	136 The Esplanade Hotel/ The Esplanade	135	28	1391	16	498	1069
	135 Acland Street/ Fitzroy	180	80	1491	51	284	1552
	134 Park Street/ Fitzroy Street	160	128	1523	93	179	1785
	133 Canterbury Road / Fitzroy Street	163	52	1634	78	171	1871
	132 Princes Street/ Fitzroy Street	62	52	1644	27	70	1964
	131 St Kilda road/ Fitzroy Street	35	35	1644	66	39	2007
Monday to Friday	138 Luna Park/ The Esplanade	633	242	1716	592	717	1369
	137 Robe Street/ the Esplanade	87	101	1702	58	76	1494
	136 The Esplanade Hotel/ The Esplanade	114	47	1770	52	198	1512

Day of the week	Stop Number	To City			From City		
		Ons	Offs	Loads	Ons	Offs	Loads
	135 Acland Street/ Fitzroy Street	266	145	1891	79	226	1659
	134 Park Street/ Fitzroy Street	323	269	1945	216	253	1805
	133 Canterbury Road / Fitzroy Street	427	158	2214	159	512	1842
	132 Princes Street/ Fitzroy Street	114	17	2311	6	98	2195
	131 St Kilda road/ Fitzroy Street	108	34	2385	52	82	2287

Table 3 and Table 4 overleaf show available car parking along Fitzroy Street and occupancy rates for Thursday the 6th December 2012 and Saturday the 8th December 2012.

Table 3 (referring to a weekday) reveals:

- A high level of parking demand for the Fitzroy Street Study area at 9:00 am, 3:00 pm and 8:00 pm where there is some difficulty in finding parking and therefore, motorists may circulate around searching for available spaces; and
- A maximum of 12 car parking spaces are unoccupied at 3pm and 8pm.

Table 4 (referring to a weekend) reveals:

- A moderate level of parking demand for the Fitzroy Street Study area at 9:00 am where parking is generally easy to find;
- A high level of parking demand for the Fitzroy Street Study area at 3:00 pm where there is some difficulty in finding parking and therefore, motorists may circulate around searching for available spaces;
- A very high level of parking demand for the Fitzroy Street Study area at 8:00 pm where the car park appears “full” and customers need to circulate to find any available spaces; and
- A maximum of 14 and 9 car parking spaces are unoccupied at 3pm and 8pm respectively.

Some interesting insights also emerge from these observations. **Firstly**, any reduction in parking spaces due to the provision of a level access tram stop, and regardless of the option under consideration, will not completely eliminate unoccupied available parking spaces on the Street. **Secondly**, there are more than ten unoccupied parking spaces available at 3 pm regardless of the day of the week, when non-food retailing shops are operational. Any loss in parking spaces due to the provision of a level access tram stop, and regardless of the option under consideration, will not completely eliminate unoccupied available parking spaces on the Street at that time. Indeed there are large car park centres available in and off the street which may mitigate parking availability.

TABLE 3 PARKING OCCUPANCY FOR FITZROY STREET ON THURSDAY 6TH DECEMBER 2012

Location	Supply	9:00am			3:00pm			8:00pm		
		Occupancy		Level of Parking Demand	Occupancy		Level of Parking Demand	Occupancy		Level of Parking Demand
		No.	%		No.	%		No.	%	
Fitzroy Street – North Side – btw Canterbury Street & Carpark Entrance	3	1	33%	Low	1	33%	Low	1	33%	Low
Off Street Car Park – btw Bowling Club & Park	46	40	87%	High	42	91%	Very High	40	87%	High
Fitzroy Street – North side – btw Carpark Entrance & Lakeside Drive	11	11	100%	Very High	10	91%	Very High	10	91%	Very High
Fitzroy Street – South Side – btw Princes Street & Grey Street	27	22	81%	High	22	81%	High	24	89%	High
Total Study Area	87	74	85%	High	75	86%	High	75	86%	High

Source: TrafficWorks PTY LTD 2013. Fitzroy Street Traffic Study Report

TABLE 4 PARKING OCCUPANCY FOR FITZROY STREET ON SATURDAY 8TH DECEMBER 2012

Location	Supply	9:00am			3:00pm			8:00pm		
		Occupancy		Level of Parking Demand	Occupancy		Level of Parking Demand	Occupancy		Level of Parking Demand
		No.	%		No.	%		No.	%	
Fitzroy Street – North Side – btw Canterbury Street & Carpark Entrance	3	0	0%	Low	0	0%	Low	0	0%	Low
Off Street Car Park – btw Bowling Club & Park	46	17	37%	Low	41	89%	High	41	89%	High
Fitzroy Street – North side – btw Carpark Entrance & Lakeside Drive	11	9	82%	High	9	82%	High	10	91%	Very High
Fitzroy Street – South Side – btw Princes Street & Grey Street	27	23	85%	High	23	85%	High	27	100%	Very High
Total Study Area	87	49	56%	Moderate	73	84%	High	78	90%	Very High

Source: TrafficWorks PTY LTD 2013. Fitzroy Street Traffic Study Report

2.3 Property Values

Table 5 below shows the average property values by retail type for all of Fitzroy Street and for those properties directly adjacent the level access tram stops 134 and 135.³

The purpose of the table is to identify any significant differences between the average values of properties (*and, in the growth of these values over time*) immediately adjacent a level access tram stop as opposed to the average values of properties in the whole precinct.

It should be noted that there would be many factors which contribute to the differences in average values between locations, such as location attributes, amenity of the surroundings, transport access to that part of the street, type and quality of businesses, views from the premises and perhaps several more. Nevertheless, it would be interesting to see if growth in property values adjacent to level access stops between 2008 and 2012 (the timeframe between which these stops were introduced) was significantly different from that of the whole precinct, especially, where the 2008 base values of properties for the whole precinct and those adjacent level access stops were largely similar.

These data show the following:

- ‘Shops’ immediately adjacent the platform stop 135 have experienced a significantly greater increase in growth between 2008 and 2012 compared to the Fitzroy Street precinct as a whole. However, ‘shop’ properties adjacent stop 134 experienced lower growth in their underlying value compared to the whole precinct.
- ‘Nightclub/cabaret’ properties immediately adjacent platform stop 134 also experienced significantly greater growth than the average values for the total precinct between 2008 and 2012. As a result of this growth, the average value of ‘nightclub/cabaret’ properties immediately adjacent stop 134 rose above the average value for similar types of properties for the precinct as a whole in 2012.
- While ‘restaurant’ properties immediately adjacent stop 135 experienced relatively less growth than the Fitzroy Street precinct as a whole, those adjacent stop 134 experienced relatively higher growth.
- Cafes on the other hand experienced a decline in value between these intervening years for the entire precinct. However, this decline was more pronounced for properties adjacent to tram stop 134.

³ These include properties at the intersection of Park Street and Fitzroy Street (adjacent tram stop 134) and those at the intersection of Jacka Boulevard and Fitzroy Street (adjacent tram stop 135). Total property value by retail type is divided by the number of establishments of that retail type to estimate average property values.

TABLE 5. GROWTH IN PROPERTY VALUES (BY RETAIL TYPE) FOR WHOLE PRECINCT AND PROPERTIES ADJACENT EXISTING LEVEL ACCESS TRAM STOPS

	Properties adjacent tram stop 134 (25 to 75 Fitzroy Street)	Properties adjacent tram stop 135 (1 to 24 Fitzroy Street and 1 to 16 Esplanade)	Properties in the whole precinct
Café	-5.9%	-	-1.3%
Convenience Store/Fast Food	9.2%	-	9.2%
Hotel	1.2%	-5.6%	-2.8%
Motel	-4.1%	-	-2.8%
Nightclub/Cabaret	15.4%	-	10.5%
Restaurant	3.1%	-3.4%	1.4%
Shop	-5.1%	6.6%	-1.5%
Strata/Subdivided Office	5.2%	3.4%	3.6%

Source: SGS analysis based on Council's valuations data.

3 DESKTOP RESEARCH FINDINGS

3.1 Information sources

This section uses research findings from studies commissioned by VicRoads and Yarra Trams, on the impacts of planned or completed upgrades to tram stops in other parts of metropolitan Melbourne on trading activity. The following sources are utilised here:

- Sweeney Research from December 2006, undertaken on behalf of VicRoads, which contains findings from face-to-face interviews held with 514 city tram users and 200 retailers to gauge opinions about the planned construction of, and upgraded level access tram stops along Collins Street and Bourke Street Mall;
- SKM Research from 2004, undertaken on behalf of Yarra Trams, which contains findings from face-to-face interviews with retailers and tram users on a proposal to improve travel times, user safety and the tram route along Victoria Parade between Brunswick Street and Hoddle Street, including consideration of the relocation and upgrade of tram stops to suit adjacent traffic works and provide level platform access; and
- Insights gained from consultation that SGS held with its in-house industry expert, Nigel Flannigan, who has many years-worth of knowledge of factors contributing to the success of shopping street retail precincts in Melbourne.

3.2 Impacts on trading activity

Encouragingly, two-thirds (67%) of retailers interviewed by Sweeney Research felt that trams have a positive impact on their business, with only 6% of interviewees of the opinion that trams have a negative impact. A higher proportion of retailers based on Bourke Street (82%) echoed these sentiments compared with their counterparts on Collins Street (60%).

Indeed, a higher proportion of retailers on Bourke Street stated that introduction of level access tram stops was beneficial to their businesses (77%) compared with 43% of retailers on Collins Street.

The main reasons that level access tram stops were rated positively by traders and tram users were improved look of the stop/modernised tram stops, improved safety and ease of use/access.

In contrast, the main reasons that tram stop changes were rated negatively by traders were reduced parking availability, more traffic congestion, the need for shoppers to walk further because of fewer tram stops and safety concerns for those crossing the road. Indeed, half the traders interviewed on Collins Street felt that there were fewer parking spaces, with only 5% saying that there had been an increase in the amount of parking. It is worth noting though that nearly half (44%) of all consulted traders were not aware of changes in parking availability after the introduction of level access tram stops.

The consistent message from the SKM 2004 research, however, was that the travel time savings resulting from the installation of platform stops leading to reduced passenger loading and unloading times outweigh the additional walking time for commuters and result in savings to overall journey time.

3.3 Impacts on footfall

Most retailers (71%) believed that the changes to tram stops did not impact customer patronage levels. Interestingly, another 14% suggested that there were indeed more customers than in the past, whilst the remaining 10% said that there were less customers than in the past.

These findings were quite consistent with the tram users survey, which showed that only six per cent of interviewed commuters being encouraged to visit the city more often than before because of the introduction of these tram stops, whereas less than 0.5% said that they would visit the city less because of the new platform tram stops.

Quite convincingly, eight in ten tram users (79%) expressed a preference for using level access tram stops rather than older stops. This strong response for using such stops was much higher compared to the proportion of users who suggested that the introduction of such stops had reduced tram delays (less than half of all respondents). This is perhaps a significant finding, as it alludes to preference for using level access stops amongst customers, even if it does not lead to higher tram frequencies or reduced tram delays.

Almost all (89%) Bourke Street traders felt that the changes to tram stops had enhanced the look of the Bourke Street Mall.

Interestingly, those traders, who believed that the recent tram changes had increased customer patronage, suggested that customers per week had increased by 20%, whilst those who suggested that patronage to their shops had reduced due to tram stops also opined that patronage was down by approximately 20%.

Traders who opined that changes in tram stops had increased customer patronage for their businesses thought so because the newer tram stops were more attractive, and were in front of their shops. This indicates that proximity to a tram stop is important from traders' perspective, as it perhaps increases footfall and awareness amongst shoppers about the shop in question.

That said, feedback was less positive amongst Collins Street traders, than among Bourke Street traders. A higher proportion of Bourke Street traders (25%) said that there were more customers than in the past compared with retailers on Collins Street (10%).

Similarly, one in every five (20%) Collins Street traders rated the changes to tram stops 'poorly'. Almost half the traders interviewed on Collins Street also suggested that the introduction of level access tram stops had reduced the availability of car parking spaces compared with the past.

In terms of traffic congestion, feedback was a little more polarised: 39% of traders felt that there was more traffic congestion after the introduction of the level access stops, whilst 34% felt that the traffic congestion had remained the same. Another 15% felt that there was less traffic congestion, perhaps because of drivers diverting to other streets.

29% of surveyed tram users also opined that the introduction of level access tram stops was disadvantageous for them. This was due to increased traffic congestion (30%), followed by reduced bike and car access (21%) and reduced road space (18%).

Respondents were asked what would make them want to catch trams more than they currently did. The most popular response was "more frequent/ better service" (14%) followed by "more trams with easier access for prams/ wheelchairs" (7%) and "easier access/ availability" (7%).

Indeed, it appears that introduction of level access tram stops did not result in a substantial increase in the total number of visitors to Bourke and Collins Street (six percent as suggested by tram users and 14 percent as suggested by traders), but those who arrived on these streets by tram, preferred to alight at, or get on at, a level access stop.

3.4 Impacts on property values, retail mix and night-time trading activity

Our discussions with Nigel Flannigan revealed that advertisers and retailers have long understood the importance of maintaining an unobstructed 'line of sight' to encourage potential customers to read an advert or draw customers into a shop. If a retailer's promotional material or shop sign cannot be seen easily, then it is likely that they will miss out on potential sales from customers who may have been enticed merely by observing the sign.

Retailers within the immediate vicinity of level access stops/ super-stops may fear being obstructed by the seating, shelter, timetable, landscape and advertising infrastructure which may be constructed on site. Properties directly adjacent such stops may consequently experience a rental discount as a direct result of the perception's potential tenants have towards the possible obstruction of the 'line of sight' of the property.

This situation, however, is more likely to arise when the level access stop, shares the footpath space with retailers, rather than when occupying road space, in which case, the associated infrastructure may not have such a large impact on blocking 'line of sight'. Nevertheless, it is important to bear these potential impacts in mind when finalising infrastructure designs and location of such stops. The shelters and associated infrastructure at a level access stop may need to ensure a minimalist design approach, reducing street clutter and visual impact in sensitive locations.

It was also revealed during our discussions that the construction of a level access stop may suit a certain type of retail outlet while actually detracting from another. Convenience retailers such as news agencies, coffee shops and cafes are likely to benefit from a higher number of commuters alighting from trams and/ or waiting for trams to arrive.

Other retail outlets such as boutique fashion and house ware shops and bulky retailers (such as a furniture retailer) may feel that the proximity of the tram stop and the consequent reduction in car parking spaces and also perhaps, the potential for anti-social behaviour of congregating commuters especially late at night, may detract from their 'brand'.

Increased numbers of commuters arriving in one place and/or waiting for trams to arrive has the potential to exaggerate anti-social behaviour. This is especially true in shopping streets, such as Fitzroy Street, which also hosts late night venues with a large number of pubs, restaurants and night clubs. Large numbers of intoxicated individuals congregating in one spot late at night rather than being more dispersed may lead to a higher number of incidents outside shopping premises with consequent impacts on property values too.

4 CASE STUDY FINDINGS

This section reports key findings from the on-site surveys undertaken by SGS on two selected case study locations around Melbourne (Fitzroy Street, St. Kilda and High Street, Northcote), where level access tram stops have been introduced into a strip shopping centre in a similar fashion to that proposed for Fitzroy Street.

Tram Stops 134 and 135 on Fitzroy Street were upgraded in 2010, whilst tram stops 31 and 32 on High Street were upgraded to a DDA compliant tram stop in 2012. Tram stop 27 on High Street also hosts a central level-access platform.

The on-site surveys of shopkeepers and shoppers were undertaken during two weeks in the month of August 2013.

In addition, this section also shares findings from an SGS survey conducted back in 2011 for Stonnington City Council, which investigates the impact of Clearway extensions in High Street, Armadale on turnover, shopper behaviours and retailer confidence. Key findings show that traders' concerns on occasions with regard to adverse impacts of removal of car spaces might be overstated.

4.1 Sample size

In order to obtain a statistically representative sample of businesses from Fitzroy Street, we surveyed 26 businesses, which met the 95% confidence level threshold. This sample is characterised by a 16 percent confidence interval. To reach the same confidence level in High Street, 20 shopkeepers were interviewed, which carried with it a 19 percent confidence interval.⁴

In the interest of further insight, 10 shoppers were interviewed in High Street. Every effort was made to interview shoppers on Fitzroy Street; more than ten shoppers were approached. However, not much interest was forthcoming from prospective respondents.

4.2 Fitzroy Street, St. Kilda

Experience after introduction of upgraded tram stops 134 & 135

The consensus among interviewed shopkeepers (80%) is that trading activity has been on a downward trend in the last 2-3 years, gauged by a reduction in both shoppers and turnover. Only about 20% of traders interviewed believe that trading activity has increased over this same timeframe.

Interestingly, amongst the shopkeepers who believe that trading activity has been on the upswing, all believe that tram stop upgrades had either a major or a minor impact in boosting this activity.⁵ Traders

⁴ That is, we are 95% confident that that the entire population of traders would have picked the same response suggested by this chosen sample, within the range of the suggested confidence interval (plus or minus 16 percent in the case of Fitzroy Street).

⁵ The response rate, however, on this question is assessed quite low.

who suggested that trading activity had declined, also believed that upgrades to tram stops had had an adverse impact on their business, potentially because of reduced parking spaces.

A majority of businesses that witnessed a rise in shoppers were renowned brands in the restaurant and convenient store sectors. The firms that saw a decrease in shoppers consisted of cafes, clothing stores and other retail type stores.

Expectation of impacts

With regards to tram stop developments under options 1, 2 and 3:

- The suggestion of an upgraded level access tram stop at tram stop 133 was not seen as an aesthetic boost for the street by a majority of shopkeepers (67%), while still leaving 33% with the opposite viewpoint.
- 55% foresee a reduction of at least 10% of their customer base with the introduction of a level access tram stop, with another 20% of respondents predicting a fall of less than 10%, and another 15% forecasting a marginal increase in their customer base. The remaining 10% felt that their customer base will be left unchanged.
- An overwhelming majority of businesses (72%) suggested that they would not alter their trading hours.
- No businesses expect to change their product offerings or mix. This could be seen as robustness, or it could demonstrate the inflexibility of most businesses which could be economically detrimental in the long-run.

The expected impacts of option 4 are slightly different, and are as follows:

- Nearly 60% of traders are concerned with the removal of tram stop 133. Nearly 24% predicted that their customer base will decline by more than 10% with the removal of the tram stop, with another 5% of the opinion that their customer base will fall slightly.
- Interestingly, only less than 10% of respondents thought that they would see a marginal or large expansion in the number of customers they serve, potentially because of improved vehicular traffic thoroughfare. This shows that a significant number of businesses in this specific location see the tram stop as an integral facilitator of their businesses' success.
- A majority of shopkeepers (89%) believe that despite the removal of the tram stop, they would not change their trading hours.
- All of the surveyed businesses stated that they would not change their range of products on offer.

4.3 High Street, Northcote

Experience after introduction of upgraded tram stops 27, 31 & 32

The fortunes of businesses in High Street resemble those on Fitzroy Street, but there are some differences.

Only half of High Street businesses (as opposed to 80% of Fitzroy Street traders) believe that the number of shoppers coming to the Street and to their store has decreased in the last two to three years. The other 50% is split equally between those who state that the number has stayed the same or has increased. With regards to turnover, the same 50% of businesses claimed it had decreased.

Within the group of shopkeepers who believe the number of shoppers had risen in the past few years, 60% (as opposed to all on Fitzroy Street) believe that the tram stop had a minor or a major effect on footfall, controlling for all other factors (40% claiming it had a minor impact and another 20% claiming a major impact).

Amongst the shopkeepers that felt that trading activity had been falling, 40% believed that the tram upgrades had made a significant impact on their business and the shopping strip. In the midst of the perceived growth or contraction in footfall, operating hours of businesses were largely unchanged. In fact, 85% claimed that they had not changed their operating hours.

Nearly 40% of traders claimed that day-time trading had fallen after the introduction of the tram stops, due to the reduction in car parking space. Of the businesses that operate at night, 36% stated that their night trading activity had declined.

Echoing a polar opposite view, 35% of shopkeepers believed that trading activity during the day had indeed risen.

Few shopkeepers believe that the mode of transport split used by shoppers had changed considerably after the introduction of the tram stops. Only 15% of shopkeepers believe that more people are using trams to get to the street. A fifth believes that the numbers of people using trams has remained constant, and a majority (65%) claim that they didn't know.

Importantly though, just a third of shopkeepers stated that the number of people driving to the street had decreased, while 15% said that the number had risen. Only 15% of shopkeepers believe that more people are walking to get to the street, with a greater share (25%) claiming that the number of people walking to street had fallen.

Interestingly though, a large proportion of shopkeepers (65%) claimed the new stops provide an aesthetic appeal to the shopping street. Indeed, 60% of those businesses who felt that the number of shoppers had increased in the last 2 years liked the look of the new tram stops. Conversely, only 40% of businesses who felt that the number of shoppers had declined over the same timeframe appreciate the appearance of the new tram stops and the Street. This suggests that even on a purely aesthetic question, the views of shop-keepers' is significantly influenced by the performance of their own businesses.

The same question was brought to customers and their responses were more emphatically in favour of the aesthetic appeal of the upgraded tram stop – 90% like their appearance and 10% do not.

Examining the travel mode split of customers on the shopping street, 25% of regular customers (those who visit the street at least once a week) drive, whilst half choose to walk to High Street. It must be noted that a majority of those interviewed lived in walking distance from High Street. The percentage of those arriving by bicycle and bus was 12.5% apiece.

Importantly though, shoppers claimed that their travel behaviour and choice of mode to travel to the street remained unaffected after the tram stop upgrades. This implies that the concerns of the shopkeepers are exaggerated (who claimed that shopping activity had declined due to fewer car parking spaces), or, indeed, the customers who were significantly impacted by tram upgrades (possibly motorists) no longer shop in High Street and thus were not captured by the SGS sample.

When asked about factors that might influence shoppers to visit the street more often, 60% said that they would visit the area more often if there were a greater variety of shops, with a further 30% split amongst those who thought more car parking, more accessible tram stops and more pedestrian friendly space would encourage their visitation to the street.

One can conclude from the findings reported in the last few sections that shopkeepers are highly concerned (*indeed legitimately*) of the loss of parking availability due to infrastructure upgrades to tram stops. However, it is interesting to examine whether shopkeepers' suggestions and expectations align with actual impacts, especially during a phase of weak market conditions.

An SGS survey conducted back in 2011 for Stonnington City Council, which investigates the impact of Clearway extensions in High Street, Armadale on turnover, shopper behaviours and retailer confidence, is highly relevant. Key findings from this survey are reported in the next section, which show that traders' concerns on occasions with regard to adverse impacts of removal of car spaces, might be overstated.

4.4 Potential Impacts of Development Works and Removal of Car Spaces

SGS was commissioned by Stonnington City Council in 2011 to investigate the impact of Clearway extensions (in place from February 2010 to December 2010) on turnover, shopper behaviours and retailer confidence in High Street, Armadale. For this assessment, SGS undertook the following tasks:

- Consulted with the High Street Traders Association;
- Undertook face to face trader survey in High Street, plus a similar survey of a control group of traders, located in Chapel Street Prahran, which is an otherwise similar centre without clearway extensions; and
- Undertook face to face survey of shoppers in the High Street centre.

Surveyed retailers in High Street reported an 8.5% loss in turnover (compared to the same period in the previous year) resulting from the Clearway extensions. Scaling this up for the full number of retailers in the Street indicated a total loss of \$25 million for the 9 month period in question.

Background shifts in market conditions which might have also affected trading in High Street, alongside the Clearway extensions, were estimated by surveying turnover patterns in Chapel Street between Malvern/Commercial Road and High Street. This survey found a trading loss of some 5.6% over the autumn to spring period 2010 compared to the previous year.

On this basis, SGS estimated that the adverse impact on turnover in High Street which was directly attributable to the Clearway extensions was 2.9% (8.5%-5.6%). This amounts to loss of some \$8.6 million, scaled up for the whole of High Street.

More than 80% of shoppers surveyed on High Street said that they were aware of the Clearway extensions. The vast majority of these further indicated that the extensions caused them to change their shopping behaviours in several ways, including fewer visits, directing a smaller share of their spending to High Street and changing modes of access to the centre.

In the post Clearway extension environment, the majority of shoppers reported a high degree of satisfaction with the Street. To the extent that there were concerns, these related to the availability of parking (though many reported that parking was a strength of the centre), lack of toilets (particularly for older people and parents with young children) and a requirement for more bike access facilities.

The Traders Association had estimated that the Clearway extensions had pushed down turnover by between 4.8% and 6.8%. This was significantly higher than SGS's estimate of 2.9%, but may not have taken into account background market shifts during the timeframes of the clearways extensions.

5 OPTIONS EVALUATION

Utilising findings from all of the above-mentioned sections, this section evaluates the merit of each option in influencing indicators of business and economic activity on Fitzroy Street, including footfall, rent levels and property values, retail mix and patterns of day and night time trading. These indicators were chosen as they are important success factors of trading activity on a strip shopping centre, based on SGS's professional work experience.

As noted, the time and resources made available for this study did not support precise measurement of the impacts of each option. Nevertheless, the research we have assembled provides clear guidance on the direction of the business and economic effects of the various tram stop configurations.

The tables on the following pages present the findings for each option. These tables provide a consideration for the suggested impact on the indicators mentioned above for each option, and the basis for the suggested impact, i.e. whether our suggestions is based on our desktop research, the results from which were presented in Section 3 above, or on case-study insights summarised in section 4 above, or general insights gathered by SGS.

It is noted here that the first three options under consideration are largely similar as far as impacts on tram patrons are concerned, i.e. they are anticipated to result in an increase in tram patrons of a roughly similar magnitude (up to 14% if results of available research are to be believed). Consequently, the impacts on footfall arising due to a higher tram patronage might be largely similar too across these options. These three options also appear quite similar in terms of influencing cyclists and other pedestrians.

On this basis, it appears that footfall might increase marginally under all three options, arising due to increased tram patronage and the marginal increase in vehicles, pedestrians and cyclists who might use the Street after the introduction of the level access tram stop. Importantly, this increase may be most pronounced under Option 3.

The first three options also appear similar in their effects on improving the amenity of the Street, with no significantly different impacts expected for the retail mix and trading hours from current levels. The increase in frequency of trams may induce some late night time activity under all three options. This may result in some increased turnover for businesses that choose to extend late night trading hours.

Notably, however, these options differ in their provision of access to vehicles along the Street. Option 1 for instance, severely restricts vehicle access into and out of the St Kilda Sports Club and the primary school, while Option 2 also restricts access for vehicles into these key sites. Though, Option 1 would only see a reduction of two parking spaces as opposed to eight under the other two options. Nevertheless, all three options will involve a similar reduction in road space.

Option 4 on the other hand may significantly impact some tram users in an adverse way (particularly those with limited mobility). Consequently, footfall may indeed decline in this option compared with current levels. Moreover, relative to the other three options, retail mix, property values, shopping turnover and trading hours are unlikely to be affected under this option.

Collectively, these findings indicate that Option 3 appears best. This is because (refer table on the following page):

- Option 3 performs best in influencing footfall amongst all four options considered, and consequently, turnover.
- This option performs at par in influencing amenity levels, property values, retail mix and day and night time trading compared with Options 1 and 2, but better than Option 4.

TABLE 6. SUMMARY EVALUATION TABLE OF OPTIONS

Factors influencing trading activity	Option 1	Option 2	Option 3	Option 4	Preferred option
Vehicular traffic	Traffic and congestion will increase	Traffic and congestion will increase	Traffic and congestion will increase (however mitigation strategies in place)	No change	Option 3
Parking spaces	Reduce by two	Reduce by eight	Reduce by eight	No change	Option 1
Tram commuters	Increase	Increase	Increase	Reduce	Option 1 – 3 perform equally
Pedestrians/ cyclists	Increase	Increase	Increase	No change	Option 1 – 3 perform equally
OVERALL FOOTFALL (considering all above factors)	Increase somewhat	Increase somewhat	Increase	May reduce	Option 3
Amenity/ surroundings	Increase somewhat	Increase somewhat	Increase somewhat	No change	Option 1 – 3 perform equally
Shopper turnover	May increase somewhat due to increased footfall and increased night time trading activity	May increase somewhat due to increased footfall and increased night time trading activity	May increase due to increased footfall and increased night time trading activity	May reduce	Option 3
Retail mix	Unlikely to change significantly			No change	-
Day-time trading activity				No change	-
Night-time trading activity	May increase somewhat	May increase somewhat	May increase somewhat	No change	Option 1 – 3 perform equally

Option 1

TABLE 7. EVALUATION OF OPTION ONE

Factors influencing trading activity	Consideration	Estimated impact	Basis of suggested impact
Footfall and property values dependent on:			
Vehicular traffic	<p>Optimisation and phasing of traffic signals at the intersection of Fitzroy Street with Princes Street, Canterbury Road and Acland Street might increase vehicular traffic through the area over time.</p> <p>This, however, may increase congestion on Fitzroy Street with more cars on the road.</p> <p>Traffic congestion may also increase due to reduced road space adjacent to the proposed site of the new stop 133 and because the option alters existing traffic access to St Kilda Primary School and St Kilda sports Club to left in/left out only.</p>	Traffic and congestion will increase somewhat.	SGS
Parking spaces	Loss of two parking spaces adjacent to the proposed site of the new tram stop 133 might lead to a reduction in shoppers who presently choose to drive to the street. Consequently, parking occupancy, which is quite stretched presently along Fitzroy Street between Princes and Grey Street will be somewhat impacted.	Somewhat of a reduction in the number of shoppers who drive to the street.	Sweeney Research (2006) and SGS on-site survey
Tram commuters	<p>Somewhat reduced delay in tram services due to the removal of the need for the tram to stop at two intersections, which may induce some additional commuters to use the tram.</p> <p>Some users (particularly those with limited mobility and greater access needs) will find it easier to access businesses and residences along Fitzroy Street between Princess and Grey Streets due to the introduction of the level access tram stop.</p> <p>However, the removal of one tram stop and amalgamation of two stops into one will increase the distance between tram stops making it necessary for some commuters to walk further to the nearest stop. Though, this should impact a minimal number of commuters.</p>	Somewhat of an uplift in tram commuters visiting the street (<i>could be between 6%-15% based on experience elsewhere</i>)..	Sweeney Research (2006) and SGS
Pedestrians/ cyclists	Two additional formal crossing points across Fitzroy Street and phasing of traffic signals may induce more pedestrians and cyclists to visit and ride along Fitzroy Street respectively.	Somewhat of an uplift in pedestrians/ cyclists using the street.	SGS
Amenity/ surroundings	The new level access tram stop has the potential to improve the look and feel of the street.	Marginal uplift in property values of business adjacent to the proposed tram stop.	Sweeney Research (2006) and SGS
Shopper turnover	<p>The loss of two parking spaces may lead to a marginal reduction in shopper turnover for some businesses, especially those, whose clientele drive to the street</p> <p>Moreover, increased congestion on the street will detract drivers from the Street.</p> <p>Over time, this reduction in revenue will be somewhat counteracted by an increase in the turnover of those businesses whose clientele is not car dependent but indeed tram dependent, such as restaurants, convenience stores, hotels and nightclubs.</p>	Overall turnover of businesses on Fitzroy Street might not be impacted but some businesses may lose at the expense of others. That is, the distribution of impacts might be in favour of some.	Sweeney Research (2006) and SGS

Retail mix			
Day-time trading activity	Unlikely to be affected.	No change.	SGS
Night-time trading activity	Because of improved frequency of tram services over time, night time trading activity may increase somewhat.	If any, a marginal increase in night time trading, with consequent increase in turnover of businesses.	SGS.

Option 2

TABLE 8. EVALUATION OF OPTION TWO

Factors influencing trading activity	Consideration	Evaluated impact	Basis of suggested impact
Footfall and property values dependent on:			
Vehicular traffic	<p>Optimisation and phasing of traffic signals at the intersection of Fitzroy Street with Princes Street, Canterbury Road and Acland Street might increase vehicular traffic through the area over time.</p> <p>This, however, may increase congestion on Fitzroy Street with more cars on the road.</p> <p>Traffic congestion may also increase due to reduced road space adjacent to the proposed site of the new stop 133 and the reduced ability for vehicles to make a right-turn into the St Kilda Park Primary School.</p>	Traffic will increase somewhat, but so will congestion.	SGS
Parking spaces	Loss of eight parking spaces adjacent to the proposed site of the new tram stop 133 will lead to a reduction in shoppers who presently choose to drive to the street. Consequently, parking occupancy, which is quite stretched presently along Fitzroy Street between Princes and Grey Street will be impacted adversely.	Somewhat of a reduction in the number of shoppers who drive to the street.	Sweeney Research (2006) and SGS on-site survey
Tram commuters	<p>Somewhat reduced delay in tram services due to the removal of the need for the tram to stop at two intersections, which may induce some additional commuters to use the tram.</p> <p>Some users (particularly those with limited mobility and greater access needs) will find it easier to access businesses and residences along Fitzroy Street between Princess and Grey Streets due to the introduction of the level access tram stop.</p> <p>However, the removal of one tram stop and amalgamation of two stops into one will increase the distance between tram stops making it necessary for some commuters to walk further to the nearest stop. Though, this should impact a minimal number of commuters.</p>	Somewhat of an uplift in tram commuters visiting the street (<i>could be between 6%-15% based on experience elsewhere</i>)..	Sweeney Research (2006) and SGS
Pedestrians/ cyclists	Two additional formal crossing points across Fitzroy Street and phasing of traffic signals may induce more pedestrians and cyclists to visit and ride along Fitzroy Street respectively.	Somewhat of an uplift in pedestrians/ cyclists using the street.	SGS
Amenity/ surroundings	The new level access tram stop has the potential to improve the look and feel of the street, with potential consequences for improving property values of businesses, adjacent to the tram stop.	Marginal uplift in property values of business adjacent to the proposed tram stop.	Sweeney Research (2006) and SGS
Shopper turnover	<p>The loss of parking spaces may lead to an immediate reduction in shopper turnover for some businesses, especially those, whose clientele drive to the street</p> <p>Moreover, increased congestion on the street will detract drivers from the Street.</p>	Overall turnover of businesses on Fitzroy Street might not be impacted but some businesses may lose at the expense of others.	Sweeney Research (2006) and SGS

	Over time, this reduction in revenue will be somewhat counteracted by an increase in the turnover of those businesses whose clientele is not car dependent but indeed tram dependent, such as restaurants, convenience stores, hotels and nightclubs.	That is, the distribution of impacts might be in favour of some.	
Retail mix	Unlikely to be affected.	No change.	SGS
Day-time trading activity	Unlikely to be affected.	No change.	SGS
Night-time trading activity	Because of improved frequency of tram services over time, night time trading activity may increase somewhat.	If any, a marginal increase in night time trading, with consequent increase in turnover of businesses.	SGS.

Option 3

TABLE 9. EVALUATION OF OPTION THREE

Factors influencing trading activity	Consideration	Estimated impact	Basis of suggested impact
Footfall and property values dependent on:			
Vehicular traffic	<p>Optimisation and phasing of traffic signals at the intersection of Fitzroy Street with Princes Street, Canterbury Road and Acland Street might increase vehicular traffic through the area over time.</p> <p>This, however, may increase congestion on Fitzroy Street with more cars on the road. Traffic congestion may also increase due to reduced road space adjacent to the proposed site of the new tram stop 133.</p> <p>Offsetting this somewhat will be the relatively easier access for cars entering the primary school.</p>	<p>Increase in vehicular traffic over time due to ease of access to primary sites along Fitzroy Street and improved traffic signals.</p> <p>Congestion may also increase in peak periods, but safeguards are in place to minimise this impact.</p>	SGS
Parking spaces	<p>Loss of eight parking spaces adjacent to the proposed site of the new tram stop 133 may lead to a reduction in shoppers who presently choose to drive and park on the street due to the increased time they will need to spend to find a convenient on-street car parking spot on a street where parking occupancy is presently stretched.</p>	<p>A somewhat reduction in the number of shoppers who drive to the street.</p>	Sweeney Research (2006) and SGS on-site survey
Tram commuters	<p>Somewhat reduced delay in tram services due to the removal of the need for the tram to stop at two intersections, which may induce some additional commuters to use the tram.</p> <p>Some users (particularly those with limited mobility and greater access needs) will find it easier to access businesses and residences along Fitzroy Street between Princess and Grey Streets due to the introduction of the level access tram stop.</p> <p>However, the removal of one tram stop and amalgamation of two stops into one will increase the distance between tram stops making it necessary for some commuters to walk further to the nearest stop. Though, this should impact a minimal number of commuters.</p>	<p>Somewhat of an uplift in tram commuters visiting the street (<i>could be between 6%-15% based on experience elsewhere</i>).</p>	Sweeney Research (2006) and SGS
Pedestrians/ cyclists	<p>Two additional formal crossing points across Fitzroy Street and phasing of traffic signals may induce more pedestrians and cyclists to visit and ride along Fitzroy Street respectively.</p>	<p>Somewhat of an uplift in pedestrians/ cyclists using the street.</p>	SGS
Amenity/ surroundings	<p>The new level access tram stop has the potential to improve the look and feel of the street, with potential consequences for improving property values of businesses adjacent to the tram stop.</p>	<p>Marginal uplift in property values of business adjacent to the proposed tram stop.</p>	Sweeney Research (2006) and SGS
Shopper turnover	<p>The loss of parking spaces may lead to an immediate reduction in shopper turnover for some businesses, especially those, whose clientele drive to the street.</p> <p>Over time, this reduction in revenue will be counteracted by an increase in the turnover of those businesses whose</p>	<p>Overall turnover of businesses on Fitzroy Street might not be impacted but some businesses may lose at the expense of others.</p>	Sweeney Research (2006) and SGS

	clientele is not car dependent but indeed tram dependent, such as restaurants, convenience stores, hotels and nightclubs.	That is, the distribution of impacts might be in favour of some.	
Retail mix	Unlikely to change.	No change.	SGS on-site surveys and SGS's general understanding of the market.
Day-time trading activity	Unlikely to be affected.	No change.	SGS
Night-time trading activity	Because of improved frequency of tram services over time, night time trading activity may increase somewhat.	If any, a marginal increase in night time trading, with consequent increase in turnover of these businesses.	SGS.

Option 4

TABLE 10. EVALUATION OF OPTION FOUR

Factors influencing trading activity	Consideration	Estimated impact	Basis of suggested impact
Footfall and property values dependent on:			
Vehicular traffic	Remains unaffected	No change	SGS on-site survey
Parking spaces	Remains unaffected	No change	Council
Tram commuters	<p>Somewhat reduced delay in tram services due to the removal of the need for the tram to stop at the intersection of Canterbury Road and Grey Street, which may induce some additional commuters to use the tram.</p> <p>However, some users (particularly those with limited mobility) may find it difficult to access businesses and residences along Fitzroy Street between Princess and Grey Streets due to the removal of the existing tram stop 133.</p> <p>Moreover, the removal of one tram stop will increase the distance between tram stops making it necessary for some commuters to walk further to the nearest stop. This could decrease the amount of pedestrian activity in one location while increasing activity at stops 134 and 135.⁶</p>	<p>Marginal fall in tram users (between 5%- 10% reduction in customers for up to a quarter of all businesses, however, up to 5% increase in customers for up to 10% of businesses)</p>	SGS on-site survey
Pedestrians/ cyclists	Remains unaffected	No change	SGS
Amenity/ surroundings	Remains unaffected	No change	SGS
Shopper turnover	The need for shoppers to travel further may decrease the amount of pedestrian activity in one location while increasing activity at stops 134 and 135. This may lead to a marginal fall in turnover of businesses in close proximity to existing tram stop 133, while those proximate to stops 134 and 135 might increase marginally.	Overall impact on businesses may be negative (those in close proximity to existing tram stop 133) may experience a decline in turnover.	SGS on-site survey and desktop research.
Retail mix	Remains unaffected	No change	SGS on-site survey
Day-time trading activity	Remains unaffected	No change	SGS on-site survey
Night-time trading activity	Remains unaffected	No change	SGS on-site survey

⁶ The consistent message from the SKM 2004 research, however, was that the travel time savings resulting from the installation of platform stops leading to reduced passenger loading and unloading times outweigh the additional walking time and result in savings to overall journey time.

5.1 Strategies undertaken to mitigate impacts and leverage positives

Indeed, level access tram stops are a cornerstone of Government's policy on improving access and provide equity in opportunity to all potential patrons. Consequently, from a public policy perspective, they should indeed be delivered.

The foregoing discussion, however, suggests that location of such stops may have some adverse impacts on the surrounding precinct owners/ occupiers. It is also a government responsibility to minimise these impacts.

Several government organisations have sought to mitigate potential adverse impacts and leverage positives when considering introduction of level access tram stops in a community.

Public Transport Victoria and the City of Port Phillip have sought community feedback through a number of methods including a posted letter and a "have your say" internet response page in relation to the proposed tram stop upgrades on tram stop 133 (i.e. the scope of works which are the focus of this report). The City of Port Phillip described the potential upgrades in terms of their advantages and disadvantages and highlighted the importance of community feedback. A number of information sessions were also held.

VicRoads also conducted an extensive community consultation process on the proposed installation of tram platforms stops in Swanston Street, between Victoria Street and Grattan Street. The consultation process included a mass distribution of an information bulletin and feedback form; communicating with tram users by distributing brochures; hosting community information sessions; meeting with traders to allay fears and misconceptions; distributing information packs for specific stakeholders (included feedback forms); as well as hosting individual meetings, promoting the level stops in newspaper advertisements and on their own website and monitoring feedback on social media.

With the changes to the sharing of road space that these level access stops introduce, it is also important that pedestrians, cyclists and drivers are informed on how to use the new environment safely. In this regard, the City of Darebin arranged for Yellow Men to be "on duty" at the new "kerb outstand" tram stops outside the Northcote Social Club (Stop 32) and the Town Hall (Stop 31). Their role was to help pedestrians, tram passengers and cyclists to "share the road with care". Yarra Trams also had customer service employees at the stops to assist passengers to board trams safely. The City of Melbourne also utilised a similar approach with individuals directing traffic and pedestrians along Swanston Street dressed as lifesavers and umpires after the introduction of super-stops on Swanston Street.

6 CONCLUSIONS

This study has provided an assessment of business and economic impacts arising from the introduction of a level access DDA compliant tram stop on Fitzroy Street in St Kilda. Four options for tram stop upgrades are under consideration for the street and this study has evaluated the merit of each option in influencing known indicators of trading activity, such as footfall, rental levels and property values, retail mix and day and night time trading activity.

To respond to the task, SGS undertook three separate exercises as follows:

- An analysis of factors underpinning present trading conditions on Fitzroy Street, and where possible, how these have evolved with time, having regard to: pedestrian and vehicular traffic; number of people alighting at, and getting on trams along Fitzroy Street; parking spaces; and property values.
- A literature review, to identify relevant case studies in Melbourne, which have or are about to receive tram stop upgrades, to document outcomes of such upgrades.
- On-site surveys of shopkeepers and shoppers on Fitzroy Street, St Kilda and High Street, Northcote, where level access tram stops have been introduced into a strip shopping centre in a similar fashion to that proposed for Fitzroy Street, to observe the respondent's expectations of impacts and their experience after the introduction of upgraded tram stops.

These exercises provided the following insights:

- The pedestrian environment dominates on Fitzroy Street, with nearly as many pedestrians on the street as there are vehicles. Up to 1,450 pedestrians were present on different sections of Fitzroy Street during the last traffic survey in March 2013 compared with up to 1,200 vehicles during peak periods.
- Shopkeepers perceive trams as providing positive spinoffs for their businesses as they provide convenient shopping access to potential customers. Those shops in close proximity to a tram stop stand to gain most.
- Notwithstanding this, shopkeepers are mindful that provision of level access tram stops reduce parking availability and may also lead to higher congestion levels, consequently, detracting shoppers who would prefer to drive or ride through, or to the street. Limited experience suggests that traders may not be accurate in their anticipation of the adverse impacts of removal of car spaces, especially when other 'background' factors are at play which might negatively influence trading.
- Shoppers and visitors prefer boarding and alighting from trams at a level access tram stop. Importantly, provision of such stops may indeed induce some visitors and shoppers to visit the host street more frequently. This induced impact may be as high as 14%. Indeed, the use of level access tram stops on studied and surveyed locations was higher compared with other tram stops.
- Research on growth in property values along Fitzroy Street also reveals that some types of retail outlets, including restaurants, shops and nightclubs, in close proximity to level access tram stops, experienced higher growth in underlying property values relative to similar properties elsewhere between 2008 and 2012.
- Finally, the research and on-site surveys did not suggest that any significant changes in retail mix, or day and night time trading activity would result after the introduction of level access tram stops.

Using these headline findings from the above tasks, SGS evaluated the business and economic impacts of each of the four options under consideration. Results, which are summarised in Table 6 show that Option 3 appears best. This is because Option 3 performs best in influencing footfall amongst all four

options considered, and consequently, turnover. This option performs at par in influencing amenity levels, property values, retail mix and day and night time trading compared with Options 1 and 2, but better than Option 4.

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