



MOVING THE CROWD

Informing sustainable
transport design for
GMHBA Stadium



Painting title: Mirriyu (means light of the sun), Murrun (alive), Kuinmatj (one)

Artist: Deanne Gilson

The Stadium Patron Transport Study project team acknowledge the Wathaurong People as the Traditional Owners and custodians on the lands, waters, seas and skies we live, work and play and on which this project was completed. We pay our respects to their Elders past present and emerging. We acknowledge Aboriginal and Torres Strait Islander people as Australia's First Nations people.

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Our Project Team.



Anneke Glaubitz
Meli

Anneke has spent the last 13 years working within the Child and Family Services, and Family Violence sectors across several not-for-profit organisations.



Elijah Solly
genU

Elijah is an ICT professional with a background in the not-for-profit and education sectors, as well as extensive volunteer experience.



Holly Wardlaw
Barwon Health

Holly is a passionate health care leader who is committed to ensure that everyone in the Geelong region receives the best health care.



Sheena Walters
NDIA

Sheena has worked as an executive in the public and not-for-profit sectors for over 15 years and is currently serving on the Bellarine Bayside Foreshore Committee of Management



Wendy McAlpine
Golden Plains Shire

Wendy is an asset management professional who has worked in the local government sector for over 20 years.



Foreword from sponsoring organisation

Kardinia Park Stadium Trust is grateful for the opportunity to work with the Committee for Geelong on the 2023 Leaders for Geelong program.

The Trust is a Victorian Government statutory authority and proudly runs GMHBA Stadium on behalf of the people of Victoria. Our overarching objective is to contribute to the economic, community and liveability benefits for the region that arise from the use of the Stadium. Our responsibility to deliver on this objective guides every decision we make and led us to become a project sponsor for this year's Leaders for Geelong program.

The recent and forecasted future growth throughout Geelong and the Barwon region is well documented, and we know that with this growth comes significant stress on transport infrastructure. At a local level, we see this with a demand for car parking within the Kardinia Park precinct that will seemingly always exceed supply. We also see an opportunity to improve the active transport connections throughout the precinct. At a regional level, we see road congestion continually increasing, and globally we know that transport emissions are contributing significantly to lower air quality and climate change. As the custodians of Geelong's local stadium, we have a responsibility to encourage and promote better transportation options for our community. And we're not alone, with many public and private organisations in the region recognising this importance and engaging in transportation projects out of both necessity and desire. As our city grows, we all need to rethink how people move.

The Stadium Patron Transport Study Project, which forms part of our Environmental Sustainability Strategy, addresses the opportunity of reducing private vehicle use to access stadium events. In reducing the use of private vehicles, we aim to reduce carbon emissions, reduce strain on parking infrastructure and surrounding roadways and promote healthier options such as active transport. We also hope the project ultimately leads to improved customer experience outcomes and a greater community awareness of sustainable practices.

It has been a pleasure working with the group on this project. Their enthusiasm, work ethic, open mindedness and willingness to push through areas often outside their comfort zones has been impressive and inspiring. Being a relatively small organisation, the work they have completed on our behalf is valuable, relevant and sets a strong foundation for us to achieve our environmental sustainability targets and improve the overall experience for our community when visiting our stadium.

Thank you team, and well done!



The project group with Gerard Griffin, CEO of Kardinia Park Stadium Trust.

Why we chose this project

The project group was bound together by a shared passion to contribute to the reduction of emissions in the city in which we all live. Promoting a sustainable, healthier and more active community, and enhancing the safety and accessibility of travel to the Stadium which attracts hundreds of thousands of patrons each year.

Through expanding each of us into an area outside our current employment experience this project provided an opportunity for the group to further connect with Geelong and develop an understanding of the region through the lens of transport, how people choose to travel, and why. It was identified early on that this project would enable us to learn more about what drives the community to travel to the stadium in particular ways, and what may be needed if we were to explore the opportunity of changing their chosen behaviours.

Executive Summary

The purpose of our project was to complete a study on transport used by patrons travelling to and from the stadium, understand the community's experience of travelling on major event days, and identify what opportunities there are for active transport, public transport and other sustainable options for major event days.

The project team undertook a survey to learn about the transport patterns of those attending GMHBA Stadium for major events, what the drivers were for those behaviours, and what alternate modes of transport would be considered if active or public transport was improved. A desktop review was conducted to discover more about sustainable transport initiatives implemented by stadiums around Australia and internationally, with consideration given to the feasibility of applying these initiatives to GMHBA Stadium.

During the survey period we received 803 responses. Of those 803 responses, 750 (93%) had been to GMHBA Stadium. The survey revealed that 78% of patrons use a private vehicle to travel to GMHBA Stadium, and car parking takes up a significant amount of land around the stadium on major event days. Responses highlighted the top three reasons for the way people currently travel are convenience, time efficiency and safety. Interestingly cost was of lower importance. A constant theme was that public transport to and from the stadium, and within the Greater Geelong

region as a whole, needs to be improved in terms of frequency, connectivity, network extent and reliability.

Located within Australia's only City of Design, GMHBA Stadium is in a position to become a leader in sustainable transport to stadiums across the country and contribute to a healthier, more liveable region into the future, but they can't do it on their own. The report highlights opportunities for Kardinia Park Stadium Trust (KPST) to pursue but also for the broader region to consider contributing to. Suggestions include introduction of better bicycle facilities, charging stations for e-vehicles including cars, scooters and bikes, safer access from the South Geelong station to the Stadium, better and more frequent public transport connections as well as restrictions on parking in the local area on major event days. A range of other initiatives are described as possible strategies for the region to pursue so we can achieve and go beyond the KPST sustainability action plan targets and more importantly enable a healthier and more liveable, accessible community in Geelong into the future.

Background



Sponsoring organisation and project need

Kardinia Park spans more than 22 hectares in total. The City of Greater Geelong manages 65 per cent of the site, including the open space, community sports fields, aquatic centre, and senior citizens building.

The Kardinia Park Stadium Trust manage the other 35 per cent including GMHBA Stadium, the concourse and plaza areas, car parks and the new cricket hub currently under construction. The stadium currently attracts more than 400,000 people annually and will soon have capacity for 40,000 spectators.

The KPST Environmental Sustainability Plan 2021 identifies short, medium and long-term objectives under four key pillars - Energy and Emissions, Water, Waste and Patron Transport. KPST's overarching goal with regards to Patron Transport is to reduce the proportion of patrons using private vehicles to access the Stadium.

A survey conducted on the Customer Journey to the Stadium for the 2022 AFL season with 863 respondents found that 80.2% of patrons used car as their mode of transport followed by 18.2% walking, 10.3% using the train and the remaining using bus, rideshare, taxi or other modes.

In addition to the above the project team are aware of other project initiatives that may intersect with other regional project initiatives. The City of Greater Geelong are currently working on a [Kardinia Park Master Plan](#) to set the vision and direction for the park for the next 10-20 years.

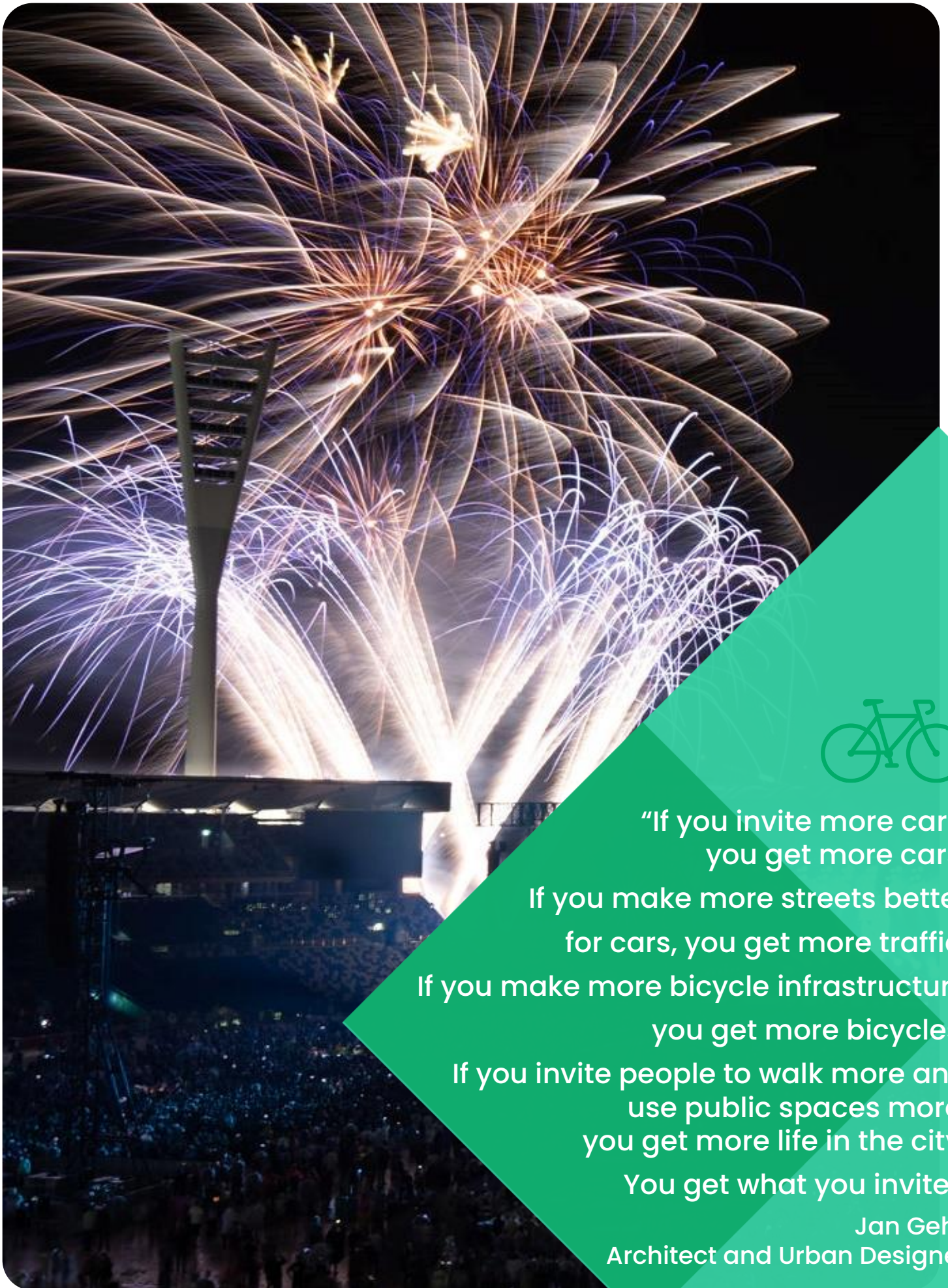
The stadium and new development are not proposed to change as part of the Master Plan process however, the surrounding areas are a key consideration, and the Master Plan will consider how the stadium developments influence the use of the rest of the park.

Other strategic considerations for the precinct, particularly with regards to transport, include the [G21 Region Integrated Transport Strategy 2021-2041](#), Central Geelong parking strategy, building better bike connections, planning for the South Geelong Urban Design Framework and the Waurin Ponds Rail duplication.

This background information may be useful to consider when reviewing the suggestions put forward as part of this report.



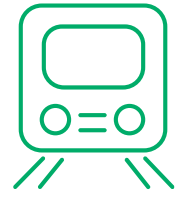
80.2% of patrons used car as their mode of transport according to 2022 AFL Customer Journey data.



**“If you invite more cars,
you get more cars.
If you make more streets better
for cars, you get more traffic.
If you make more bicycle infrastructure
you get more bicycles.
If you invite people to walk more and
use public spaces more,
you get more life in the city.
You get what you invite.”**

**Jan Gehl,
Architect and Urban Designer**

Project Purpose



The purpose of the project was to complete a comprehensive study on patron transport use to establish current state and identify opportunities relating to active transport, public transport and modes other than private vehicles for Stadium access on major event days.

The project aligns with the following regional priorities:

- Transport Connectivity – An integrated, accessible and progressive transport network
- Liveability – Vibrant, liveable cities and towns

There are also benefits regarding sustainability with potential reduction of emissions and improved health outcomes for the community.

The Leaders for Geelong Project seeks to provide a launchpad for KPST and other key stakeholders to further scope or implement suggestions from the study. It is hoped initiatives can be implemented to increase the proportion of patrons using active and public transport to access the venue. This would then reduce carbon emissions and reduce strain on parking infrastructure and surrounding roadways.

Deliverables

Key deliverables for the project report include:

- Results from the Patron study survey
- Key findings from a desktop review
- Opportunities for KPST to consider implementing that are considered fit for purpose.





Approach

There were two key components to the approach for this project:

a. Data gathering on current transport used and preferences: The key tool used to gather this data was a survey with a range of deployment methods. The goal was to deploy this to as wide an audience as possible to capture information on people's current mode of transport to the Stadium and what the drivers are as well as barriers to alternate forms of transport. A dissemination plan was prepared to try and ensure a broad audience was reached using multiple methodologies for deployment.

b. Systematic desktop review: The project team gathered information on initiatives used in other cities to change behaviours in transport usage for large events and identify options for KPST to consider implementing. The team gathered information specifically relating to transport initiatives within Australia and internationally.

Critical success factors identified at the outset of the project included:

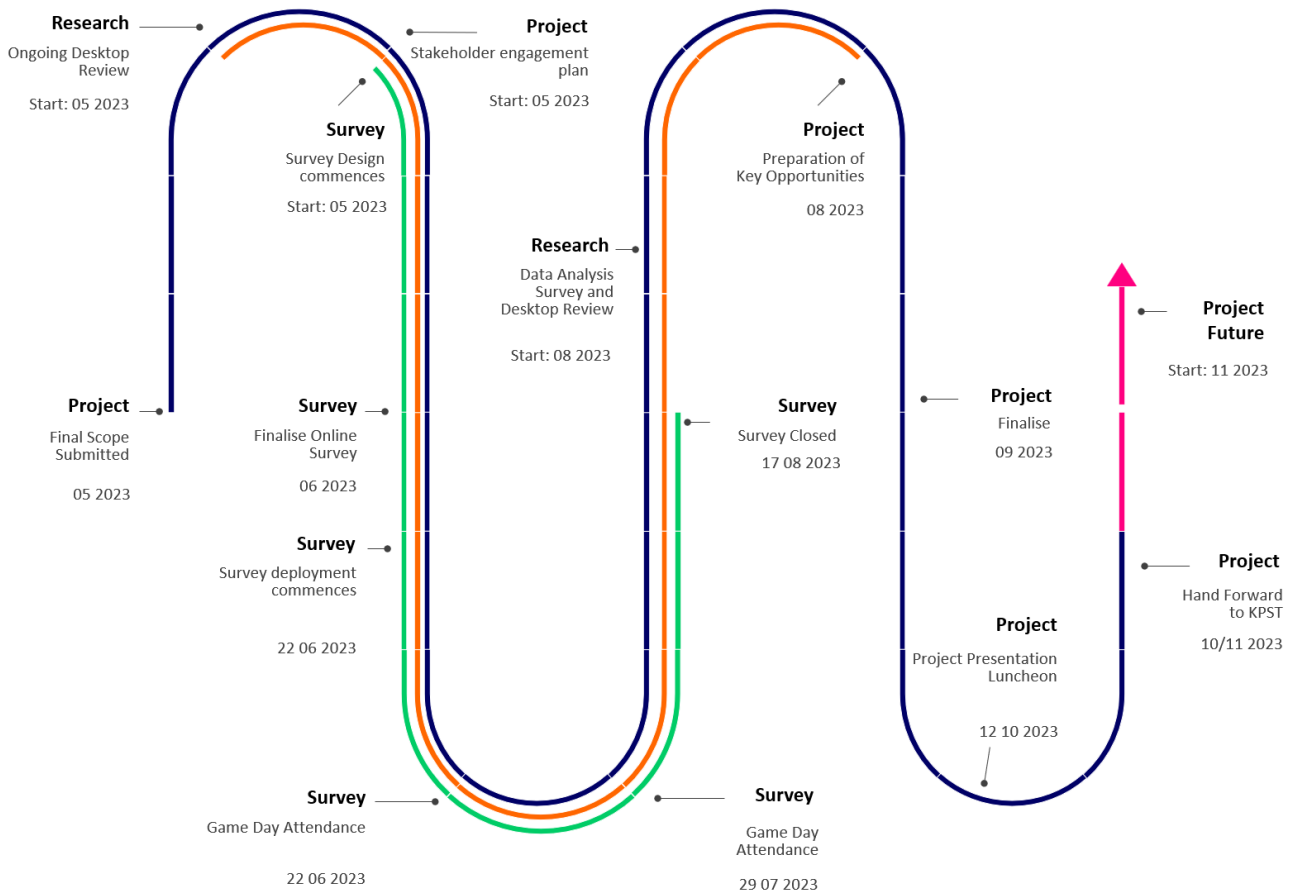
- It is critical for the project to implement a survey to validate previous information collected on Patron transport and inform future strategies
- For the survey to be meaningful it needs to elicit responses from a diverse spread of the community
- The desktop review needs to capture opportunities that are transferable and comparable for KPST implementation
- Engagement with key stakeholders to support widespread distribution of the survey and to build support and information sharing
- Future investment in infrastructure and communications to persuade patrons to change their behaviours





Patron Transport Study Roadmap

The project team developed and worked to the above timeline to ensure the project would be delivered by October 2023



Stakeholder Engagement

The project team identified a list of key stakeholders to engage to bolster the promotion of the survey. The team also developed key messages to support dissemination of the survey. This was validated with KPST and the team divided up the list between them and made direct approaches to relevant contacts within each organisation. A separate SurveyMonkey link was created for various audiences to track the success rate of the deployment channel. The project team is grateful for the support of those individuals and organisations that helped to promote the survey shown in the graph below (Figure 1).

Based on the unique SurveyMonkey link we were able to identify that the biggest

contributor to completed survey responses was personal networks at 294 responses (~52%). This link was used for project team member posts on social media including LinkedIn and in their workplaces. The survey links for Kardinia Park Stadium Trust; website, socials and Game Day; business cards handed out at 2 game days also yielded a good number of responses, with 76 and 77 responses respectively. This may help inform future methodology if similar survey work is undertaken in the future. KPST may also like to consider requesting support from high profile individuals, paid or sponsored posts on various platforms and incentives for completing the survey to maximise reach and responsiveness.

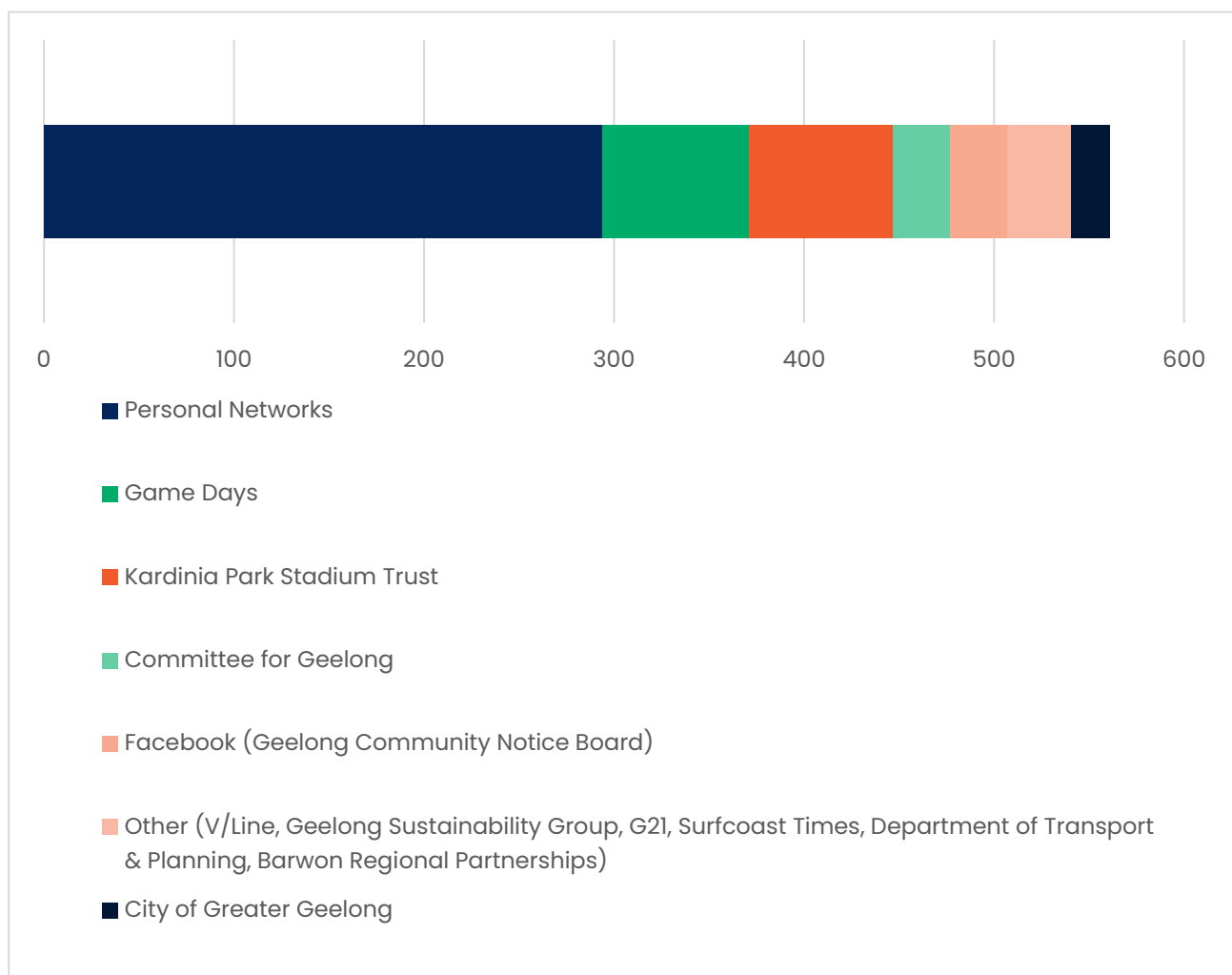


Figure 1: SurveyMonkey completed survey responses based on collectors



**“Frequent and more
direct bus service
from The Bellarine”
Male, 55–64, 3226**

Challenges

KPST Limited Authority

One of the key identified constraints is the limited authority that KPST has in terms of influencing or changing behaviours with respect to how patrons travel to the stadium. As a result, it is possible that any initiatives undertaken by KPST alone may have limited effect. Strong communications strategies and stakeholder engagement will assist with this.

Population Growth / Increasing Stadium Capacity

Population growth and increasing stadium capacity may increase the number of patrons driving to the stadium. The implications of the Kardinia Park Master Plan may work against the objectives of the project with improved parking being rated the highest area for improvement in their community engagement report, including suggestions for the construction of a multi-level car park in or around the Stadium. Opportunities identified in the project will seek to mitigate this potential barrier.

Project Timing

The survey was not open at a time when any major events outside of AFL occurred at the Stadium. The language used in the survey was inclusive of all major events.

Key stakeholders were not always able to promote the survey due to the short time frame.

Survey Responses

More than half of the survey responses were collected through personal networks of the project group (e.g LinkedIn), with a lower response rate from general attendance at GMHBA Stadium. Further to this, the survey format being available online only and in English may have limited the project's ability to elicit feedback from some members of the community.

Survey design and analysis

While the survey design and analysis were completed with a high level of diligence, it is important to note that we did not engage specialist statisticians for the data in this report.



Opportunities

There are a range of circumstances and networks surrounding the project that may be leveraged to help achieve project objectives.

This includes Kardinia Park's recognition as a key tourism attraction in the Greater Geelong Region achieving a bronze award at the 2022 Victorian Tourism Awards and GMHBA Stadium voted Australia's best regional stadium in the Austadium Awards for 2022. The stadium is a prominent landmark in Geelong, visible from afar and known by many across the community.

Geelong is not only Australia's first and only City of Design, as designated by UNESCO and a member of the UNESCO Creative City Network; It is also considered one of Australia's gateway cities, being a member of the Gateway Cities Alliance alongside Newcastle and Wollongong. It boasts close proximity to Melbourne, connections via Avalon airport, various ferry connections including most recently across to Tasmania.

The Geelong City Deal, a 10-year plan spanning 2023–2033 aims to revitalise Geelong and unlock the potential of the Great Ocean Road visitor economy.

In July 2023, G21 released a G21 Region Integrated Transport Strategy 2021–2041. The report references gaps, constraints and opportunities in relation to transport as the region undergoes one of the fastest population expansions in Australia since the 1850's gold rush.

Guiding principles cited in the report include:

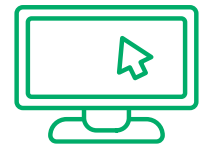
- Access for all
- People-focused solutions for liveable communities
- Easy and seamless choices for sustainable regional connections, and
- Quiet, clean, green.

The region is expected to reach a population of 536,000 by 2041 with four growth corridors underway/planned around the Geelong area and is heavily dependent on cars. The Transport Strategy calls out eight goals including increasing public and active transport, reducing car dependency as well as accessible transport that is climate neutral. It also supports the recommendations around public transport, active transport and freight, parking and roads.

It is noted that a delegation organised by the Committee for Geelong travelled to China in 2019 to research trackless tram technology. This technology is an alternative to light rail in Australia. It was identified as having the potential to be rolled out across our cities and costing much less than traditional rail solutions. This connects with the G21 Region Integrated Transport strategy 2021–2041 where the technical report discusses reliability as a key strategy to move beyond business as usual to competitive public transport. It notes that "by combining reliability through traffic signal priority and bus/tram lanes, people can be confident that riding public transport will get them to their destination on time, every time."

All initiatives listed in the desktop review section following are directly relevant to these opportunities and the recommendations in the report.

Survey Insights



Understanding our survey respondents

The survey was open between 22 June – 17 August 2023. During the survey period we received 803 responses. Of those 803 responses, 750 (93%) had been to GMHBA Stadium, and were able to complete the survey. Of those 750 respondents that met the eligibility for the survey, 561 respondents completed the survey – therefore we received a ~75% survey completion rate. The project team are extremely pleased with both the level of engagement with the survey, and the completion rate – particularly when the average time to complete the survey was 5 minutes.

The project goal was to survey a valid proportion of all people who attend events at the GMHBA Stadium. In 2022 the total GMHBA Stadium attendance for AFL events was 190,000. We used an online sample calculator to determine the requirement of at least 384 completed survey responses to be confident that our survey data reflected the transport habits and views of GMHBA Stadium patrons for AFL events.

To understand if our survey reach was successful, we compared it against game day data provided by KPST. The reference data includes:

- 2022 GMHBA Stadium attendance by postcode
- AFL Customer Journey
- 2022 GMHBA Stadium demographics

We took the postcodes of the top 80% of survey respondents for the Stadium Patron Transport Study and compared this to the 2022 GMHBA Stadium attendance by postcode data. We found that 80% of our survey respondents came from 12 postcodes. This is almost the same as the top 12 postcodes from the stadium attendance by postcode data. The only difference was the 12th postcode, where in our survey responses it was 3223 and in the attendance data it was 3214. See Figure 2 for a visual representation of the survey respondents' postcodes compared to the 2022 attendance data sourced from KPST.

It was also noted that the top 12 postcodes in our data covered 80% of the survey responses, while in the stadium attendance by postcode data, the top 12 postcodes covered 66% of game day attendees. This difference can be attributed to the differences in sample size of the data – 561 for the survey vs 95,802 in the stadium attendance by postcode data. In summary, based on the strong correlation of the postcodes of the top 80% of survey respondents matching closely to the stadium attendance data, the team felt the responses reflected a well-balanced dataset and this provided us with confidence in the dataset used in this report.

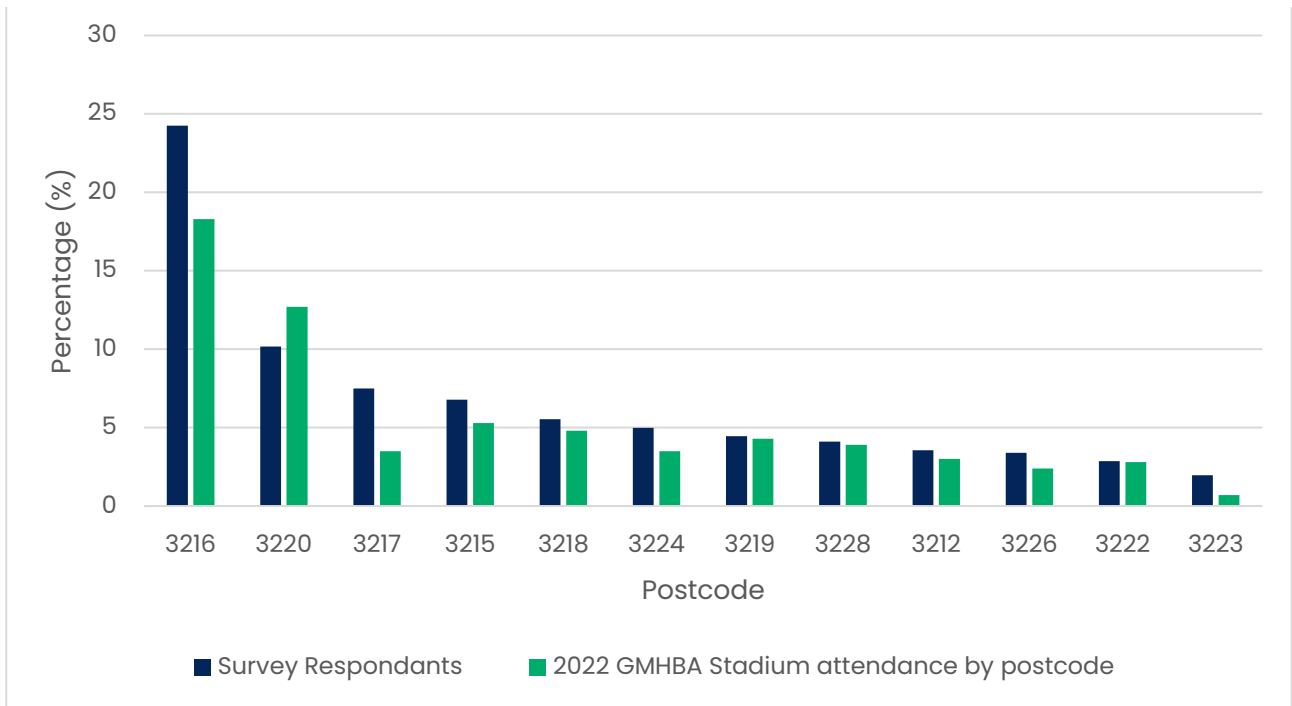


Figure 2: Postcodes of the top 80% of survey respondents compared to GMHBA Stadium 2022 game day attendees.

Where our survey data did differ to that of the stadium attendance data was with respect to identified gender. While the AFL Customer Journey data indicated that more males attend games at GMHBA Stadium than females, our project received a higher response from females than males for the survey (see Figure 3).

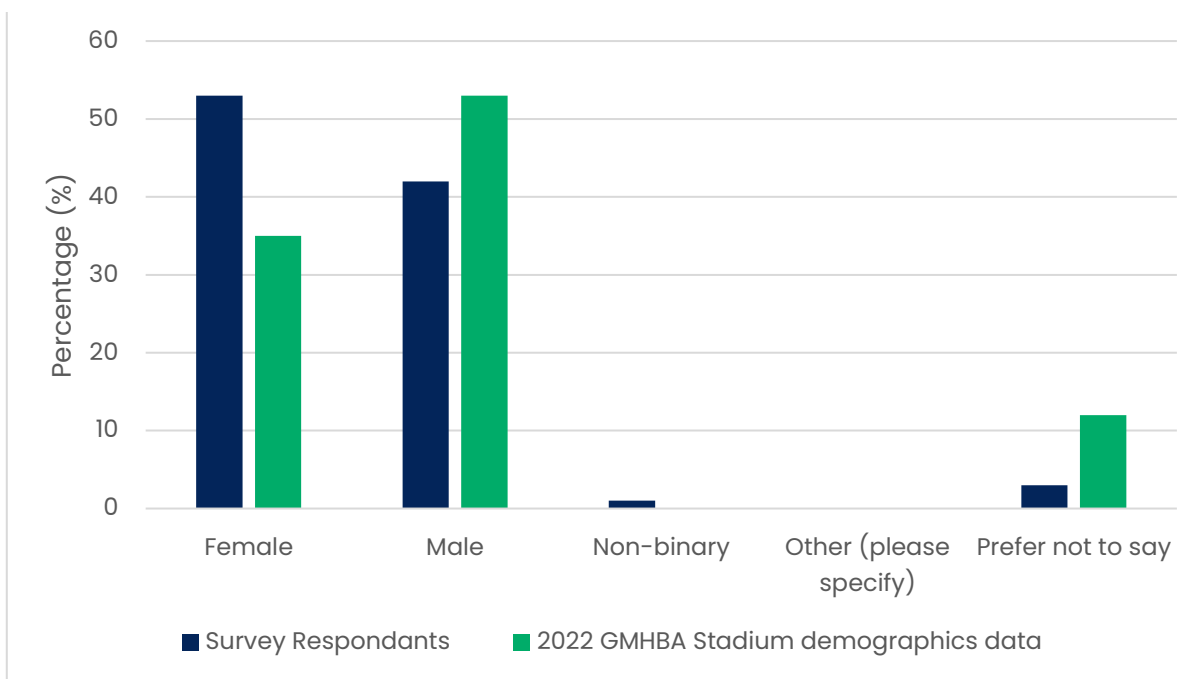


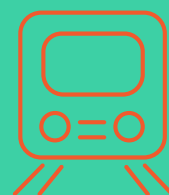
Figure 3: Gender comparison of survey respondents vs actual game day attendance.

Survey Design

To understand how patrons travel to and from the stadium for events, the project team designed a survey to capture:

- The current state of how patrons travel to / from the stadium for events
- Factors influencing patron travel
- Preferences towards active / public transport options
- Suggestions to help improve travel to and from the stadium
- Where they get their travel information from

The survey was conducted using SurveyMonkey without offering any incentives for participation. The survey questions can be found in Appendix B, and the only personal information captured was non-identifying, including postcode, age, and gender of the respondents.



**“Frequency of trains
needs to be increased
before and after the
events so that
passengers can exit
quickly and safely
otherwise it takes too
long to get home.”
Female, 35-44, 3212**

Survey Results



How do people travel to GMHBA Stadium?

In our survey we asked participants to consider all the modes of transport used in their last journey to the stadium, then tell us what their 'main' mode of transport was.

When we asked survey participants what modes of transport they used on their last journey to GMHBA Stadium we received a total of 922 responses. With 561 responses to the survey, this implies that many respondents will take more than one mode of transport to/from GMHBA Stadium.

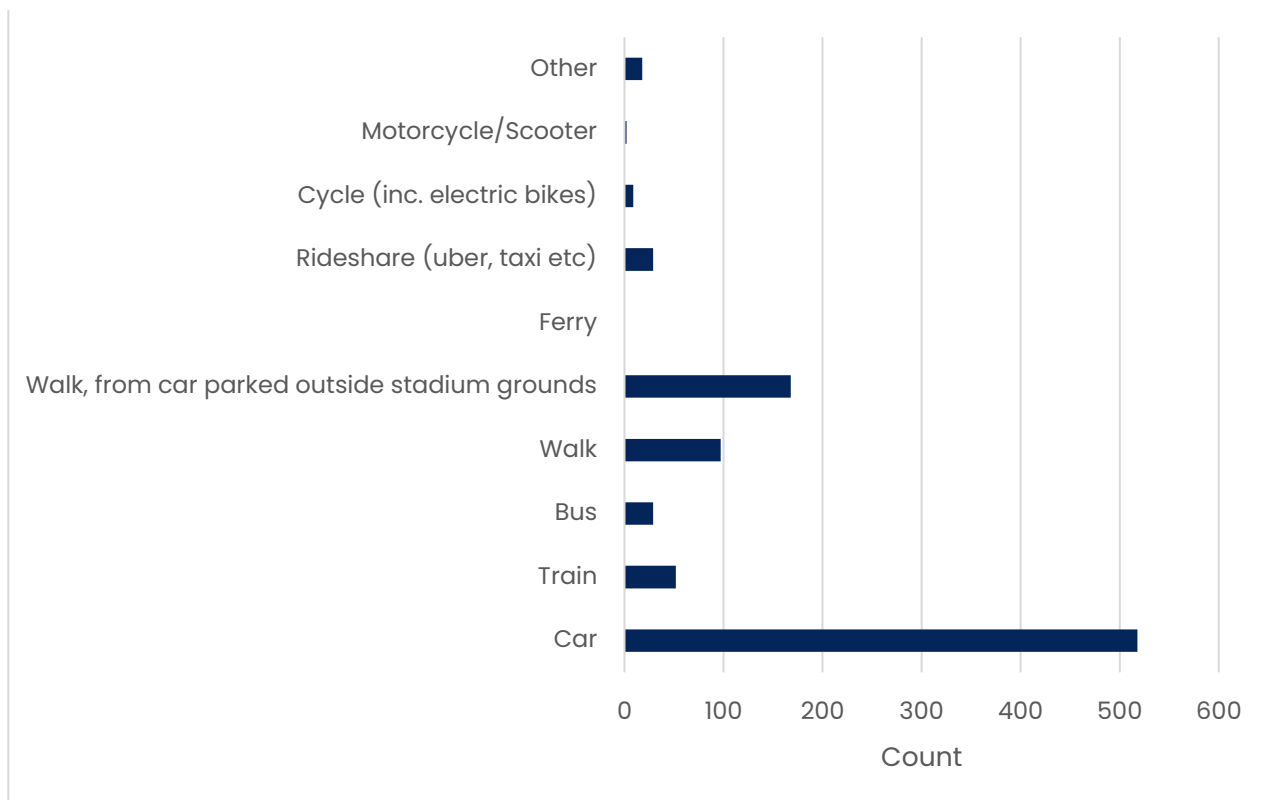


Figure 4: Mode/s of transport taken to GMHBA Stadium by survey respondents on their last journey (note respondents may select 1 or more modes of transport on a single journey).

As can be seen in Figure 4, car was by far the most popular mode of transport when getting to/from GMHBA Stadium. When we took a closer look at the survey data we discovered that the 500+ responses to car, equated to 78% of survey respondents. Meaning that 78% of survey respondents will travel in a car for all or some of their journey. This mirrors that of the AFL's Customer Journey data, which suggested 80% travel to and from the stadium by car (note the Customer Journey data did not consider multi-mode transport options in its response).

When we asked our survey respondents to select their 'main mode' of transport, 64% of survey respondents selected 'car'. Where a car was considered only part of the journey, most respondents were then walking to the stadium from their parked cars (62%). This implies there is potentially a lot of 'short' car journeys that take place in order get closer to the stadium.

Factors influencing patron travel

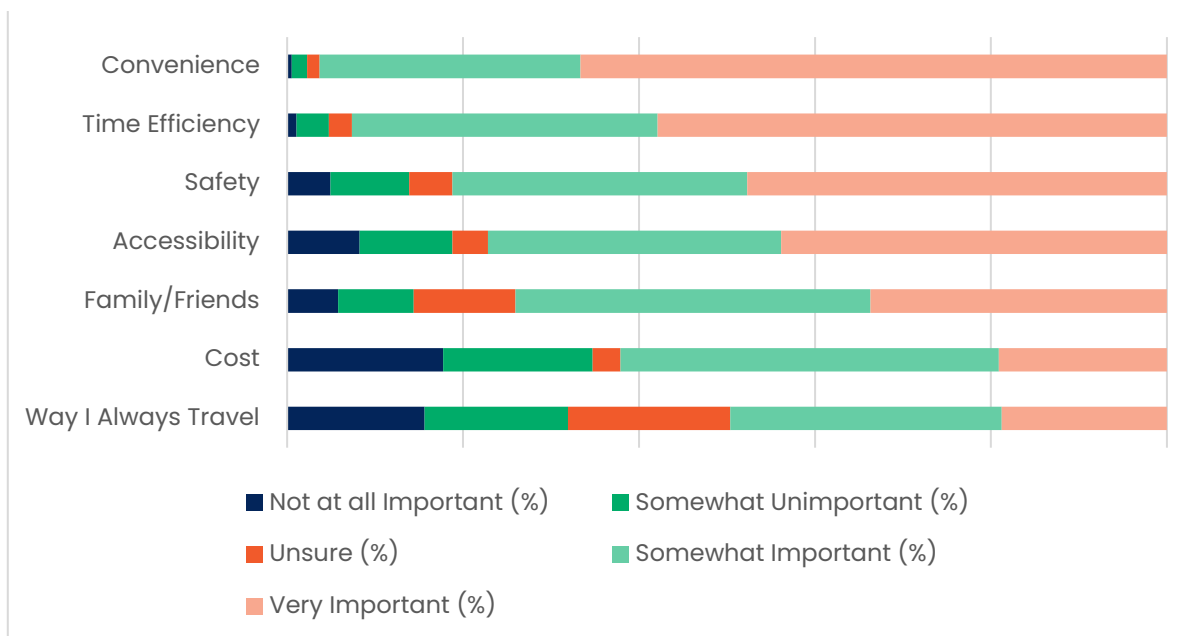


Figure 5: Key Factors Influencing Mode of Transport to GMHBA Stadium

The survey results reveal interesting insights about the factors patrons consider when deciding how to travel to GMHBA Stadium. As seen in Figure 5 a significant majority of respondents consider 'Convenience' (66.67%) and 'Time Efficiency' (57.89%) as very important factors, indicating that the most favoured mode of transport would be one that minimises time and effort. 'Safety' is also very important for patrons.

The 'Way I Always Travel' is only considered very important by 18.77% of respondents, which could indicate a willingness among patrons to change their travel habits if other factors such as time, safety, and convenience are addressed.

This data provides a valuable insight into the priorities of patrons and can be used to develop strategies that address the most important factors to encourage more sustainable transport options.

Preferences towards active / public transport options

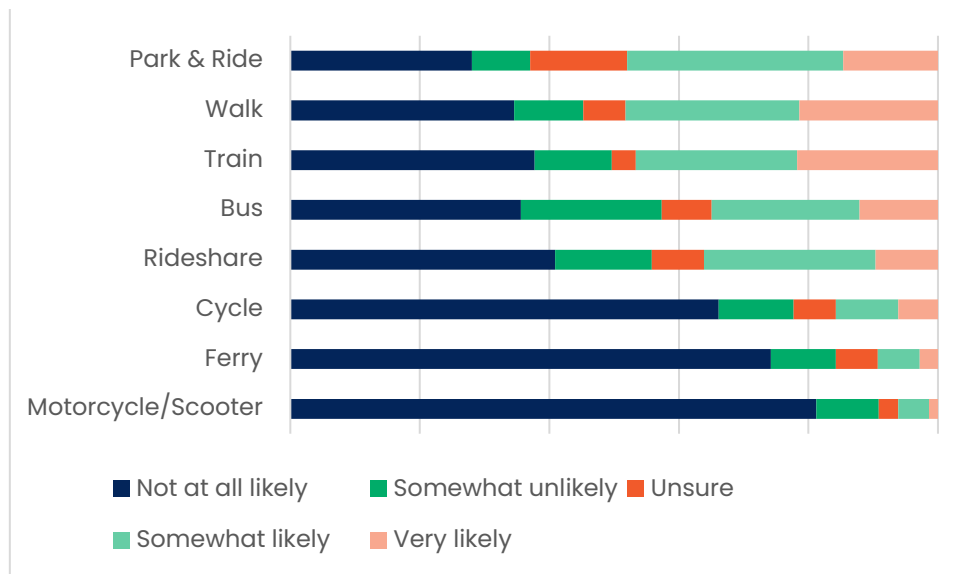
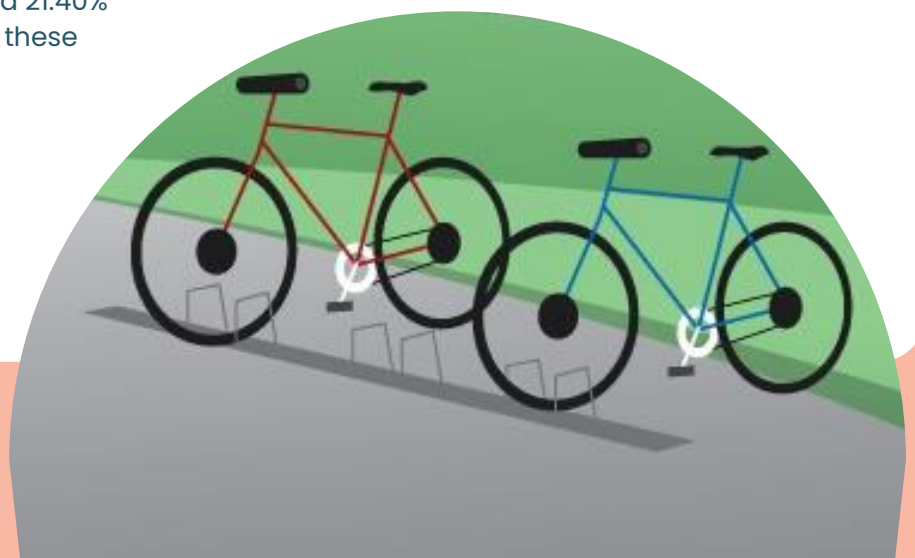


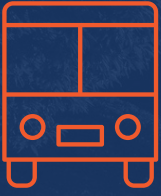
Figure 6: Likelihood of considering alternative transport modes to GMHBA Stadium

Responses from the survey highlight the varying levels of willingness among patrons to consider alternative modes of transport to GMHBA Stadium. Figure 6 shows that 'Park & Ride' option, which is not currently in operation, is the most favoured alternative, with 33.33% of respondents somewhat likely and 14.64% very likely to consider it. This suggests that there is a demand for more sustainable and convenient transport options and implementing a 'Park & Ride' system could be a step towards meeting this demand.

'Walking' and 'Train' also received relatively positive responses, with 26.84% and 24.91% of respondents somewhat likely, and 21.40% and 21.75% very likely to consider these options, respectively.

Overall, these results indicate a willingness among patrons to consider alternative modes of transport, particularly those that are perceived as convenient and efficient. Developing and promoting these alternatives could help to reduce reliance on private vehicles and contribute to a more sustainable transport network for GMHBA Stadium.





“Park and ride would be great as long as there are plenty of buses at various times.”

Female, 35–44, 3216



How can travel be improved to and from the Stadium?

In our survey we also gave respondents the opportunity to share their thoughts with how active and public transport could be improved to and from GMHBA Stadium. It was overwhelming to see that nearly 70% of the respondents that completed the survey took the opportunity to provide their thoughts (see Table 1 for a summary of the responses).

Suggestion	Count
Improvements to Public Transport	205
Provide a Shuttle Bus/Park and Ride Service	91
Improve Car Parking	32
Improve Traffic Management / Wayfinding	20
Creative Solutions e.g. trams, dedicated stadium station)	19
Improve bicycle/motorcycle parking & storage options	18
Install designated/accessible drop off points	17
Improve accessibility to Stadium	15
Create safer cycling & walking options	14
Improve advertising of non-private vehicle options	14
Hard to comment, as not relevant to where I live	13
Discounted/Free Public Transport for Events	8
Improve Ferry Service and Connectivity	4
Extend E-bike Network	2

Table 1: Suggested improvements to active and/or public transport to GMHBA Stadium.

A standout remark was that survey respondents felt public transport could be significantly improved. Of the 205 responses to how public transport can be improved, here's a breakdown of those responses (Figure 7):

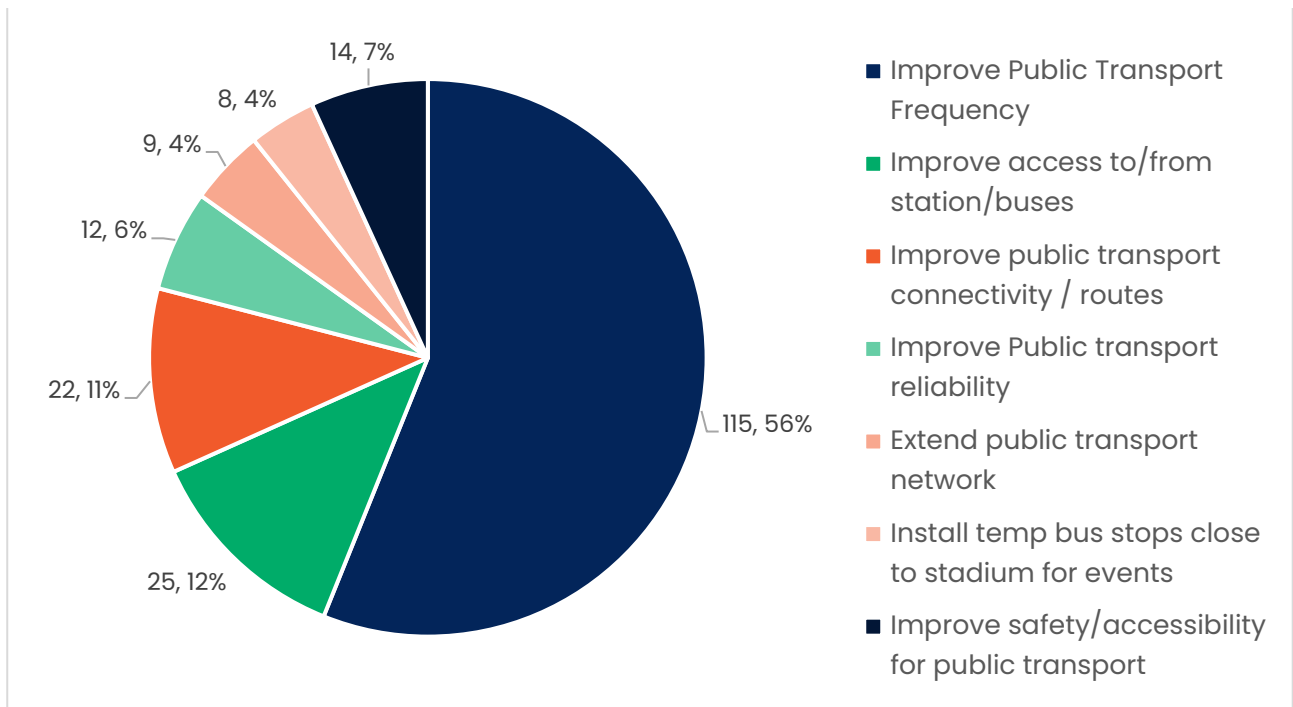


Figure 7: Improvements to public transport to GMHBA Stadium as suggested by survey respondents.

Where do patrons get travel information from?

Our survey respondents tend to source travel information from one or more sources. Respondents could choose more than one option. We have 923 responses for 561 survey participants. Most survey respondents told us that they 'just know the best way from experience' (288, 50.53%). This was followed by the Geelong Cats Website (152, 26.67%), Google Maps/Car Sat Nav Systems (134, 23.51%), and word of mouth.

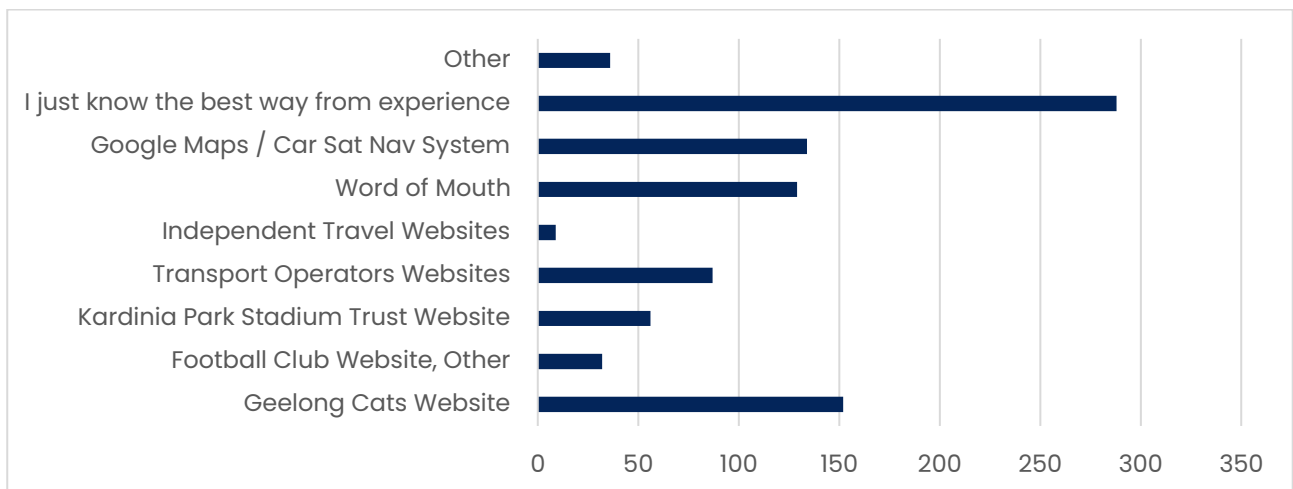
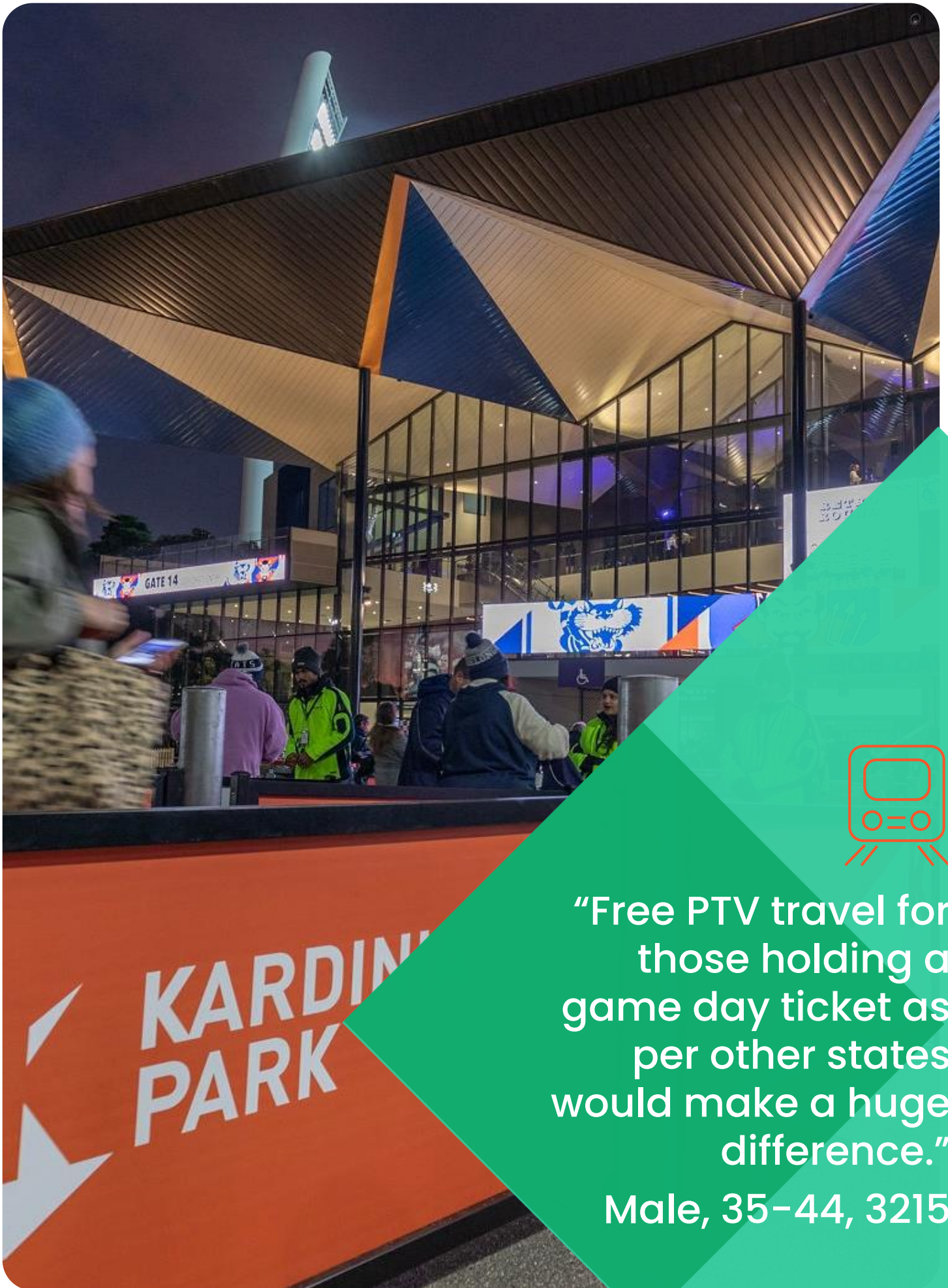
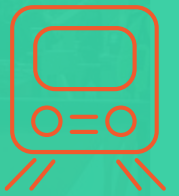


Figure 8: Where survey respondents get their travel information from.



**KARDINIAN
PARK**



**“Free PTV travel for those holding a game day ticket as per other states would make a huge difference.”
Male, 35-44, 3215**

Age and Gender Analysis

While we touched on gender compared to the 2022 GMHBA Stadium Demographics data earlier in the report, the purpose of this section is to discuss the age and gender breakdown of the survey respondents.

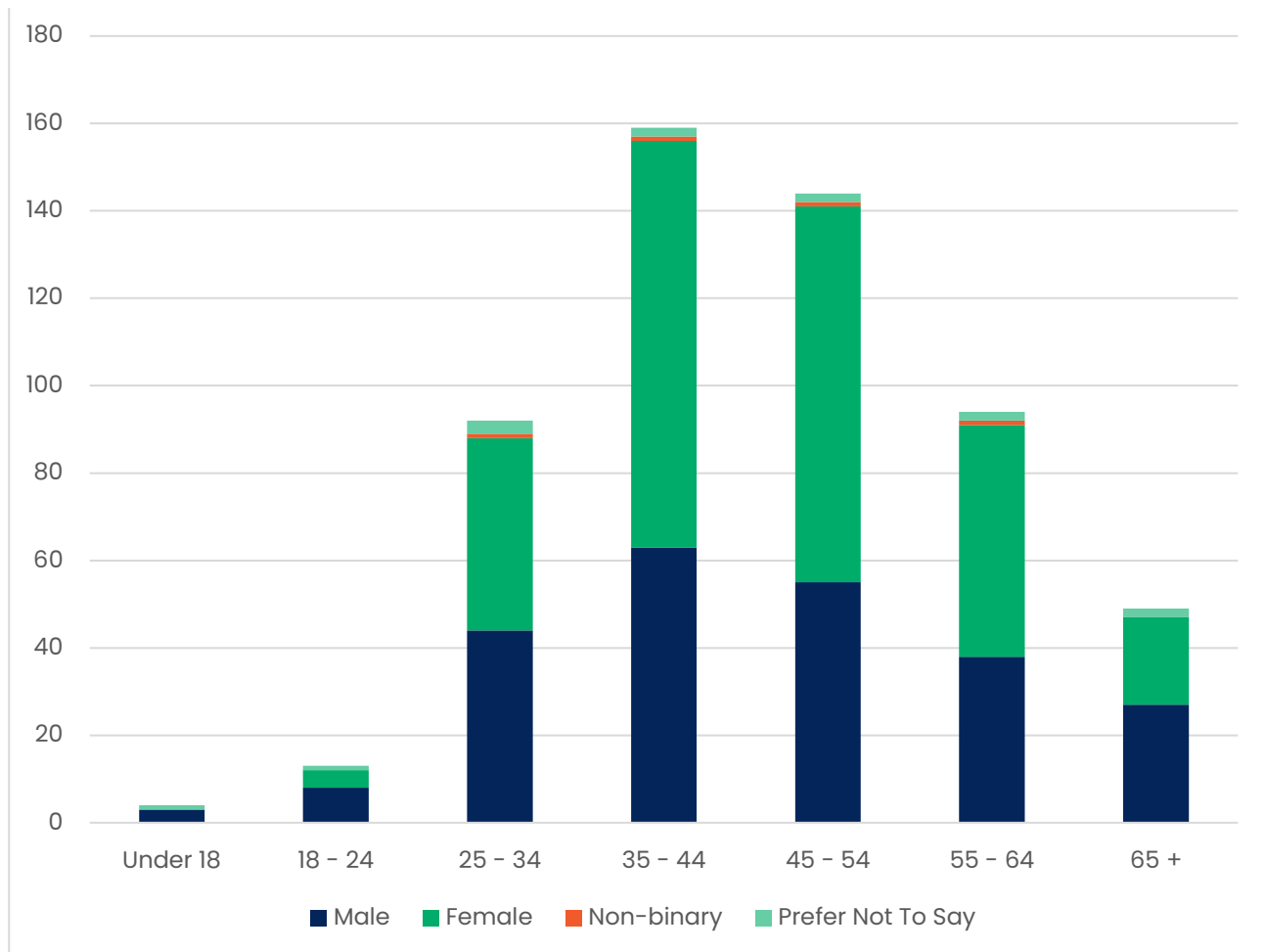


Figure 9: Age and Gender breakdown of survey respondents.

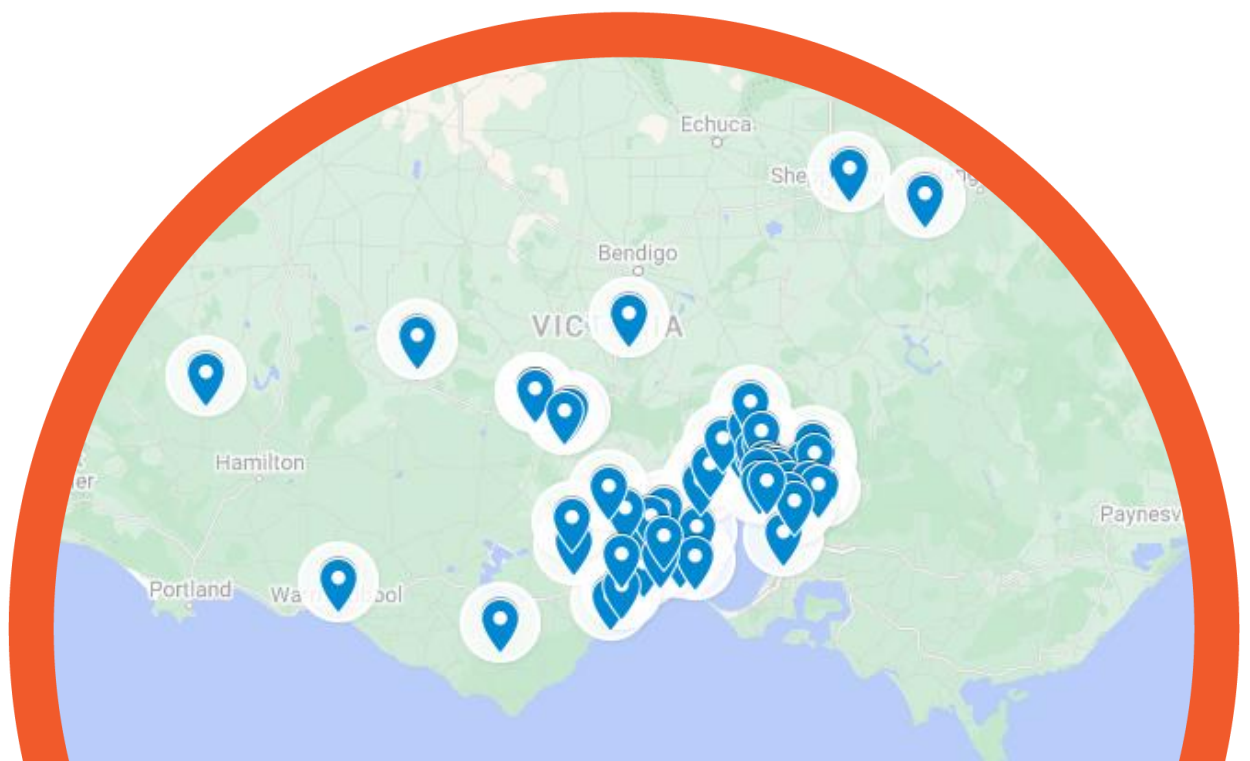
As we can see from Figure 9, females had a stronger representation across most age categories (except 65+, 18-24 and Under 18). Our strongest two age groups for responding to the survey were the 35-44 and 45-54 age groups.

Postcode analysis



Our survey respondents travelled to GMHBA Stadium from 86 postcode localities, with the top 10 postcodes accounting for 75% of respondents.

Postcode	Townships	Count	%
3216	Belmont, Freshwater Creek, Grovedale, Grovedale East, Highton, Marshall, Mount Duneed, Wandana Heights, Waurn Ponds	136	24
3220	Bareena, Geelong, Newton, South Geelong	58	10
3217	Armstrong Creek, Charlemont, Deakin University, Freshwater Creek, Mount Duneed	42	7
3215	Bell Park, Bell Post Hill, Drumcondra, Geelong North, Hamlyn Heights, North Geelong, Rippleside	39	7
3218	Fyansford, Geelong West, Herne Hill, Manifold Heights, Murgheboluc, Stonehaven	31	5
3224	Leopold, Moolap	28	5
3219	Breakwater, East Geelong, Newcomb, St Albans Park, Thomson, Whittington	26	5
3228	Bellbrae, Bells Beach, Jan Juc, Torquay	24	4
3212	Avalon, Lara, Point Wilson	20	4
3226	Ocean Grove	19	3



It is not surprising to see that postcodes of the Greater Geelong region feature in the top 10. Given most respondents that attend the stadium for AFL matches would be Geelong Cats supporters from the region. Metropolitan Melbourne and Country Victoria Postcodes also feature in our data, examples are shown below:

Metropolitan Melbourne:

- 3199 (Frankston, Frankston East, Frankston Heights, Karingal, Karingal Centre)
- 3064 (Craigieburn, Donnybrook, Kalkallo, Mickleham, Roxburgh Park)
- 3174 (Noble Park, Noble Park East, Noble Park North)

Regional Victoria

- 3280 (Dennington, Minjah, Warrnambool, Warrnambool East, Warrnambool West)
- 3350 (Alfredton, Bakery Hill, Ballarat, Ballarat Central, Ballarat East, Ballarat North, Ballarat West)
- 3631 (Arcadia, Arcadia South, Branditt, Cosgrove, Cosgrove South, Grahamvale, Karramomus, Kialla, Kialla East, Kialla West, Lemnos, Orrvale, Pine Lodge, Shepparton East, Shepparton North, Tamleugh West)

Qualitative feedback:

A large number of survey respondents provided comments in the survey's free text fields and comments were also observed in response to posts on social media such as LinkedIn. Some of those comments have been scattered throughout this report. The overall sentiment reinforced the results and commentary reflected in this report. In particular that respondents would consider and feel there should be better public transport options for travelling to the stadium, improved lighting, park and ride available, free public transport on event days, bicycle parking facilities and an underground railway station with removal of level crossings around the area.

“Accessibility for families is important.

Current cycling infrastructure isn't safe”.

Female, 35-44, 3212

Desktop review

A key objective of the project was to identify strategies that other stadiums have used to enable increased active and passive transport. The project team undertook a desktop review to find examples of national and international initiatives that have sought to achieve this objective.

KPST currently has a [Getting Here page](#) and promotes a range of travel options including car, train (450m), plane and taxi. In May 2023, the KPST Marketing team developed some infographics on transport options which were then used by the project in promoting the survey. KPST proactively posted information about attending events in advance of football games through the project period. This included information about drop off zone via Gate A. In July 2023 the Geelong Football Club (Cats) trialled a park and ride option from North Geelong and Geelong racecourse which expanded the transport options publicly communicated for attending the stadium.

In the desktop review it was found that most stadiums have information about how to travel there and some proactively promote active and public transport. Others have dedicated sustainability webpages and/or pursued sustainability targets and benchmarks such as the Leadership in Energy and Environmental Design (LEED) ratings (a green building rating system) or signed up to initiatives/accreditation programs such as the ISO 14001:2015 Environmental Management System, [UN Race to Zero](#) campaign, [Count Us In](#) or membership of [Products of Change](#). Some stadiums boasted gold and platinum LEED certification.

As part of the desktop review, several articles were identified that highlighted various strategies or studies on transit friendly sports stadiums. [One article from the University of Pennsylvania](#) from 2013 asserted that “the biggest carbon impact of sports events typically comes from fans getting to and from the game.” Other sources also referred to transport as a significant contributor to emissions such as new Tottenham Stadium noting that the most significant source of Scope 3 emissions is fan travel to and from Tottenham Hotspur matches. Amsterdam Arena’s website cites over 1.2 million football supporters in the Netherlands travel to one of the 33,000 indoor or outdoor football matches every week. Over 565 million kilometres are travelled every season in the amateur leagues.

“The biggest carbon impact of sports events typically comes from fans getting to and from the game.”

This football-related traffic is responsible for 48,635 tonnes of CO² emissions. There are consultants marketing solutions for event transport strategies such as a transport planning toolkit and there are case studies such as the opening of a mixed use sports and entertainment destination in Ottawa, Ontario. Another article challenges the status quo, pointing out the obscene amount of land required to satisfy cars at stadiums and the role that ridesharing, electric scooters and bikes can play in reducing congestion and poor travel experiences to major events.

There is a wealth of information online, as contained in the above sources, as well as a host of initiatives highlighted within the sections following. This information can support accelerating and achieving KPST's sustainability target.

The reference list contained in Appendix A includes links from all the sources referred to in this report.



Methodology

It was identified that the Austadiums website included details on all Australian stadiums by state (and some New Zealand). Out of these, 22 had a capacity 36,000 or more (two of which are in New Zealand) including GMHBA Stadium. Out of those listed, 10 had relevant information included in this report relating to transport available on their "Getting here" or "Plan your visit" webpages or have a dedicated sustainability webpage.

Internet searches of "most sustainable stadiums in the world" and "best transport initiatives for stadiums" led to a review of several websites citing the top five green or sustainable stadiums in the world. Stadiums listed in three of these 'top 5' lists were consolidated into 11 stadiums of which relevant information could be obtained in relation to eight of these stadiums (one of which is yet to be built).

The sections following include information on both the national and international examples of transport related sustainability initiatives that were found in the desktop review.

Challenges

Some international stadiums had information available in languages other than English and the project team were not able to access this information.

We did not initiate contact with the stadiums we reviewed due to time and resource constraints. It was also considered that this may be more appropriate to occur after the survey results were finalised to inform more constructive discussions.

While some stadiums were cited as being sustainable or having good sustainability practice, this sometimes related to the build, waste and recycling, energy or other sustainability measures and transport strategies were not always clear or were one part of what was highlighted as making the stadium considered sustainable.

National Stadium review

A summary of the stadiums, capacity, locations and transport initiatives are highlighted here:

Stadium, Capacity and Location	Sustainable transport initiatives summary
McDonald Jones 30,000 Newcastle, NSW	Limited parking, drop off zone, taxi Free bus services in 2022.
Commbank Stadium 30,000 Parramatta, NSW	No public parking onsite. Three public parking stations nearby. 15-minute walk from train, bus, ferry 160 bicycle spaces. Taxi, rideshare and coach/limo options.
SCG 48,000 Sydney, NSW	Free return public transport
Allianz 42,500 Sydney, NSW	Free return public transport
Accor 83,500 Olympic Park, NSW	Train is cited as ideal way to visit the stadium with train services operating every 10-20 minutes and a 5-minute walk between station and stadium.
MCG 100,024 Melbourne, VIC	Two train stations close by as well as tram and bus options. One of the stations has extra exit gates on event days to reduce crowding. Pedestrian bridges provide access to the stadium from several directions and three sets of bicycle racks on the external concourse.
Marvel Stadium 56,647 Melbourne, VIC	One of the most highly connected stadiums in the Southern Hemisphere. A 'uniquely urban Stadium that is highly accessible and walkable with multiple forms of public transport in close proximity.' There are bicycle racks at two gates.
Suncorp stadium 52,500 Brisbane, QLD	Public transport is included with your ticket. Suncorp Stadium is a public transport destination and on event days 15-minute parking limits apply to the local area surrounding the stadium from two hours before gates open through to the conclusion of the game unless otherwise signed.
Gabba 36,000 Brisbane, QLD	Public transport is included with your ticket
Optus Stadium 61,266 Perth, WA	More than 80% of patrons accessing the stadium use public transport with the cost included in your event ticket. Bike parking spaces to accommodate up to 500 bikes.

More detailed observations on these stadiums are outlined below:



The project team identified a sample of 10 Stadiums across Australia where information was available online in relation to transport options or strategies. While the bulk of these are in capital cities, the transport initiatives are relevant to any regional stadium such as GMHBA Stadium.

NSW Stadiums are managed by Venues NSW. The McDonald Jones Stadium sits 5km from the centre of Newcastle, NSW. Its [website](#) includes various options for “getting here” with **parking cited as limited and available for pre-purchase for \$15 via ticketmaster**. Other options include a drop off zone, bus, train (1.5km away) and taxi. A [NSW Government webpage](#) cites that free bus services were provided for Knights fans in 2022.

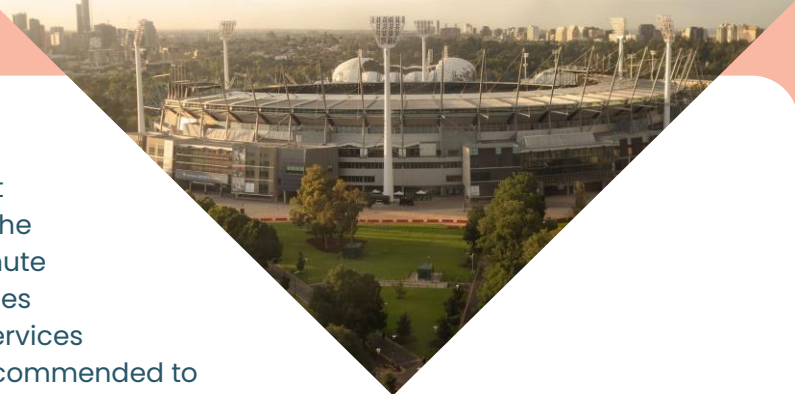
A [community consultation discussion paper](#) was circulated in 2017 to inform future planning for the Hunter Sports and Entertainment Precinct. The discussion document references a proposed concept plan that prioritises walking and cycling as well as good connections to a local train station and strong connections within, through and outside of the site. The vision incorporates a desire for the Stadium to act as a hub for pedestrian connections around the precinct and to the station. **The Station to Stadium connection is imagined to be a dedicated pedestrian boulevard during major events, extending the experience both before and after events.** In June 2021, the NSW government announced funding of \$6.7 million to develop the masterplan and final business case for the Hunter Park. A report in February 2023 cited that the Australian Government had committed 10 million to the expansion and combined with other funding noted that a \$42 million contract had been awarded to build the expanded Hunter Sports Centre in Glendale. The upgrade of Hunter Sports Centre is expected to be completed by late 2024.

Commbank Stadium’s Getting Here

webpage encourages fans to plan their trip in advance and consider all travel options. Train, Bus, Ferry all have 15-minute walking times to the Stadium. No public parking is available on site and three public parking stations are referenced on the website. Taxi, rideshare and private coach/limousine options are also available on this webpage. A [sustainability case study](#) was conducted on the stadium in 2019 (under its previous name BankWest Stadium) and sought to achieve LEED v4 rating by considering various strategies including use of solar, rainwater, sun shading, green power, waste diversion and strategies like **160 bicycle spaces for staff at peak times and 600 staff lockers with shower and change facilities.**

The Sydney Cricket Ground and Allianz Stadium (located next to each other) are close to the Sydney CBD and both stadium websites note that **“Sydney’s public transport system allows patrons to move freely to and from the precinct.”** It also references “Central Railway Station and the Moore Park Light Rail easily services big crowds of event goers heading to the SCG. Cycling or driving are also viable alternatives in the Moore Park area every day of the year.” The [Sydney Swans website](#) outlines that anyone with a valid ticket, club, AFL or Stadium membership has **access to return public transport as part of their membership or ticket. Free public transport was made possible by the NSW Government and sporting bodies** throughout the Moore Park precinct and applies to both the SCG and [Allianz Stadium](#).





Accor Stadium has ample public transport and parking options with trains stated as the ideal way to visit the stadium with a 5-minute walk to the stadium. Additional train services operate for selected major events. Train services operate every 10–20 minutes. Parking is recommended to be pre-booked as it can fill up. Their Corporate Polices webpage includes a link on their Environment Policy. This policy references their compliance with the International Standard ISO 14001:2015.

The [MCG](#) is managed by the MCC and has two train stations close by as well as tram and bus options. One station (Jolimont) has extra exit gates open on event days to reduce crowding. Car parking is available in Yarra Park on event days and costs \$10 per vehicle. There are also three sets of bicycle racks located on the external concourse. The MCG is also well served by **pedestrian bridges** that provide easy access to the stadium from a number of directions. Three taxi ranks are also in use. **Road closures** are in place in Brunton Avenue 90 minutes before and 60 minutes after an event so that pedestrians can walk to and from Richmond station safely.

Melbourne's Marvel Stadium has a harbour side location that makes it one of the most highly connected stadiums in the Southern Hemisphere. Its [website](#) boasts that they are a 'uniquely urban Stadium that is **highly accessible and walkable with multiple forms of public transport in close proximity.**' There are bicycle racks opposite gates 2 and 7.

Public transport is included with your ticket on all Queensland Rail City Network and all transport for Brisbane bus services for both Suncorp and Gabba events. Suncorp Stadium is a [public transport destination](#) and on event days **15-minute parking limits apply to the local area surrounding the stadium** from two hours before gates open through to the conclusion of the game unless otherwise signed.

On the spot fines are issued to offending motorists. There are alternate options for patrons with disability outlined on their [Accessibility webpage](#).

Optus Stadium, built in 2017 has a dedicated [sustainable future webpage](#) and notes operating an **accredited ISO 14001:2015 environmental management system** and is the first WA venue to receive this certification. More than 80% of patrons accessing the stadium and Stadium Park use public transport. The Stadium precinct includes a purpose-built train and bus station. Their website has a dedicated public transport page which details a range of transport options for event and non-event days. Additionally, the Stadium Park has bike parking spaces to accommodate up to 500 bikes. The [Transperth website](#) states that **public transport to and from the Stadium is included in your event ticket** for three hours either side of the event.

Public transport is included with your ticket on all Queensland Rail City Network and all transport for Brisbane bus services for both Suncorp and Gabba events.



Consider establishing a north/south tram line that connects with rail”.

Male, 35–44, 3216



International Stadium review

A number of articles were sourced on most eco-friendly, green stadiums in the world in recent years with some overlap between the articles. Key transport strategies from 8 of these have been summarised below to inform KPST and others of options that may be worth contemplating for Geelong.

An Indian website “KreedOn” published an article on the 5 top best eco-friendly stadiums in the world in December 2022. It cited New Tottenham, Amsterdam Arena, Levi’s Stadium, Mercedes Benz Arena and Allianz Riveria. The article notes ‘eco-friendly stadiums are the need of the hour’ and noted some venues taking a green mission to pave the way for a better world.

Not long before, E-on Energy in the UK published a story on 5 of the world’s most sustainable stadiums in October 2022. They named Mercedes-Benz, Climate Pledge Arena, New Tottenham, Europa Park and Nef Stadium in the top 5.

NSS Magazine published a story on the 5 best green stadiums in the world in 2021 naming Kaohsiung World Stadium, Mercedes-Benz, New Tottenham, Dacia Arena and Allianz Arena with a bonus mention for Eco Park being built.

Not all stadiums had readily available information in English relating to transport related initiatives however the project team was able to gather information about 8 of these stadiums relating to transport.

The project team identified 8 stadiums internationally that provided information on transport sustainability initiatives. The following two pages are split between three stadiums based in the USA and five European stadiums.

International Stadium review, USA

Stadium, Capacity and Location	Sustainable transport initiatives summary
<p>Levi's Stadium 68,500 California, USA</p>	<p>Webpage cites rideshare and pickup/drop off areas and a public transport page with public transport options including light rail, bus services and trains including from San Francisco.</p> <p>Trip planner functionality is also available.</p>
<p>Mercedes Benz Stadium 60,441 Atlanta, USA</p>	<p>A bike sharing service is available that starts two hours before the start of the event and ends an hour later.</p> <p>Mercedes-Benz Stadium has two rail stations located within 400m of the stadium. Each station provides guests a convenient and affordable public transportation option to travel to and from stadium events.</p> <p>There are 250 bike racks available for use around the stadium and on a nearby campus.</p> <p>Complimentary bike valet program. Fans can quickly and safely store their bikes, as well as other forms of personal transportation such as skateboards, at the bike valet tent located outside Gate 3 on event day.</p> <p>Parking decks offer electric vehicle (EV) charging stations with capacity to charge up to 48 electric cars simultaneously.</p> <p>Fans can beat the traffic and avoid parking by walking to the stadium. Mercedes-Benz Stadium is located adjacent to the Westside PATH; an off-road trail for pedestrians and cyclists connecting the stadium to Centennial Park, Georgia Tech, and the Westside Atlanta Beltline.</p>
<p>Climate Pledge Arena 17,200 (concert) Seattle, USA</p>	<p>Public transit via light rail and buses is free with event tickets at the arena.</p> <p>A link to a trip planner application is available.</p> <p>Electric vehicle stations are available at one of the parking locations.</p> <p>The website states there are many protected bike lanes nearby and safe bike lockers are available inside one of the car parking garages. There are also 170 short-term bike racks on the arena plaza and nearby. Rental scooters can be parked at the short-term bike racks too.</p> <p>Rideshare drop off points are also published.</p>

International stadium review, Europe

Stadium, Capacity and Location	Sustainable transport initiatives summary
<p>New Tottenham Stadium 62,850 London, UK</p>	<p>A Public Transport Destination. Shuttle bus and regional coach services Better pedestrian connections, Real-time travel information points, clear signage and regular transport updates on the Club's website New bike racks. Charging stations for electric vehicles. Sustainable transport plan in place for both its fans and staff, overseen by an appointed Travel Plan Co-Ordinator</p>
<p>Amsterdam ArenaA (Johan Cruuff Arena) 55,885 Amsterdam, Holland</p>	<p>They aim to make travel to and from events CO²-free in 2023. Fixtures are compiled while taking travelled distance into account Focus is being placed on environment-friendly travel, smart charging stations, car sharing and travel by bike. Trip planner functionality on their website that shows travel options according to your departure location and time.</p>
<p>Allianz Riviera 44,624 (concert) Nice, France</p>	<p>The travel options promoted include tram, two wheels, train, car and the ability to book carpooling with StadiumGO. Trams run every 11 –12 minutes from 2 hours before kick-off, then every 4 minutes after the match. There is free and secure bike parking with helmet lockers. Additional trains run for events adapted to the event start and finish time with 10 minutes of safe walking to the stadium.</p>
<p>Europa Park Stadium 34,700 Freiburg, Germany</p>	<p>Electric charging stations, plug-in spots for e-bikes, e-scooters and smartphones, some 3,700 parking spaces for bikes. Public transport including bus or train. Park and ride systems.</p>
<p>Eco Park 5,000 Nailsworth, England</p>	<p>Electric vehicle and bike charging stations will be available along with pedestrian and cycle crossings and a combined footway/cycle way linked to a national cycle route. Plans are to subsidise match day buses and trial a bus services from a nearby train station.</p>

Further detail on these stadiums is shown below:



New Tottenham Stadium

New Tottenham Hotspur Stadium is the largest club stadium in London, opened in 2019 as a multi-use stadium. Their website has a sustainability page which notes a range of initiatives around waste, single use plastic, transport and food. The page boasts that:

- They have signed up to the [UN Race to Zero campaign](#)
- They were a founding member of the 10:10 initiative which called on individuals, businesses, schools and other organisations to cut their emissions by 10% each year in 2009.
- One of the club's 5 core policies is: "Promote alternative forms of transport for fans and staff to and from the stadium and Training Centre that have a reduced impact on the environment."
- For a third year running, the Club has finished top of the Premier League sustainability table produced by the UN-backed Sport Positive and published by BBC Sport.
- Tottenham Hotspur is proud to be a founding partner of [Count Us In](#) – an unprecedented global movement aiming to mobilise 1 billion people to act on climate change.
- The Club is a proud member of the British Association for Sustainable Sport (BASIS), the sustainability hub for sport in the UK.
- Tottenham Hotspur is the first sports team to become a member of [Products of Change \(POC\)](#). POC is a global educational hub aimed at driving sustainable change across consumer product markets and beyond.
- The Club has a sustainable transport plan in place for both its fans and staff, overseen by an appointed Travel Plan Co-Ordinator.

Their Scope 3 emissions are being addressed through engagement with suppliers and fans and internal policy changes. We are in the process of producing a decarbonisation action plan which will detail the short, medium and long-term actions we will take to meet near-term and net-zero targets.

Recent analysis has shown that the Club is close to achieving its target of no more than 23% of supporters (i.e. 14,250) travelling by private car on matchdays – with 25% of fans currently using private car as a preferred method of travel, based on survey data. This is a significant reduction in the percentage of fans that travelled by car to attend matches at the old White Hart Lane (on average 22,500 out of a total of 36,000).

Amsterdam Arena (Johan Cruuff Arena)

The Arena has a dedicated [sustainability webpage](#) with a focus on electricity, heating/cooling/water, and waste. They also have an [innovation page](#) noting an article about becoming net zero by 2030 seeking to set a standard for other organisations. They have an open innovation approach inviting solutions and they support [Reimagine football](#) where submissions are made on improving the fan experience for Dutch stadiums including a clean and sustainable stadium. The Royal Netherlands Football Association (KNVB) has devised various



initiatives for reducing transport related emissions. For instance, **fixtures are compiled while taking travelled distance into account**, without compromising the competitiveness of

each league. In addition, focus is being placed on **environment-friendly travel, smart charging stations, car sharing and travel by bike. They aim to make travel to and from events CO²-free in 2023.** Cars are currently the most used mode of transport in Zuidoost (the suburb where the Arena is in Holland). The transition towards sustainable mobility requires partnerships between (semi) public and private stakeholders and needs a better range of sustainable alternatives for private vehicles. That is why the various partners are working together to compile a plan of action aimed at making CO²-free travel to and from events in and around the Johan Cruyff Arena the norm in 2023.

An article on "[Net Zero by 2030](#)" posted on 31 May 2023 on their website notes, "the Johan Cruyff Arena and partner GSES (Global Sustainable Enterprise System) are launching the Global Sustainable Venue Benchmark (GVSB) to measure the sustainability of organisations, events and locations." It states that there is an online GSES-platform the Arena and GSES have equipped a Net Positive dashboard and event module where the Arena measures and reports with the entire supply chain. They have also committed to communicating progress and challenges to support other organisations with sustainability goals to learn from and take steps to become net positive too.



The stadium has partnered with Atlanta Bicycle Coalition (ABC) to provide free bike valet services for all Atlanta Falcons games and Atlanta United matches.



Levi's Stadium

Their [About us page](#) highlights that in July 2016, Levi's® Stadium was awarded LEED Gold Certification for Operations and Maintenance of an Existing Building after opening the stadium in 2014 with LEED Certification as New Construction, making the venue the only one of its kind to twice be recognized for achieving the industry standard for sustainable design and construction. It also lists several awards including the 2017 The Stadium Business Environmental Stadium of the Year and 2016 Green Sports Alliance Environmental Innovators of the Year. **The Getting Here page includes trip planner functionality as well as a wide range of public transport options as well as rideshare and pick up/drop off zones.**

Mercedes Benz Stadium

There is an [Alternate transportation page](#) that cites a range of alternate options to driving. **There is rideshare information as well as information about a bike sharing service that starts two hours before the start of the race and ends an hour later.**

Mercedes-Benz Stadium has two MARTA rail stations (Vine City and GWCC/CNN/State Farm Arena) located within 400 metres of the stadium. Each station provides guests a convenient and affordable public transportation option to travel to and from stadium events.

There are **250 bike racks available for use** around the stadium and on the Georgia World Congress Center campus. Fans can also take advantage of Mercedes-Benz Stadium's complimentary bike valet program. The stadium has partnered with Atlanta Bicycle Coalition (ABC) to provide free bike valet services for all Atlanta Falcons games and Atlanta United matches. Fans can quickly and safely store their bikes, as well as other forms of personal transportation such as skateboards, at the bike valet tent located outside Gate 3 on event day.

Mercedes-Benz Stadium and the surrounding Georgia World Congress Center parking decks offer **electric vehicle (EV) charging stations** with capacity to charge up to 48 electric cars simultaneously.

Fans can beat the traffic and avoid parking by walking to the stadium.

Mercedes-Benz Stadium is located adjacent to the Westside PATH; an off-road trail for pedestrians and cyclists connecting the stadium to Centennial Park, Georgia Tech, and the Westside Atlanta Beltline.

The stadium proudly highlights its LEED Platinum Certification for zero waste including a [video](#) that showcases that over 90% of waste produced at the stadium is recycled or directed to compost.

The Allianz Riviera

Their website states that the stadium is located in the heart of eco-valley and the stadium is a reference for sustainable development. They have 4000 solar panels covering 7,000 square metres.

The [travel options promoted](#) include **tram, two wheels, train, car and the ability to book carpooling** with [StadiumGO](#). Trams run every 11 –12 minutes from 2 hours before kick-off, then every 4 minutes after the match. **There is free and secure bike parking with helmet lockers. Additional trains run for events adapted to the event start and finish time with 10 minutes of safe walking to the stadium.**

Climate Pledge Arena

This Arena is named after a vision for being the most progressive, responsible and sustainable arena in the world. Their goals are listed on their [sustainability webpage](#):

- Net zero carbon by 2040 (certified by the International Living Future Institute)
- By 2024, they will be a 'no plastics' building
- Water conservation initiatives including rain to rink, water bottle filling stations and more.
- Zero waste (95% diversion rate)

The plan your trip page notes **monorail, public transport and biking as sustainable options. Public transit via light rail and buses is free with event tickets at the arena. A link to a trip planner application is available. Electric vehicle stations are available** at one of the parking locations. The website states there are many protected bike lanes nearby and safe bike lockers are available inside one of the car parking garages. There are also **170 short-term bike racks** on the arena plaza and nearby. **Rental scooters can be parked at the short-term bike racks too.** Rideshare drop off points are also published.

Europa Park Stadium

This new stadium commenced construction in 2018 and opened in 2021. Their website includes a social commitment page. They state a vision of “more than football” and their commitment is around four pillars, education, exercise, environment and solidarity. Freiburg is noted as Germany’s sunniest city. In a [German Football League article](#), the new stadium has solar power, green energy storage, **electric charging stations, plug-in spots for e-bikes, e-scooters and smartphones, some 3,700 parking spaces for push bikes** (twice as many spots as cars). The stadium is expected to become climate neutral.

The [arriving and parking page](#) promotes arriving at the stadium in eco-friendly ways. This includes public transport (bus and train), bike, walk and park and ride systems.

Eco Park

This stadium is not yet built. Planning was approved in 2019 and work commenced in 2023. The ambition is to build the world’s greenest stadium, made from wood. They will generate over 80% of energy onsite, thousands of new trees to improve natural biodiversity and all food will be vegan.

Electric vehicle and bike charging stations will be available along with pedestrian and cycle crossings and a combined footway/cycle way linked to a national cycle route. Plans are to subsidise match day buses and trial bus services from a nearby train station.





“Why there isn’t in ground secure bicycle parking has been an anomaly for too long. The ground is supposed to be the centre of sports and wellbeing.”



Limitations

The project scope was limited to addressing transportation alternatives for event days and does not focus on reducing private vehicle use during day-to-day operations. While a range of opportunities to achieve KPST’s transportation pillar goals are provided, this project does not offer a comprehensive implementation plan for KPST.

This project solely addresses transportation issues and does not consider other aspects of the KPST Environmental Sustainability Plan. Additionally, the survey conducted did not capture data on the effects of time of day or weather on transportation choices.

Recommendations

There is opportunity for KPST to introduce more initiatives, work with key stakeholders and be a leader in sustainable transport to stadiums in Australia.

Initiatives that KPST can consider are listed below. Some being relatively low cost and easy to implement and others that would require more investment and partnerships.

Recommendations linked to survey findings:

1. Free public transport included in tickets.
2. More frequent public transport services before and critically after events through bus services and V-line.
3. Include bike options on public facing information and consider secure bike storage/valet facilities that will meet the needs of patrons.
4. Park and Ride options are continued to reduce congestion and emissions from idling.
The service should be considered for future implementation providing its well communicated, reliable and frequent.
5. Update website to include drop-off zone, park and ride options and real-time transport information.
6. Facilitate safe travel initiatives from station to stadium such as better access, lighting and security.





Recommendations linked to desktop review findings:

1. Explore adopting the referenced ISO standards and work towards compliance.
2. Consider dedicated transport officer role to work with key stakeholders on reducing carbon emissions arising from patron travel.
3. Create a sustainability page on the KPST website and promote the sustainability objectives and actions being taken.
4. Install electric vehicle charging stations.
5. Explore investing in integrated trip planning tools.
6. Enabling e-bike/e-scooter facilities.
7. Limit parking in surrounding streets when events are on.
8. Consider setting a net zero target and actively measure emissions arising from stadium events.
9. Explore carpooling apps and partnerships to encourage fewer cars.
10. If car parking is introduced, enable electric vehicle charging with solar panels/batteries to feed in.
11. Consider joining up to initiatives such as Count Us In who can support with creating a climate campaign and leading or participating in initiatives like Green Football weekend.



“As a staff member who works match days at the stadium, we have an uneasy walk back to our cars at the end of a shift most of the time after midnight”

Additional project recommendations:

1. Explore undertaking educational campaigns on the impact.
2. Consider incentives for people who used a Myki to access the stadium such as; discounted food and beverage, merchandise, or future tickets.
3. Increase cost of parking at the stadium to cover costs of bus shuttles/park and ride.
4. Work with other interested parties such as Geelong Sustainability.
5. Partner with e-bike/e-scooter hire companies to arrange incentives such as discounted rates on game days and ensuring bikes/scooters are ready at key locations prior to a major event.

Group Reflection

We commend KPST for embarking on a journey to improve sustainability for the stadium and thank them for the opportunity to undertake this project. It is hoped that by highlighting what is possible the information contained in this report may inspire change and more ambitious targets. Our survey responses demonstrate that we have a community that are passionate about how they travel to the stadium and were very willing to share their ideas. Public transport improvements were ranked the highest in terms of what can be improved and the Park and Ride trial was well received by the respondents. We acknowledge that these and many of the other recommendations requires action from various stakeholders and we encourage collaboration to enable positive change.

We believe the information from the survey conducted and the sustainability initiatives identified can drive meaningful change and influence moving the crowd in a more sustainable way.



Conclusion

Our survey findings provide a valuable insight into the transport modes used, valued and preferred by patrons at GMHBA Stadium. The survey captured a wealth of ideas from stadium patrons with regards to what they would like to see implemented to encourage an increased use of active and/or public transport. These findings may assist KPST in the selection of primary focus areas to advertise and encourage the greater uptake of public and active transport to the Stadium.

Overwhelmingly, survey respondents felt that public transport to and from the stadium needs to be improved to make it a viable option. Until transport improvements are made or cars become a less convenient option, encouraging people to use active and public transport may be a challenge.

The desktop review identified a range of active and public transport initiatives both nationally and internationally that can be considered for GMHBA Stadium. It also identified work that some stadiums internationally are doing to measure and report on emissions and programs that they have signed up to that enhance their sustainability objectives.

KPST can independently influence changes in transportation to the Stadium and work with others to maximise positive change. Other stakeholders can also play a part in supporting a reduction of emissions arising from transport to KPST.

We hope that this information supports with enabling more convenient, timely and safe ways to travel to KPST.

Appendix A



1. [G21 INTEGRATED TRANSPORT STRATEGY - G21](#)
2. [Kardinia Park Master Plan | Have Your Say \(geelongaustralia.com.au\)](#)
3. [Do you want a transit-friendly sports stadium district? \(stantec.com\)](#)
4. [Are stadiums ready for the transportation revolution? \(eastwoodsport.com\)](#)
5. [Raising the game in event transport \(mottmac.com\)](#)
6. [Green Sports and Transportation: The Elephant in the Room - Knowledge at Wharton \(upenn.edu\)](#)
7. [How can we make CO²-free travel to events \(johancruiffarena.nl\)](#)
8. [Austadiums](#)
9. [McDonald Jones Stadium](#)
10. [CommBank Stadium](#)
11. [Sydney Cricket Ground](#)
12. [Allianz Stadium](#)
13. [Accor Stadium](#)
14. [Melbourne Cricket Ground](#)
15. [Marvel Stadium](#)
16. [Suncorp Stadium](#)
17. [The Gabba](#)
18. [Optus Stadium](#)
19. [Count Us In | Green Football Weekend \(count-us-in.com\)](#)
20. [Official Spurs Website | Tottenham Hotspur](#)
21. [Johan Cruijff Arena](#)
22. [Levi's Stadium](#)
23. [Sustainability at Mercedes-Benz Stadium | Leaders in Zero Waste](#)
24. [The Allianz Riviera - OGC Nice](#)
25. [Sustainability - Climate Pledge Arena](#)
26. [Transportation - Climate Pledge Arena](#)
27. [Europa-Park Stadium | SC Freiburg](#)
28. [Freiburg's new stadium capable of becoming climate-neutral | Bundesliga](#)
29. [Our new stadium | SC Freiburg](#)
30. [eco-park.com/about/](#)
31. [New wooden stadium commences construction for Forest Green Rovers world greenest football \(punchline-gloucester.com\)](#)
32. [Eco Park | WE ARE FGR](#)
33. [Trackless trams would suit our city - Committee for Geelong](#)
34. [Survey calculator](#)

Appendix B

Event Day Patron Transport Survey – GMHBA Stadium

Kardinia Park Stadium Trust is taking measures to improve transportation to major event days, and would value the community's input.

You are invited to share your experience with transportation to GMBHA Stadium; how you travel and the reasons why.

The survey will take ~5 minutes. Your responses will be confidential and data from this research will help shape the future of transportation to GMHBA Stadium.

Thank you for your time and your feedback is appreciated.

If you have any questions about this survey or project, please contact:
enquiries@kardinia-park.vic.gov.au

1. Have you ever attended major events at GMHBA Stadium? (Examples include AFL, BigBash Cricket, Concerts, AFLW)
 - Yes
 - No

2. Thinking back to the last major event you attended at GMHBA Stadium, what modes of transport did you use to travel to and from the Stadium (If you use more than one mode of transport, select all that apply)
 - Car, drive personal car as sole occupant
 - Car, driver personal car with multiple occupants
 - Car, travel in personal car as a passenger
 - Train
 - Bus
 - Walk
 - Walk, from car parked outside stadium grounds
 - Ferry
 - Rideshare (taxi, uber, shuttle, etc)
 - Cycle (inc. electric bikes)
 - Motorcycle/Scooter
 - Other (please specify

3. If you use more than one mode of transport (as selected in Q2), what is your main mode of transport to major events at GMHBA Stadium?

- Car, drive personal car as sole occupant
- Car, driver personal car with multiple occupants
- Car, travel in personal car as a passenger
- Train
- Bus
- Walk
- Walk, from car parked outside stadium grounds
- Ferry
- Rideshare (taxi, uber, shuttle, etc)
- Cycle (inc. electric bikes)
- Motorcycle/Scooter
- Other (please specify)

4. How important are the following factors in choosing how you travel to events at GMHBA Stadium?

	Not at all important	Somewhat unimportant	Unsure	Somewhat important	Very important
Cost	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Safety	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Accessibility	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Convenience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Time efficient	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Family/Friends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It's the way I always travel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)

5. How likely would you consider each of the following alternative modes of transport to travel to an event at GMHBA Stadium?

	Not at all important	Somewhat unimportant	Unsure	Somewhat important	Very important
Train	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Walk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ferry	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rideshare	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cycle	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Motorcycle / Scooter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Park & Ride (currently not in operation)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)

6. How could the transport options listed in Q5 (Train, Bus, Walk, Ferry, Rideshare, Cycling, Motorcycle/Scooter, Park & Ride) be improved in order to travel to/from GMHBA Stadium? Please list your ideas and/or thoughts below

7. Where do you get travel information for major events at GMHBA Stadium? (select all that apply)

- Geelong Cats Website
- Football Club Website, Other
- Kardinia Park Stadium Trust Website
- Transport Operators Websites
- Independent Travel Websites
- Word of Mouth
- Google Maps / Car Sat Nav System
- I just know the best way from experience
- Other (please specify)

8. What is the postcode of where you live?

9. How old are you?

- Under 18
- 18-24
- 25-34
- 35-44
- 45-54
- 55-64
- 65+

10. How do you describe your gender identity?

- Female
- Male
- Non-binary
- Prefer not to say
- Other (please specify)

Thank you for your time and feedback.

The Stadium Patron Transport Study project is an initiative of Committee for Geelong's Leaders for Geelong Program.

The outcomes from the survey will be presented in a report due to be released in late 2023, and will be available from [Leaders Projects | Committee for Geelong](#).

Please click on the 'done' button to ensure your feedback is captured