

The effect of infrastructure on the social legacy of mega sporting events

El efecto de la infraestructura en el legado social de los megaeventos deportivos

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■ Abstract

Social legacy has become increasingly vital to hosting mega sporting events. Many host destinations have withdrawn their bids for mega sporting events, threatening the sustainability of such events. This study aims to investigate mega sporting event infrastructure's effect on social legacy for host communities. The focus is on understanding infrastructure's role and effect on social legacy for host residents. The study employed semi-structured in-depth interviews with residents who previously hosted a mega sporting event. The findings reveal the effect of event infrastructure, including schools, green spaces and hospitals, on quality of life (QOL), social cohesion, civic pride and human right violations, as well as on social legacy. The findings highlight new factors influencing social legacy, the importance of social infrastructure and the negative effect of demolishing social infrastructure. This study contributes to mega sporting event literature and social legacy research by highlighting the specific factors of infrastructure impacting social legacy for residents. This research has implications for potential host destinations and organisers of mega sporting events.

Keywords: Social legacy, infrastructure, sporting events, resident perceptions.

■ Resumen

El legado social se ha vuelto cada vez más vital para la organización de megaeventos deportivos. Muchos destinos anfitriones han retirado sus candidaturas, lo que amenaza su sostenibilidad. Este artículo busca investigar el efecto de la infraestructura para megaeventos deportivos en el legado social de la comunidad anfitriona. El objetivo es comprender el papel de la infraestructura y su efecto en el legado social para los residentes anfitriones. El estudio empleó entrevistas en profundidad semiestructuradas con residentes que previamente habían sido anfitriones de un megaevento deportivo. Los hallazgos revelan el efecto de la infraestructura para eventos, incluyendo escuelas, espacios verdes y hospitales, en la calidad de vida (CV), la cohesión social, el orgullo cívico y las violaciones de derechos humanos, así como en el legado social. Estos hallazgos destacaron nuevos factores que influyen en el legado social, la importancia de la infraestructura social y el efecto negativo de su demolición. Este estudio contribuye a la literatura sobre megaeventos deportivos y a la investigación sobre el legado social al destacar los factores específicos de la infraestructura que impactan en el legado social para los residentes. Esta investigación tiene implicaciones para los posibles destinos anfitriones y organizadores de megaeventos deportivos.

Palabras clave: legado social, infraestructura, eventos deportivos, percepciones de los residentes.

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■ Introduction

Residents' perceptions have become increasingly important to the hosting of mega sporting events. Recently, many destinations have chosen not to host such events, which threatens their future viability. For example, Melbourne withdrew from the 2027 Commonwealth Games (Yerushalmy, 2023), Poland dropped out of the 2020 Winter Olympics, and both the US and Germany pulled out of the 2024 Summer Olympics (Kenyon & Bodet, 2018). The research reflects a concern that mega sporting events are losing their appeal for potential host destinations (Mair et al., 2023; Thomson et al., 2020). Social legacy could directly affect the future sustainability of mega sporting events. Event support and the social legacy of the 2016 Rio Olympics declined post-event, confirming the importance of social legacy for resident support (Ribeiro, Yoda, et al., 2022). While the infrastructure and economic impacts of mega sporting events are easy to measure, effects on social legacy are harder to quantify (Mair et al., 2023). The infrastructure required for these events is expensive and often goes unused afterwards (Pereira, 2020). To ensure future hosting of mega sporting events, it is crucial for organisers to recognise the infrastructure factors that influence social legacy. Should organisers ignore these factors, they may create a negative social legacy, which can harm residents' support of future events (Ribeiro & Almeida, 2021).

Previous studies investigating the effects of infrastructure on social legacy are limited. Infrastructure expansion at mega sporting events was found to marginally improve people's access to healthcare facilities (Pereira, 2020). In terms of social legacy, previous studies found that hosting mega sporting events affected quality of life (Pfitzner & Koenigstorfer, 2016; Sharp, 2017), before and after the event (Kaplanidou et al., 2013; Lu & Lin, 2021; Rocha, Barbanti, & Chelladurai, 2017). Beissel and Kohe (2022) provide some evidence that mega sporting events can lead to improvements in health and visible social change. To fill this gap, this research focuses on the impact of mega sporting event infrastructure on resident perceptions of social legacy.

■ Literature review

▮ Social legacy

Social legacy is generally understood as the feelings and perceptions generated by sporting events (Polcsik & Perenyi, 2022). It relates to how residents perceive their experiences, including their direct or indirect involvement in the event (Ribeiro, Yoda, et al., 2022). Ribeiro, Calapez, and Cunha de Almeida (2022) found that social legacy significantly impacts resident support of mega sporting events. Mega sporting events can create a sense of pride (Gratton & Preuss, 2008). Social cohesion is frequently highlighted by governments and policymakers as an abstract notion that encapsulates individuals' feelings of belonging and their connections to community (Mair et al., 2023). Despite its importance, social cohesion is seldom explored in academic event research and lacks a widely recognised method for measurement (Mair et al., 2023). Studies indicate that legacies are influenced by host destinations' responsibility for human rights violations (Beissel & Kohe, 2022). Social issues and human rights violations related to mega sporting events are a rising concern in the research (Binyang, 2025; Heerdt, 2023; McGillivray, Koenigstorfer, Bocarro, & Edwards, 2022; Tang, Wu, & Cheng, 2023). Social issues and human rights violations merit further investigation. Prior studies focus on the specific social impact (quality of life) of mega sporting events, rather than on all aspects of social legacy (Mair et al., 2023; Thomson et al., 2020).

▮ Infrastructure

Infrastructure is the "bricks and mortar"; it includes all built infrastructure related to mega sporting events (Preuss, 2007). This encompasses facilities, sporting venues for training and competitions, airports, roads, hotels, housing, entertainment areas and parks. Previous research has focused on the impacts of improvements to transportation in relation to mega sporting events (Kassens-Noor, 2013; Knott & Tinaz, 2022). Mega sporting event infrastructure standards and requirements compete and collide with real infrastructure requirements, such as the education,

health, housing and basic sanitation systems of host destinations (Graeff et al., 2020; Graeff & Giulianotti, 2024; Vico, Uvinha, & Gustavo, 2019). Azzali (2020) pointed out resident concerns about Rio de Janeiro's Olympic urban redevelopment, feeling it worsened social issues and inequalities. This illustrates the importance of infrastructure's effect on resident perception.

Previous studies highlighted how infrastructure outcomes effects quality of life (Liu, 2017; Pfitzner & Koenigstorfer, 2016). Kaplanidou et al. (2013) found notable differences in how people perceived the impacts of mega sporting events on quality of life (QOL) before and after the events. Before the events, political impacts, psychological effects and social benefits significantly influenced perceived QOL. Additionally, QOL played a role in connecting political, psychological and social benefits with resident support (Kaplanidou et al., 2013). The research indicates that residents did not see an improvement in QOL after the 2010 FIFA World Cup in South Africa (Kaplanidou et al., 2013). The findings showed no change in QOL during the event, while there was a decrease in QOL after the 2014 FIFA World Cup (Pfitzner & Koenigstorfer, 2016). Eviction, deteriorated living conditions and housing damage associated with FIFA-related urban redevelopment contributed to reduced QOL (Graeff & Giulianotti, 2024). Limited studies have investigated how mega sporting event infrastructure affects social legacy.

Previous research examined the effects of this infrastructure on people's access to health-care facilities (Pereira, 2020). A study found that while infrastructure for mega sport events could increase access to Olympic venues, it only slightly improves access to healthcare services (Pereira, 2020). Azzali (2020) noted that urban regeneration from an event led to physical separation and division, with few details about its impact on social legacy. Several studies pointed out common problems with urban regeneration linked to mega sporting events, like the displacement of low-income residents (Binyang, 2025; Heerdt, 2023; McGillivray et al., 2022; Tang et al., 2023). Findings raised concerns about health and wellbeing due to urban redevelopment and lacking transportation improvements (Sharp, 2017). Investigation

has also been made into how transportation issues related to mega sporting events affect social legacy (Pereira, 2020) and how venue environments impact disabled individuals (Dickson et al., 2017). The existing literature urges exploration of social legacy (Thomson et al., 2020).

Therefore, the present research question is:

RQ1: To what extent does the infrastructure of mega sporting events contribute to social legacy for a host community?

■ Social exchange theory (SET)

The theoretical framework for this study is Social Exchange Theory (SET). This theory is commonly used in research on event impacts and is especially useful for examining resident perceptions (Polcsik & Perenyi, 2022). SET aims to understand the exchanges that happen between individuals and groups during interactions. According to this theory, people are more likely to support an event if they see the host experience as one of positive exchange (Polcsik & Perenyi, 2022). SET helps explain how residents view the event's impact in terms of social legacy.

■ Methodology

Semi-structured interviews were conducted in this study to gain deeper insight into residents' perceptions of the impact of mega sporting event infrastructure on social legacy. The research shows that semi-structured interviews are suitable for exploring the attitudes, values, beliefs and motivations of individuals regarding a specific phenomenon (Green, 2016; Winand, Bell, & Zeimers, 2023). Purposeful sampling was utilised in this study, as this technique allows the researcher to choose a sample of individuals that relate to a specific criterion to answer the research question (Lopez & Whitehead, 2013). Participants who previously hosted a mega sporting event and are in the process of planning a future one were chosen; residents of Queensland, Australia hosted the 2018 Gold Coast Commonwealth Games and are in the planning stage of the 2032 Olympics and 2027 Rugby World Cup. The rationale is that these residents would have a firm idea of the effect of infrastructure on social legacy. The sample

consisted of individuals between 23 and 62 years of age living in Queensland, Australia, and an equal gender distribution (see Table 2).

Table 2. Demographic profile

Interviewees	Age	Gender	Occupation
1	33	Female	Seasonal academic
2	28	Female	Stay-at-home mother
3	32	Male	Lecturer (academic)
4	45	Female	IT architect
5	31	Male	IT support
6	24	Female	Stay-at-home mother
7	62	Female	Counsellor
8	29	Female	Office worker
9	29	Male	Insurance broker
10	45	Male	Sport club manager
11	23	Male	Law student
12	72	Male	Professor (academic)

■ Data collection

The semi-structured interviews occurred between August 2023 and January 2024 and were conducted and transcribed via the Microsoft Teams platform. A total of 12 interviews were realized, each lasting 60 minutes (Winand et al., 2023). The interviews focused on residents' perceptions of the social impacts of infrastructure, and infrastructure's effect on social legacy. Interview questions were based on prior studies (Mair et al., 2023; Preuss, 2007; Ribeiro, Yoda, et al., 2022; Sharp, 2017). The interview questions (see appendix A) included lines of questioning such as: "Do you think infrastructure outcomes have a social impact on the host community of a mega sporting event?", "If so, which social impacts are significant?", and "How can this be improved?"

■ Data analysis

Interview transcripts were analysed with an inductive approach (Winand et al., 2023). The thematic analysis method allows researchers to adopt a theory-driven analytical approach involving six stages (Winand et al., 2023). The stages are familiarisation through rereading transcripts, initial coding, searching for themes, reviewing themes to create a thematic

analysis map, defining and naming themes and producing a report. NVivo software assisted in this analysis. Thematic analyses, however, were analysed according to structural and deductive coding. Structural coding involves the development of themes that appear to be a pattern in resident responses (Fereday & Muir-Cochrane, 2006). The aim of the coding process was to extract the descriptive data for a deeper understanding of residents' motivation and attitudes (Winand et al., 2023).

■ Findings

Findings are presented according to the research question.

RQ1: To what extent does the infrastructure of mega sporting events contribute to social legacy for a host community?

Inductive coding of the data found that the infrastructure factors that affect social legacy are: usability, accessibility, transportation, urban regeneration and social infrastructure's demolition (schools, green space and hospitals).

■ Usability

Responses indicate that infrastructure's usability has a moderating effect on resident perceptions of social legacy. For example:

If you build a stadium that then ends up being one of the main ones used for whether it was built for an old team, or for instance, a new team could come forward into the rugby league and use that stadium and generate its own sort of fans. And yeah, fantastic. I believe that and then people will look at the stadium, thinking that stadium was built for the Olympic Games. I think that's a good thing. [Interview 2]

Another response showed a negative effect on social legacy when infrastructure was unusable after the 2016 Brazil World Cup:

I think when we look back on events...like the ridiculous amount spent in Brazil, I think

it was football where they build stadiums in the middle of nowhere, there wasn't going to be reused later. Then it's kind of a negative. [Interview 3]

Based on these responses, the usability of infrastructure seems to moderate infrastructure's effect on social legacy either positively or negatively. Specifically, residents referred negatively to the usability of infrastructure of previous mega sporting events such as the 2016 Brazil World Cup. Usability could be moderating infrastructure's effect on the social legacy of a mega sporting event.

| Accessibility

Another important factor that could be moderating infrastructure's effect on social legacy is infrastructure's accessibility. Residents indicated that infrastructure must be publicly accessible for residents during the off-season:

So, like the first half of the day, when nobody's using it is publicly accessible or half the field's publicly accessible, you could have like you field one and two that your main pitches for your games and then field three and four are publicly accessible when there's another training session happening. [Interview 8]

A resident referred to the infrastructure's accessibility positively:

I guess there needs to be that accessibility...There's probably data in terms of how often these things are used, so anecdotally you're driving into any country town, and the places are buzz with people on the on the football field and the tennis court and the basketball court. [Interview 1]

Based on these responses, residents perceived that accessibility to mega sporting event infrastructure has an effect on social legacy, since it enhances social gatherings among people. In

particular, residents indicate sport infrastructure must be made accessible to the public in the off-season periods. Thus, accessibility could moderate the effect of infrastructure on social legacy. Infrastructure accessibility could moderate infrastructure's effect on social legacy.

| Transportation

Residents' responses showed they perceived upgraded transportation to positively affect social legacy. For example, one respondent referred to the construction of the Cross River Rail:

I think things like the Cross River Rail, stuff like that, would be fantastic when it's in place, and also building a couple more bridges throughout the city to make the city more accessible from both sides of the river, which again I think is a fantastic idea. The bigger of city gets, the harder it gets to navigate roads via cars, so to alleviate the stress in busy junctions and intersections in the inner city is only a positive. [Interview1]

When residents were questioned about infrastructure's contribution to social legacy, they specifically referenced the effect of transportation:

I believe that when they build a stadium, they obviously have to enhance the infrastructure around them, so as long as they are actually doing that enhancing infrastructure around like the sake of like highways, public transport, stuff like that, to alleviate the stress that they can put on the city during that many people that I would definitely say that's a positive. [Interview 11]

The findings indicate that transportation contributes to the social legacy of mega sporting events by alleviating the stress of a busy city. The findings further noted that transportation enhanced the city's infrastructure and accessibility. Thus, transportation positively effects social legacy.

Urban regeneration

Urban regeneration after mega sporting events was highlighted as important to the host community. As indicated by one resident:

I think yes...especially when they take like a suburb like a street and revamp the whole street...all these different things...like a library, like a cafe or restaurant, like a place you just walk around your pram. I think yes, so if it's done like that with like the whole community in mind. [Interview 2]

One respondent showed the importance of urban regeneration including social infrastructure (recreational and green spaces around the stadium):

I'm going use the GABBA as the example. I'm not just sitting in my chair. Stay in my assigned chair the whole day, watching the cricket. I might go out for morning tea for lunch. and sit on the GABBA has this big lawn outside, I'm going to sit under the tree. And then while I'm sitting under the tree...kids playing cricket on the grass cause they're there for the day watching cricket and they're wearing their Australian jerseys and they're playing cricket on the grass...that's so nice. And then there's a guy who's playing guitar on my left under the same tree. And then I see this other person that I know from across the street...You know it's a community. It's something that can bring the community together. If it's just like the stadium goes right up to the road...there is like Woolworths and some restaurants. It's a public good. Like, it's a public amenity that we can all enjoy, together. [Interview 8]

Urban regeneration by revitalizing streets, libraries, cafes and restaurants seems to positively affect social legacy, especially infrastructure being built with the whole community in mind. Urban regeneration in terms of infrastructure was linked to recreational green spaces surrounding stadiums. Thus, urban regeneration alongside

mega sporting event infrastructure effects resident perception of social legacy.

Infrastructure demolition

The demolition of social infrastructure seems to negatively affect social legacy. One respondent shared concerns over the demolishment of the old stadium and neighbouring school:

There is a sense that you know things [infrastructure] were there before the event, that meant a lot to the Community and are being demolished sometimes. For example, the Gabba Stadium in Brisbane that is going that whole area and is going to be demolished to make way for a grand stadium. And one of the schools there must be demolished. And I think that's quite sad. I think that's a negative one. [Interview 2]

The history of the infrastructure affects residents' perceptions about social infrastructure demolition. One resident indicated:

It takes away the big history, like the history of a place, to make way for this. You know, bigger event that's coming and destroys like demolishes houses and you know places that are important like schools and other things like that. [Interview 4]

Residents exhibited negative perceptions about the demolition of social infrastructure. For example:

...I wouldn't want to see the school demolished places like that being demolished is kind of sad...social infrastructure... get takes away the big history, like the history of a place to make way for this... bigger event that's coming and destroy like demolishes houses... places that are important like schools... so that's a negative one. [Interview 1]

Another resident agreed, stating that social tension had been caused by demolishing social infrastructure:

Creating societal tension that, and I also personally feel like when I go past Woolloongabba state school.. it's like it feels like a piece of Brisbane's history because it's like this beautiful red brick building. It's an old Queensland-style school. It's over 100 years old. Seeing the kids playing there in the garden in the front of the school...it would be like we're losing a piece of Brisbane history that's a huge societal impact [Interview 8]

Residents seems to care about social infrastructure:

Absolutely. Particularly for people that have lived there for years and years. And I also know like that with the school, if that does close, that's gonna impact a whole community, whole generation of kids, in fact, because you've got parents who went to that school and I want that legacy to continue. [Interview 4]

It was evident infrastructure demolition causes community disruption. For example:

I don't like that they're tearing it [the building] down ...so they're shutting down that little school ...that is a really powerful example... disruption to the community... any mega infrastructure project, that it does improve quality of life. So that it so like the long term so...in ten years, for children being born now like that, it makes Brisbane a more liveable place, or it makes a city a more liveable place. It's hosting this thing...better transport or better sporting facilities or just like better cultural facilities as well. [Interview 3]

Residents find that infrastructure such as schools contributes to a liveable city. Residents connect the current demolition of social infrastructure to similar demolition during previous mega sporting events. For example:

Oh my goodness, this is terrible. I can't even imagine that it happened in Brazil like a whole community... [Interview 6]

In their responses, residents showed that infrastructure demolition seems to negatively affect social legacy since they perceived community disruption to follow it. This was true when residents referred to the demolition of infrastructure like schools, green spaces and hospitals. The demolition of this social infrastructure seems to negatively affect social legacy.

l Schools, green spaces and hospitals

In terms of the impact of infrastructure on social legacy, residents referred to schools, hospitals and green spaces. One resident indicated that schools are vital to social legacy. For example:

... Schools are a big hub, so that school would be a big hub for given it's a state school... so most of the children would live nearby, they would have friends. Families would be linked that way, so it'd break that up. It's the big thing [Interview 3].

Based on the responses, infrastructure demolition is perceived intensely negatively by residents, as was the case with Interviewee 1 when stating, "I again, this school is a, sticking point for me...", further referring to it being a historical school and surrounded by green space, which enhances its social prominence. Residents noted the importance of hospitals and the need for them to be prioritised by organisers. For example:

I believe that hospitals are placed within strategic areas of a city to the for the sake of access to them, to make sure that you don't have a grouping of hospitals and a zone of the city that's not covered, you know. But in terms of schools as well, I believe it follows the same sort of rules that the same sort of the reasoning applies and that you have zoning for school for, the sake of catchment areas. I believe that they should be considered high priority if you can enhance them,

Responses indicated that infrastructure allowed the host community to gather together and enhanced ethnic-social interrelationships:

From having a new building will make everything much newer and more modern. Yeah, I think it increases local cohesion in the community of getting different ethnic groups get along. I do think they could bring different groups together and just even in the process of building it and how they go back, like decorating and painting and incorporating different people's groups into that and getting ideas from different people on how we can make this suitable for our community. [Interview 6]

A resident indicated that infrastructure builds the community up and encourages social gatherings:

I think it builds the community up. I think we get together more often when things like this happen, we go see the games together. We have a drink afterwards. And I think that point socially it helps. [Interview 2]

Based on the responses, infrastructure is tied to aiding social groups to interact in the community and enhancing social cohesion.

| Civic pride

Residents indicated that mega sporting event infrastructure can contribute to civic pride. The findings demonstrate that residents experienced pride in infrastructure upgrades:

...There is pride too, if it's done really well, like the Sydney Olympics, I remember...I was ten, and I think that's really powerful...Sydney is now associated with that Olympics...the prestige and the esteem of a place can be elevated if it's done well [Interview 3].

The response showed infrastructure can elevate the esteem for a host destination. Residents indicated that infrastructure "raise[d] the profile of Brisbane" (Interview 8). Another resident agreed:

Still ages away but just think that we going to be proud of what we have. So having bigger infrastructure built is just great for that and for tourism. [Interview 6]

Based on responses, it is evident that mega sporting event infrastructure positively impacted the host community's feeling of civic pride. The findings illustrate how residents recall having hosted the Sydney Olympics and the pride they experienced.

| Human right violations

When infrastructure was perceived to result in human right violations, social legacy is negatively affected. Residents referred to the negative effect of the deaths that occurred during infrastructure construction on the social legacy of the 2016 Brazil World Cup:

The best-case scenario for me would be in terms of a positive social legacy...I draw it back to the Brazil World Cup. I know that there were deaths in construction and that causes quite a heavy shadow over the social legacy of that sporting event. [Interview 11]

Additional responses related infrastructure to people's displacement. For example:

And we've seen, like in previous events where you have like this mass displacement of people to make roof stadiums, like the FIFA World Cup did that the last few tournaments... obviously it's very negative. [Interview 9]

Residents referred to the negative effect of the deaths that occurred during the construction of the 2016 Brazil World Cup and of evictions

in the community, resulting in a negative impact on social legacy. This means the eviction of residents from their homes for the sake of infrastructure negatively effects social legacy. Infrastructure that results in human rights violations negatively effects social legacy.

QOL and wellbeing

Responses indicated that infrastructure effects social legacy in terms of QOL and wellbeing. Infrastructure was noted to result in the creation of a destination status, and in policymakers improving the destination:

To me, yeah, it'd be one of the most important ones. I think big destinations are getting bigger, and having a mega event seems to focus on policymakers on improving that stuff. So yeah, in terms of benefits to people's day-to-day lives, that's probably one of the biggest ones, yeah. [Interview 1]

One respondent noted that improving transportation results in enhanced mobility for residents, with positive effects on QOL:

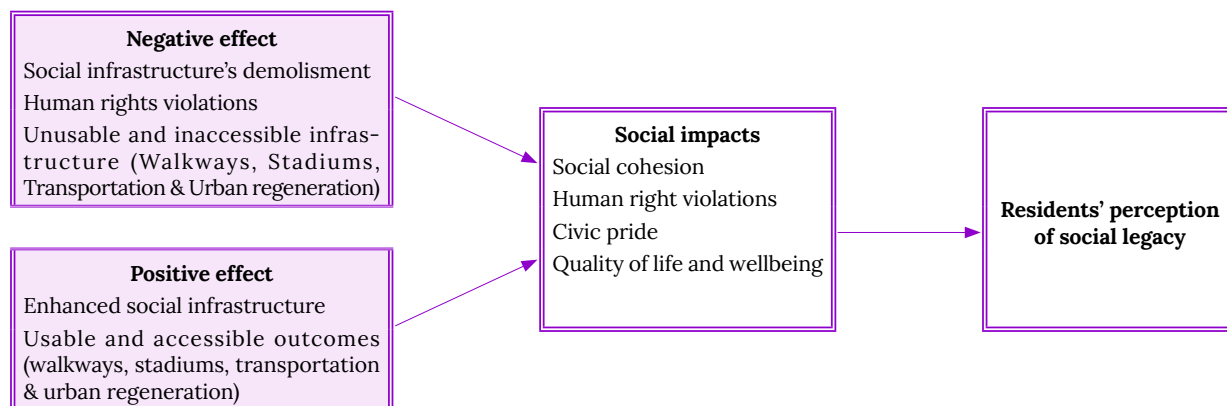
If the infrastructure has improved and I can get to work easier, that improves my quality of life. It can get home faster. [Interview 3]

Enhanced amenities and bathrooms furthermore improved QOL:

I think definitely that that improves my quality of life. I can have nice water while I'm on my walk or like used the bathrooms that are available. In about toilets are available, and they are clean. And they have a change table...that's like, very nice, definitely improving quality of life. [Interview 5]

Based on responses, mega sporting event infrastructure effects social legacy in terms of QOL. The need for amenities links QOL to residents need for social infrastructure (Lee, 2021). Residents noted that more restaurants, transportation and amenities improves QOL.

The proposed model:



Model 1: Model developed for the study

This study investigated mega sporting event infrastructure as it affects social legacy. This investigation led to the development of our model of the positive and negative effects of infrastructure on social legacy. Infrastructure seemingly has a

negative effect on social impacts when human rights violations occur during social infrastructure demolition and when mega sporting events build unusable/inaccessible infrastructure. Conversely, infrastructure seemingly has a positive effect on social impacts when social infrastructure is

enhanced and when it is made with a focus on usability and accessibility. The findings illustrate that mega sporting event infrastructure's usability and accessibility has a moderating effect on social impacts (social cohesion, civic pride, quality of life and wellbeing).

■ Discussion

The findings show that factors including usability, accessibility, transportation, urban regeneration and social infrastructure demolition impact the social legacy of mega sporting event infrastructure.

■ Usability

Residents referred to the usability of the infrastructure from previous mega sporting events, such as the Sydney Olympics and FIFA event in Brazil, as affecting their perceptions of social legacy. Referring to the FIFA event in Brazil, respondents mentioned that the infrastructure was built in the middle of nowhere, eventually becoming ghost towns, resulting in a negative perception. This finding correlates with scholars, showing that infrastructure needs purpose, functionality and usefulness post-event (Preuss, 2007). The usability of mega sporting event infrastructure could have a moderating effect on social legacy.

■ Accessibility

In particular, residents indicated that infrastructure must be made accessible to the public in the sporting off-season and during certain parts of the day. The findings show that accessibility contributes to people's ability to come together. Accessibility has an effect on social legacy; it could moderate infrastructure's effect on social legacy.

■ Transportation

More specifically, residents indicated that transportation may alleviate the stress of busy host communities and enhance their infrastructure, thus contributing to previous findings on the positive and negative effects of transportation on residents' perceptions. Prior findings corroborate that urban regeneration and transportation

increases wellbeing in residents (Sharp, 2017), while this study illustrates that transportation effects social legacy.

■ Urban regeneration

Urban regeneration in the form of revitalizing streets, libraries, cafes and restaurants effects the social legacy of mega sporting events, especially when the infrastructure is built with the host community in mind and is linked to recreational green spaces in the stadium surroundings. This finding contributes to previous research on the effects of urban regeneration of infrastructure on resident perception. The findings correlate with research that the standard requirements for mega sporting event infrastructure compete and collide with required infrastructure (education, health and housing and basic sanitation systems) in host destinations (Graeff et al., 2020; Graeff & Giulianotti, 2024; Vico et al., 2019). Arguably, social infrastructure is not sufficiently prioritised by organisers. The findings show that urban regeneration can effect social legacy positively.

■ Social infrastructure

The findings contribute to "social infrastructure and amenities" in relation to their importance for mega sporting events to residents (Lee, 2021). When considering social infrastructure, residents predominantly referred to educational institutions, healthcare facilities and public green spaces. Residents identified this infrastructure as critical touchpoints, highlighting their social significance within the community. Demolition of such infrastructure has a markedly negative impact on residents' perception of social legacy. The findings correlated with research that residents have a negative perception of these events when health and education are jeopardised (Ribeiro, Yoda, et al., 2022).

Social infrastructure was previously investigated mostly in a social sustainability, community context (Gabbrakhmanov & Rubtsov, 2014; Grum & Kobal Grum, 2020). Social infrastructure provides essential resources to support individual wellbeing and contribute to community liveability (Davern et al., 2017; Davern, Winterton, Brasher, & Woolcock, 2020), and the provision of basic

amenities was found to be essential for enhancing QOL (Grum & Kobal Grum, 2020). One study developed a framework for age-friendly movement in a community planning policy context (Davern et al., 2020). Another proposed a framework for conceptualising social sustainability based on social infrastructure and wellbeing (Gabdrakhmanov & Rubtsov, 2014; Grum & Kobal Grum, 2020). Extant findings show social infrastructure is important to QOL and wellbeing for host residents overall, and is significant to social legacy for mega sporting events. In our findings, residents demonstrate that infrastructure such as schools contribute to cities' liveability. Furthermore, our findings demonstrate the intense negative effect of demolishing social infrastructure.

|| Social impacts

Our findings show that mega sporting event infrastructure effects social legacy through social cohesion, civic pride, QOL and human right violations.

|| Social cohesion

The findings indicate that infrastructure plays a vital role in facilitating social interaction within communities. Specifically, infrastructure developed for mega sporting events appears to enhance social cohesion, gatherings among community members and inter-ethnic relationships, resulting in inclusive and connected communities. Overall, mega sporting event infrastructure was found to positively affect social cohesion.

|| Civic pride

Based on our findings, it is evident that infrastructure positively impacts the image elevation of a host community and its feeling of civic pride. Infrastructure contributed to esteem for hosting the Brisbane Olympics because it will "raise the profile of Brisbane". This finding is supported by research that hosting a mega sporting event makes residents experience a feeling of pride (Gratton & Preuss, 2008). Civic pride seems to be enhanced by mega sporting event infrastructure.

|| Human right violations

When infrastructure was perceived as resulting in human right violations, the effect of infrastructure on social legacy was negative. Evictions of people resulted in negative perceptions of social legacy. The results correlated with what scholars have indicated about social issues producing negative legacies (Ribeiro, Yoda, et al., 2022). Findings correlate with studies that pointed out urban regeneration linked to mega sporting events causes displacement and evictions (Binyang, 2025; Heerdt, 2023; McGillivray et al., 2022; Tang et al., 2023). Extant findings demonstrate that social infrastructure demolition is linked to human rights violations and effects social legacy. These findings contribute to the research on human rights violations in the form of the demolition of social infrastructure (eviction of residents from their homes), with a negative effect on social legacy.

|| QOL and wellbeing

Based on the findings, it appears that the infrastructure of mega sporting events contributes to social legacy by enhancing QOL. Residents stated that better restaurants, transportation and amenities would elevate their living standards and prompt policymakers to invest in further improvements. Prior studies overlap with these findings, showing that infrastructure effects the QOL of residents (Kaplanidou, 2012; Pfitzner & Koenigstorfer, 2016). The findings prove that amenities should be enhanced by mega sporting events since it is social infrastructure that fulfils basic human needs and enhances QOL. The findings show that upgraded infrastructure enables more efficient commuting, allowing residents to travel from work easily and quickly, which in turn positively effects their daily lives. Social infrastructure has a positive effect on QOL.

|| Theoretical contribution

This research contributes to the body of knowledge on infrastructure and contributes to theory on legacies. First and foremost, the findings contribute to the body of knowledge on infrastructure by indicating that mega sporting event infrastructure affects social legacy.

Specifically, this study adds to the concept, showing that the demolition of social infrastructure contributes negatively to social legacy. The findings showed that infrastructure effects social legacy through usability, accessibility, urban regeneration and the demolition of social infrastructure. Prior studies investigated mega sporting events' effect on social legacy, but not in terms of social cohesion, and failed to focus on infrastructure (Azzali, 2020; Pfitzner & Koenigstorfer, 2016). These studies contribute to theory on legacy but fail to demonstrate how infrastructure effects the social legacy of mega sporting events.

Second, this study builds on legacy theory by highlighting how infrastructure effects social legacy. Current findings show that mega sporting event infrastructure impacts social legacy in terms of 1) social cohesion, 2) QOL and 3) civic pride. Previous studies investigated effects on people's access to healthcare facilities (Pereira, 2020). This study fails to show how transportation effects social legacy in terms of social cohesion, QOL or the civil pride of residents. Ribeiro, Yoda, et al. (2022) determined the impact of social legacy on residents' support for mega sporting events, without investigating the impact of infrastructure on social legacy, illustrating the importance of the current findings. The findings correlate with studies that pointed out the common problems with urban regeneration linked to mega sporting events, like human right violations (Binyang, 2025; Heerdt, 2023; McGillivray et al., 2022; Tang et al., 2023). The current study demonstrates how human rights violations affect social legacy. These studies investigated the infrastructure of mega sporting events but failed to investigate social legacy in terms of social cohesion, civic pride and QOL.

Managerial implications

The findings suggest that event organisers need to re-evaluate demolition protocols when hosting mega sporting events. There is a higher risk of negative social legacy production when residents' homes or schools are demolished. The findings illustrate that residents need social infrastructure prioritised in the community when

hosting a mega sporting event. There exists ample opportunity in healthcare or education to give use to infrastructure from mega sporting events post-event. Using athletes' housing for lower-income housing (Pentifallo & VanWynsberghe, 2015) could be replaced with hospitals or schools, depending on the host community's needs. This heightens the potential for contributing to social legacy by increasing the quality of life (Ribeiro, Calapez, et al., 2022) of residents by providing basic amenities (Grum & Kobal Grum, 2020).

Second, the findings extend understanding of mega sporting event's effect on quality of life, social cohesion and civic pride. Organisers need to prioritise useful infrastructure that contributes to residents' day-to-day life, including homes, safe neighbourhoods, proximity to schools, public transportation and green spaces (Grum & Kobal Grum, 2020). Findings indicate the changes needed to the priorities of the Olympic committee in its bid requirements. Event organisers need to prioritise infrastructure that fulfils the community's basic needs to reduce the social issues of lower-income residents who are disadvantaged and under prioritised by policymakers and the organisers of mega sporting events. A social infrastructure evaluation is important before bidding for a mega sporting event in a host destination to understand the social infrastructure needed to create a positive social legacy. Consulting residents and local groups can help identify which infrastructure from a mega sporting event can be converted into social infrastructure as needed by the host destination. Sharp (2017), Pereira (2020) and Ribeiro, Yoda, et al. (2022) highlighted the issues with displacing low-income residents and distributing only a few social impacts to residents. The findings illustrate how to reduce social issues and infrastructure's negative effects on residents. The demolition of social infrastructure needs to be avoided but, if it does occur, it needs to be replaced. Arguably, this should be the kind of social infrastructure needed by the host community. Social infrastructure should be enhanced by hosting a mega sporting event, not reduced by it. Thus, event managers need to develop strategic protocols and policies for social infrastructure to avoid reducing the host community's QOL and wellbeing.

■ Conclusion

Infrastructure does affect the social legacy of mega sporting events; future research could use a quantitative sample and draw more generalisable conclusions. This study proposes that social infrastructure can directly impact residents' perception of social legacy. The findings are that social infrastructure must be prioritised by policymakers and organisers of mega sporting events

to ensure a positive social legacy. The evidence indicates that demolition, eviction or disruption of neighbours, schools, or hospitals produces a negative social legacy. This was shown by residents' evocations of home evictions because of the Brazil Olympics, and in their expressed disapproval of potential plans to demolish a school for a new stadium for the 2032 Brisbane Olympics.

■ Appendix A

I Interview questions

What are the important intangible social impacts of staging a major sporting event? Which outcomes from the infrastructure of a major sporting event contribute to intangible impacts to the community?

What is the impact of unplanned infrastructure outcomes on the social legacy of a major sporting event?

How do you think that infrastructure outcomes that are unplanned or do not turn out as an organiser planned effect the social legacy of a major sporting event?

How important are the infrastructure outcomes of a major sporting event to the social impact of a major sporting event? Is it important that planned outcomes are achieved?

What would you consider to be the impacts on your own community?

How important is increasing accessibility to infrastructure outcomes for the host community of a major sport event? How can accessibility be improved?

(Preuss, 2007)

(Mair et al., 2023)

Do you think the social legacy of a major sporting event like the Olympics or RWC is important?

(Mair et al., 2023)

What does the social legacy of a major sporting event mean to you in the short and long term?

Do you think infrastructure outcomes have a social impact on the host community of a major sporting event? If so, which social impacts are important? How can this be improved?

Did past major sporting event infrastructure positively impact the community? What would you describe as socially positive infrastructure outcomes of a major sporting event, and why?

What social impact do you think the infrastructure and facilities of a major sporting event should have on the community?

What major sporting event infrastructure outcomes can cause negative social impacts on the host community?

What infrastructure outcomes effect the host community after a major sporting event?

What are your thoughts on urban regeneration through major events?

Tell me about any recommendations you can give for future events/event host destinations on building infrastructure for major sporting events?

Describe what social regeneration through major events means to you? What type of infrastructure is needed for regeneration?

Tell me about any potential impacts for/on the community?

(Sharp, 2017)

What is the short term or long term effect of the infrastructure outcomes of a major sporting event in terms of disruptions to normal life?

What is the short term or long term effect of the infrastructure outcomes of a major sporting event in terms of evictions of people?

What is the short term or long term effect of the infrastructure outcomes of a major sporting event in terms of increasing the cost of living and human rights?

(Preuss, 2007)

Do you think hosting the Olympics or RWC will enhance Australian communities' pride through infrastructure outcomes?

Will hosting the Olympics or RWC reinforce local community cohesion through infrastructure outcomes?

How do you think the Olympics or RWC infrastructure outcomes will strengthen friendships in the community?

How can these sporting event facilities be built to be useful to the community and improve public infrastructure in the community?

Do you believe infrastructure outcomes will increase the success of the Olympics or RWC in creating a positive social legacy for the community, and why?

(Ribeiro et al., 2022)

How can Olympic infrastructure outcomes increase social interactions within the community?

How can the Olympics deepen urban renewal in the city?

Can the infrastructure outcomes of these events aid local community cohesion in any way?

Can you describe what the legacy of a mega sporting event means for you?

(Sharp, 2017)

Does the social impact of infrastructure outcomes matter for hosting a major sporting event to you? Would it effect your support of bids on those events?

(Ribeiro, Yoda, et al., 2022)

How do you think the infrastructure built from a major sporting event can contribute to social cohesion?

How can a major sporting event contribute to national pride through infrastructures outcomes?

How do you think a major sporting event can contribute to the wellbeing or quality of life of the host community through its infrastructures outcomes?

(Mair et al., 2023)

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