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Mobility Intersections: Gender, Family, Culture and Location in the Gauteng City-Region

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Abstract

The morphology of many South African cities has changed little over the last 25 years: with some of the poorest communities still living on the peripheries in informal settlements and old townships. The resulting spatial mismatch, with difficulties of access and mobility, has been recorded and engaged with elsewhere; the day-to-day implications for households and families have been less well-considered. In work that was undertaken between March 2019 and February 2020 using a mixed-method approach that included focus groups, a smartphone mobility app, mapping and qualitative interviews, as well as, the use of other on-line communication platforms such as WhatsApp to gather data, the team looked at the intersection between mobility, access and household dynamics. Results surface and highlight how old spatial planning logics have direct impact on contemporary spatial footprints, mobility patterns and transit choices. Former 'White' neighbourhoods, designed to be relatively self-contained and meet the needs of the suburban population, still ensure relatively small spatial footprints that are car-reliant. While those living in older informal settlements and townships still have the burden of long distances to access economic and often educational advancement. Similarly, the historical layout of transport modes continues to affect the day-to-day decisions of modal choice. However, these spatial patterns and historical transit planning are overlaid with gender expectations and gendered divisions of labour—as women continue to carry most of the childcare and domestic responsibilities and men continue to feel the necessity for household income provision. Thus, historical and continued segregation in the city-region intersects with diverse dimensions of race, class and culture to perpetuate widespread gendered mobility patterns in the Gauteng City-Region.

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Introduction

The morphology of many South African cities has remained obdurate and difficult to change over the last 25 years: with some of the poorest communities still living on the peripheries in informal settlements and in old townships. In addition, transport systems remain poorly integrated with the rest of the city. The result is long and expensive commutes for poorer households living on the edges attempting to access urban amenities and economic opportunities. There have, however, been some changes and the Gauteng City-Region (GCR) has seen some important transitions over the last few decades. Middle-income suburbs have experienced the fastest and most significant changes in demographic and racial profiles (Crankshaw, 2017), and there have been important transitions in the profile of property ownership with many poor and working-class households, benefitting from the state's housing programme. While some higher-income earners have maintained their locations closer to the centrally located economic opportunities and nodes (Budlender, 2016), others have moved to enclosed and/or seceded golf estates and luxury suburbs on the urban periphery. These estates and suburbs are often well-serviced, have many of their own amenities and are close to transport routes that connect them to the rest of the GCR (Atkinson & Blandy, 2013). There are important exceptions, as the Johannesburg and Tshwane inner cities have seen demographic shifts over the last few decades and provide relatively affordable accommodation for lower-income earners, most often in shared and subdivided flats and houses (Mayson & Charlton, 2015; Rubin, 2014).

In attempting to address the city-region's morphology, the state has spent enormous resources attempting to rescale jurisdiction and invested millions of Rands into economic development and transport infrastructure. Post-apartheid efforts to change the jurisdictional boundaries of cities and create single tax bases were a fundamental attempt to reconnect and reconfigure South African cities. There have also been a number of planning instruments such as Integrated Development Plans and Spatial Development Frameworks that have attempted to find ways to ensure integration and equitable state investment (Valeta & Walton, 2008). Furthermore, economic investment has focused on older townships, striving to ignite economies in these areas and change the shape of the region's spatial economy. Soweto at one point benefitted from almost 80% of the City of Johannesburg's capital budget (Harrison & Harrison, 2014). Alexandra, Tembisa and Mamelodi have also seen massive investment in infrastructure, often from the Gauteng Provincial Government. 2010 saw the completion of the Gautrain, a rapid rail network spanning across the city-region, connecting the major urban centres. Within each metro, plans have been put forward to try and densify the cities and ensure compaction and efficiency and most municipalities have attempted to curtail development on their edges. This has had uneven results with improvements in infrastructure and housing but economic opportunities remain largely in the core cities while townships are still mainly dormitory towns. There has also been some work on upgrading informal settlements, but this has been cleft by political agendas and has not been successfully implemented. Location and access to transport are heavily shaped by the race and class of residents in the city-region.

However, race and class are only two issues that influence the mobility patterns of urban residents. As with many cities around the globe, transport use and spatial footprints in the Gauteng city-region are heavily gendered, predominantly in terms of access to transport as well as perceptions of safety. Women have less access to private cars and face harassment and threats to their personal safety when using public transport. Gender, historical spatial planning, race, socio-economic status and location shape mobility. Several studies have considered these issues of race, class, gender and location independently in relation to mobility in the city-region; however, we know of no studies in the context of Gauteng that have deployed an intersectional approach to understand how already constrained mobilities are exacerbated by multiple layers of identity. Our paper examines the intersections between the historical spatial obduracy of the GCR, race, class, gender roles in households and mobility.

Our primary analytical lens is a gendered intersectional framework, where we understand that gendered mobility is shaped by different cultures and ideologies and is particularly influenced by the responsibilities of childcare, and for this reason, we focus on parents. The mobility of parents is a key site of analysis since most people are parents; and mobility shifts with the introduction of children into the household, sometimes constraining and sometimes increasing the number of trips in addition to the fact that parents must frequently travel with or for their children (Lin et al., 2018; Oakil et al., 2014; Prillwitz et al., 2007). We show elsewhere that the spatial footprints and mobility patterns of parents are informed by moral geographies as much as pragmatic considerations of cost, time and distance (Parker & Rubin, 2017; Rubin & Parker, 2022). The focus on parents also serves as a useful lens to highlight inequalities between men and women, and with an intersectional approach, we highlight the diversity of experiences and differences within gender categories.

Using a study which looked at questions of mobility and gender in how households with children navigate the GCR, the paper reports some insights into the powerful influence that spatial and social history has on the patterns of mobility and transit in the GCR. This paper contributes to the debates on gender and mobility by emphasising the gendered responsibilities and roles around childcare and how they intersect with other factors shaping mobility such as race, location and socio-economic status. Our focus on gender, family and culture shows that historically segregated planning, diverse cultural practices and parental roles and responsibilities come together to reinforce and reproduce gender normative patterns of mobility in the GCR.

Access and Mobility in Post-apartheid Gauteng

Transport planning and provision during the apartheid era and before was deeply segregated and reinforced segregated spatial planning. When building Black townships on the peripheries of urban areas, local governments created limited transport monopolies to service residents in these areas usually through train or private bus services (Pirie, 1992). The minibus taxi industry arose in response to these severe constraints on mobility to provide more regular accessible transport services to township areas. This form of paratransit is now the predominant mode of transport

for most of the city-region's residents, and the minibus taxi industry provides an extensive network of transport across Gauteng.

Formal public transport provision remains poorly integrated into the city-region[1] and the process of integrating the different systems has been a focus of all levels of government in the post-apartheid period. In the last 15 years, there have been three key transit interventions in the GCR: metro-scale BRTs that have been instituted in the three metros (with varying degrees of investment and success); the Gautrain; and a minibus taxi recapitalisation project. The BRTs were intended to move public transport infrastructure away from paratransit that sits in the hands of the informal but very powerful private sector to a publicly owned formal sector and was largely aimed at the working poor and lower-income households who were using minibus taxis (Baloyi, 2013). These have also been used as the basis or "spines" of transit-oriented development projects in Cape Town, Tshwane and Johannesburg. A key aspect has been the intention of using both transit and the Corridors to address the spatial exclusions in the cities and to attempt to "restitch" the cities back together (Harrison et al, 2019). The BRTs have also been sites of huge capital and operational expenditure and have had the intention of improving access to economic nodes and creating more inclusive cities (City of Johannesburg, 2014). The second intervention has been the Gautrain that was intended to ease traffic and congestion along the main south-north axis highways and towards the airport in the east but is expensive and was targeted at higher-income earners (Thomas, 2013). In addition, the taxi recapitalisation project, intended to improve and upgrade the taxi industry, was instituted in the early 2000s and was revised in 2019 with new vigour and focus (Nzimande, 2019). As Thomas (2013) suggests, there are consequences to having such a segregated approach to transport provision, which may "deepen mobility-related exclusion in the province" through the prioritisation of modes of public transport that focus on wealthier urban dwellers.

National, provincial and local governments have also attempted other spatial interventions to try and address the mismatch between where people live and economic opportunities. These have come in the form of housing developments and the attempt to construct well-located human settlements that are mixed-income and mixed-density, as well as, a social housing programme, that has tried to give lower-income households access to economic nodes through rental accommodation. There has also been a focus of the national government to consider the economic revitalisation of townships and the push towards densification and multiple land use within the city to try and promote economic and social integration.

Despite these interventions, public transport use remains relatively low and cities remain segregated. Many residents prefer private motor vehicles, although only 35% of South African households own a car (Vanderschuren et al., 2019) and 70% of households across the region still use minibus taxis as their main

[1] The Gauteng City-Region is seen as "…[f]irst and foremost a functional region, almost always governed by a number of overlapping, competing, and cooperating political-administrative bodies" (Harber & Joseph, 2018: 5) and that stretches "somewhere north of Pretoria to the Vaal River (and sometimes beyond); and from east of Springs to west of Krugersdorp" (Mabin, 2013: 4).

form of transit, with only a few people moving to the state-provided interventions (Woolf & Joubert, 2014). The result is that many poorer people who live far from economic opportunities and other amenities are further disadvantaged by public transport that continues to be poorly integrated. Through the legacy of apartheid spatial planning, this frequently means that location, race and socio-economic status intersect to produce highly unequal and unjust patterns of mobility. We argue in this paper that this is further exacerbated by gender, family and culture.

Gender, Families and Mobility

Commuting, and transport in general, has long been considered largely an economic practice; a practice of travelling to and from work (Holdsworth, 2013). The industry has assumed transport to be gender-neutral (Vanderschuren et al., 2019), focusing primarily on peak travel hours for the average workday which has also largely structured cities, their zoning and provision. This dominant perspective has overlooked the gendered divisions in paid labour and labours of care and how this affects everyday mobility.

Women's mobility and travel behaviours differ substantially from men's because of inadequate planning in transport but also due to social or cultural norms, spatial planning, effects of globalization, governance and access to communication technologies (Uteng, 2011). Women are further disadvantaged because they generally have lower incomes and less access to resources and are additionally burdened with the care of children and other relatives (Blackden & Wodon, 2006). Women are also more likely to have more fixity constraints in their mobility than men (Shen et al., 2015), and men and women differ in their trip purposes, distances and transport modes (Levy, 2013; McLaren, 2018; Uteng, 2011). Women's scheduling and trip-chaining (journeys that consist of multiple stops or destinations) are more complex than men's (Uteng, 2011; Vanderschuren et al., 2019). Women's greater number of trip-chaining journeys is strongly linked to the provision of childcare: "having a child under age 5 increases trip-chaining by 54 per cent among working women but only 19 per cent among working men" (Roberts & Madariaga, 2013: 40). Trip-chaining journeys may increase the cost of transportation as well as increase travel times and inconvenience as women are encumbered as they move through the city. It has been found that women adjust activities and schedules to accommodate employment and seek employment closer to home often due to their childcare responsibilities (Uteng, 2011) but are also negatively affected by the differentiated geographies of the labour market (Uteng, 2011). Women are less likely to have access to a car and more often rely on walking (Uteng, 2011; Vanderschuren et al., 2019) and are more likely to feel unsafe while accessing and using public transport (Delbosc & Currie, 2012; Uteng, 2011).

Social and cultural practices influence the travel activities of both men and women and are important dimensions to consider (Wang, 2015). For women, social and cultural beliefs influence their activities within and outside the home and may be one of

the most important factors shaping their mobilities (Uteng, 2011). Some religions (such as Islam) and cultures curtail women's mobility and access to public space (Porter, 2008). However, mobility can also be constrained by framing women as "highly vulnerable and needing protection" (Porter et al., 2021: 182).

While gender is not the only factor affecting mobility, gender distinctions are widespread, and it is important to consider intersectional factors such as race and income as well as subgroups of women (Porter, 2008). In this paper, we are focusing on women who are parents and primary caregivers. Mothers make many more journeys than fathers (Criado Perez, 2019), and the challenges of household and unpaid care labours further constrain the mobility choices of many women (Uteng, 2011).

These gendered differences are particularly evident in the context of African transport where men still dominate transport planning and engineering, transport operations and even the 'atmosphere' of public transit (Porter et al., 2021). The question of safety and vulnerability is key in South Africa, where research has shown the significant role of safety in shaping the choice of transport modes for vulnerable groups, particularly women. Minibus taxis are the most commonly used form of transport in Johannesburg (Scheidegger, 2009), and yet women face substantial harassment when using this transport mode and have begun to speak out against this abuse. Women in South Africa also feel more vulnerable walking on the streets in accessing or avoiding public transport:

> The respondents in our study appear to have experienced themselves as the dominated ''other'' and ''weaker sex'', whose needs for spatial accessibility, mobility and social interaction were subordinated to those of motorised vehicles, and whose safety was compromised by criminals and males who tend to engage in victimising behaviours against women. (Seedat et al., 2006:149)

Recent data exploring gendered differences in mobility patterns paints a more complex picture of travel behaviour in South Africa. Women are more likely to travel to work than men (31% vs. 27%), while a much higher proportion of men make business trips than women (25% vs. 4%) (Vanderschuren et al., 2019: 619). Women in South Africa make more care trips in the form of serving passengers (2% more than men) and shopping trips (8% more than men) (Vanderschuren et al., 2019: 619). However, there is very little difference between men and women in their travel times or distances. This may be related to the legacy of South Africa's colonial and apartheid planning and transport policies creating vast distances between places of work and home for most residents.

As a result of apartheid planning, gendered differences in mobility are exacerbated by modernist planning principles that sought to separate commercial activities from residential areas, or in other terms, paid labour from unpaid labour. In the context of the Gauteng City-Region, this highly uneven geography intersects with race and socio-economic status as well as a poorly integrated public transport system. Our study examines these factors together with culture and childcare responsibilities to reveal the perpetuation of highly gendered mobilities.

Methods

Following the social turn in mobilities research and transport geography (Grieco & Urry, 2011), our study utilised a set of qualitative approaches. The research was undertaken between March 2019 and February 2020 using a mixed-method approach that included focus groups, a smartphone mobility app, mapping and qualitative interviews as well as the use of other on-line platforms such as WhatsApp to gather data. Five sites across Gauteng were chosen: Mamelodi, Bertrams, Denver, Lenasia and Edenvale; where the location was used as a proxy for both socio-economic conditions and demographic profiles. More detail on the areas of focus is provided in "Case Study Areas". The locations were chosen to offer geographic spread and account for questions of centrality and peripherality as well as settlement and housing typology.

On each site, we connected to respondents who are parents through pre-existing contacts, either of our own or colleagues', and recruited people initially for focus groups or group discussions of anywhere between 6 and 30 people, depending on who was available. The focus groups were intended to introduce the project, get some general background on questions of mobility, access and parenting and then recruit people for the second phase of the study. The second phase involved giving participants (6–10 people) smartphones with a preloaded mobility tracking app. Attempts were made to give phones to two adults, responsible in some measure for childcare, in the same household to explore how the dynamics of gender identities and roles and household decision-making shape daily movements and mobility. The preloaded app tracked mobility for a period of 2 weeks. Respondents were requested to carry the phone with them wherever they went. Every few days, we also asked respondents a different question and requested that they write and send us voice notes (audio recordings), images and videos on the mobile communication platform, WhatsApp. At the end of the tracking period, the mobility data and WhatsApp communication was used as the basis for a longer qualitative interview, asking people about their movements and choices and understanding the motivations and drivers of the mobility and decision-making. The interviews were transcribed and together with the maps, focus group data and WhatsApp information were analysed and themes and common issues surfaced.

Across all five case study areas, we had 43 participants, of which 36 were interviewed. Almost two-thirds (27) were mothers and a third (15) were fathers. Their ages ranged from 21 to 49 years old and most had between one to three children although some had as many as ten children. Participants had a variety of household configurations: some multi-generational households, some single parents and some 'nuclear' families. Most were living with their children but some had all or some of their children living elsewhere. Overall, the participants represent a high level of diversity. There was a significant benefit to engaging with such a small group, interaction was constant during the course of the project and we were able to construct deep relationships with people that allowed us to gain real insights into their lives.



Fig. 1 Location of the five case study areas in Gauteng. Map by Yashena Naidoo

Case Study Areas

For this paper, we focus on three of our five case study areas: Denver, Edenvale and Lenasia; for the sake of brevity while also providing cross-cutting data that is representative of the overall study (Fig. 1).

Denver is an industrial area east of Johannesburg's central business district and is wedged between major arterial roads and the east–west railway line. To the south of the suburb is the mining belt and to the north are residential suburban neighbourhoods. The area contains manufacturing activities and previously served the mining industry. In the 1940s, Denver Men's Hostel was built in the area to house male labourers working in these industries (Mathiba, 2019). Towards the end of the twentieth century, two informal settlements were established around the hostel providing accommodation to the women and children excluded from the hostel accommodation (Mathiba, 2019). Our research also revealed that many of the residents are migrants from KwaZulu Natal, and IsiZulu culture dominates in community leadership and is emphasised through active membership in the Inkatha Freedom Party political organisation. The area has not seen any recent investment in public transport services and relies heavily on minibus taxis and the railway service.

Denver was selected because of its proximity to economic opportunities, although it has limited public transport accessibility. In addition, the site offered insight into two alternative housing typologies: informal settlements and hostel accommodation but located within an industrial area without many of the amenities associated with residential suburbs. Denver is also characterised by a largely homogenous South

African migrant community with embedded cultural and political practices. We had seven participants from Denver, three fathers and four mothers some of whom were also grandfathers and grandmothers. Many of the families were fragmented; split across dwellings, locations and generations. Most our participants were unemployed or had informal or 'piece' (part-time) jobs. And most of our families were migrants from KwaZulu Natal.

Edenvale was established as a mining town in 1902 with residential plots in Edenvale and Eastleigh to house White mine labourers working in nearby Rietfontein Mine (Raper et al, 2014). It is situated on the western edge of Ekurhuleni Metropolitan Municipality and today accommodates a variety of housing typologies and densities with some racial diversity since the end of apartheid. Recent years have seen significant industrial development around the OR Tambo international airport (approximately 5 km east of Edenvale) and substantial retail and residential development. As a middle-class area, many residents make use of private cars to move around and there is some public transport in the form of buses and minibus taxis. The planned Bus Rapid Transit system for the metropolitan municipality of Ekurhuleni does not extend into Edenvale. We selected Edenvale because it is located between two key economic nodes: Johannesburg CBD and OR Tambo airport; and provides insight into a largely White middle-class residential area. According to our research, the area is attractive to parents because of the proximity to "good" schools and while there are several amenities in the area, the lack of adequate public transport means that many residents are reliant on private cars for their daily movements. We had ten participants from six households with four fathers and six mothers, one of whom is a single mother. Most of the participants were middle-class and employed and many had been born in Gauteng.

Our third case study area, Lenasia, was established in 1963 as an area for people from or descendants of India and South Asia, referred to collectively as "Indians" by the apartheid government (Parnell & Pirie, 1991). It is a large area located 35 km southwest of Johannesburg's central business district. Today, it is a racially mixed area with the Indian population group comprising 56% of residents and Black Africans making up 40% of residents. The area is largely residential with some growing commercial and retail activities over the last 25 years. Lenasia is poorly serviced in terms of public transport with some bus routes and minibus taxis resulting in many residents relying on private cars. We chose Lenasia as a case study site because of its apartheid history which means that it is still a predominantly "Indian" area with a large proportion of Moslem residents providing our study with insights into additional population groups and cultures. While Lenasia has amenities and schools within the greater area, many economic opportunities and perceived better schools are a substantial distance away in Johannesburg's CBD and northern suburbs. We had eight participants from Lenasia from five households. Four of the participants were fathers, with one single father, and the other four were mothers. The majority of the participants were employed in working-class and middle-class households.

These case study sites were selected because they emphasise the relationship between mobility and access with race, socio-economic status and the legacy of apartheid planning. In both Lenasia and Denver, the lack of amenities has been consciously constructed by the state. In the case of Lenasia, it was intended

as a dormitory settlement, providing a semi-skilled labour pool for the central city-region. In the case of Denver, the lack of amenities and poor conditions relate to enduring single-sex hostels and the lack of legitimacy that informal settlements have experienced since their inception in South African urban landscapes.

Historical and Current Landscapes

Even in the post-apartheid period, the informal settlements mentioned above have been seen as sites that require eradication rather than engagement and improvement. This is despite policy to the contrary and has meant that residents are often forced to access even the most basic services elsewhere. Informal settlements have thus largely been ignored or relocated and up until very recently have been unable to motivate for better water and sanitation on the grounds that they are illegally occupied and considered temporary and therefore could not be invested in. Thus, in Lenasia and Denver, political agendas in the distant and more recent past have shaped their current morphology and in so doing have constructed situations of need for their residents.

In both Denver and Lenasia, this is compounded by the nature of party politics in the region: in Denver, the majority of residents are IsiZulu and many are members of the Inkatha Freedom Party due to the association of the settlement with mining in the east of the City and the pre-existing migrant system. The ward in which Denver sits has a Democratic Alliance councillor, who, according to the respondents, refuses to assist them with developments, arguing that as many residents are members of the Inkatha Freedom Party they will never vote for her. This has meant that the councillor refuses to take the needs of the community to council and will not spend the budget on upgrading the area.

Arguably, Lenasia which remains an "Indian" enclave is not seen as a priority in the post-apartheid period because the Indian population is viewed as politically marginal and as having benefitted more than the Black population under the apartheid system. Thus, there are intersections between historical-political forces, and ideas of ethnicity. These have powerful implications for the mobility of residents as their service needs have been side-lined making mobility in and out of their areas even more of an imperative to access services, employment and education with very few transit options with which to do so. In the following section, we explore how these factors of race, socio-economic status and location are compounded by factors of gender, family and culture.

Compounding Layers of Gender, Family and Culture

Lenasia respondents acutely felt their distance from the central economic nodes of the city-region. All respondents from this area mentioned long commutes in the daily lives of themselves or their families either for education or employment. As one respondent put it "we travel [because we are] too far away from civilisation. With no traffic it should be about 50 min, but it can be 2 h" (L8, 55-year-old

Indian mother, 2019). Households mentioned that although there were relatively good schools in Lenasia, given a choice through options such as bursaries, "better schools" outside Lenasia in central Johannesburg were preferred even though that meant long hours of commuting for their children. There were also few tertiary education opportunities in the area with most being around religious education and few professional work opportunities. Consequently, younger professionals and students travelled into the central city or up north to Midrand every day, normally in lift clubs or through hiring private cars. This was largely because there simply is not a sufficient public infrastructure to make the journey. Many of the respondents mentioned the anxious wait that they have in the late afternoons and evenings for family members to return.

There was a gendered dimension to car-based use: many of the women interviewed either did not have driver's licenses or cars while their husbands and male partners did. We suspect that women's limited access and mobility relates to gendered cultural norms in the "Indian" and Moslem communities in Lenasia. Women were often reliant on the male members of the household to transport them and their children which meant that women's spatial footprints were often much smaller and more entangled in the domestic sphere than their husbands and partners. It also meant that some activities which have generally been considered women's domain such as grocery shopping fell to male partners who did the shopping to or from other places and so "trip-chaining" in a way that is more commonly associated with women's mobility patterns.

An interesting dimension surfaced in Edenvale on the eastern side of Johannesburg which is also dominated by private car use. Many of the women's maps demonstrate smaller footprints than their male counterparts, covering what seems to be smaller distances. Women's mobility patterns also show less diversity and variance than men's patterns. Women's lives, even very middle-income women's lives, revealed in the mapping data are both spatially smaller and more repetitive than men's. The reasons also seem to indicate that some of this is due to the choices that families and women have made: one of the respondents mentioned that moving to Edenvale had been a response to a previous situation in which long distances and constant commutes for her various roles were affecting her mental health causing her to "struggle" in her daily routine.

The stress caused by juggling the multiple journeys required by her work and meeting the needs of her children brought about a significant juncture and decision for her family. In describing the moment in which distance and her struggles became clear, this mother remembers her husband saying: "Your life needs to get smaller." "And when he said that, I said "yes!" like in so many ways, my life needs to get smaller" (E7, 39-year-old White mother, 2019). Having a smaller footprint and fewer working hours allowed this respondent to manage her time and her stress. Importantly, the proposed solution to the problem was to address the duties and responsibilities of the mother rather than to reconsider the roles and responsibilities of the father. This experience reflects the gendered division of household labour and how this affects the mobility and spatial footprints of mothers while leaving the mobilities of fathers largely unchanged.

Many of the male respondents in Edenvale and Lenasia talked about how they help with the school run in the morning, but afternoon and after-school activities were largely still the domain of wives and female partners, or other (generally female) family members who assisted. These indicate that while there has been some shift in men's domestic responsibilities, there have not been significant patterns of change in women's work, which is still often part-time, and contingent on men's schedules.

For low-income households, mobility choices are severely constrained and are affected by the need to access care and support for children. One father in Denver moved around Gauteng for reasons that shifted between being closer to his child in Vosloorus (the mother had moved there to be closer to schools and family support), moving to cheap or free accommodation or moving to be closer to work opportunities. This relocation was in the service of either being present as a father for more visits or being able to provide financially. The expectations for fathers to be financial providers may require fathers to be more mobile in the pursuit of work opportunities, both in relocating across the city-region and for daily commuting.

The fathers that we interviewed in Denver are not involved in the daily activities of their children, largely because their children do not live with them. As a result, their mobilities are not influenced by the everyday tasks of caregiving. However, and perhaps because of families split over several locations, fathers emphasised their role of providing financially as the key to being a good father. Thus, for at least two of the fathers, their efforts and movements to work or to seek work were framed as part of their contributions to the family as fathers. Fathers who were unable to meet their financial obligations frequently described these occasions as failures, using very emotive language.

For these migrant labourers in Denver, journeys to visit children and family were significant moments of mobility that connected them to their families and roles as fathers. These trips were highly dependent on having funds. One father who was visiting his child in Vosloorus (some 26 km to the south of Denver) spoke of the need to have money so that he and his son could enjoy a meal together at the mall. The other fathers spoke of the imperative to have money for the family when returning home quoting a traditional saying "No one enters the homeland without money" (D2, 49-year-old, Black father, 2019). Simply seeing or accessing their children was dependent on having an income. Fathers were travelling large distances to see their children and families, but this could not happen frequently and depended on their ability to earn an income or access funds.

Mothers and grandmothers in Denver were responsible for the daily needs and care of the children that they were responsible for, and this included the health of their children, taking them to doctors and clinics. However, the extremely limited services in Denver and the poverty of the households combine to make for arduous journeys of care. One mother described that "When we [she, her mother and three disabled children] go to Charlotte Maxeke [Hospital], we use taxis. When we do not have taxi fare we walk… During summer we leave exactly at 5 am and past 5 am during winter. We cross George Goch [Hostel] and we get there around 9 am or 10 am" (D5, 48-year-old, Black mother, 2019).

At the very micro-scale, cultural-historical elements also influence spatial choices and decision-making. One of the young men, interviewed in Denver, noted that he does not live with his son, as he cannot pay for "damages" or "acknowledge" the child. The cultural provisions are so strict that he cannot go into the same house as his son and must meet him in local shopping malls to be able to see him. The result is that the respondent plays a very small role in his son's life and has very few options to be able to influence decisions that affect him. It has also affected the way he perceives himself as a father saying that a good father is "there for his children I mean full time" (D1, 2019) clearly casting his part-time status as something that makes him less of a father.

Parents in all three case study sites reveal the ways in which the pervasive gendered division of household labour and childcare shapes the daily movements and spatial footprints of mothers and fathers across the city-region. Although the gendered patterns are similar across Gauteng, in each site, there are nuanced differences brought about by different cultural norms and practices that intersect with aspects of race and socio-economic status.

Intersectional Identities and Enduring Spatial Segregation

Issues of race, class and gender are further compounded by the choice of location made by people and families, and in some cases, by housing typology. Respondents across all three case study sites spoke of wanting to live close to family and friends, specifically to access social support while caring for children. Respondents from Lenasia and Edenvale both mentioned that they had grown up in these areas and, when they struck out on their own, wanted to live close to friends and family. In a few cases, households moved into the homes that they had grown up in, enjoying the familiarity and sense of place that these homes offered. The ties into these spaces also help to construct senses of community and support structures that may be more difficult to access and develop without longer historical roots. One of the respondents who had lived in the same house most of her life and raised her two children there, said, "We have a very close-knit community. There's this aunty from next door and she helps. Her daughter even grew up here. I can call anyone for help" (L8, 55-year-old Indian mother, 2019). Thus, the considerations for parents of where to live in the city were strongly shaped by the need to access these forms of social support, which in many cases meant that segregated spatial planning endures in Gauteng. This also differs significantly from other contexts where the choice of residential locations is seen to be influenced by mobility needs and preferences (Wang, 2015).

The housing typology of hostel accommodation in Denver also illuminated another gendered dimension to the daily movements of households and families. Hostels were designed and intended as single-sex spaces to provide labour for the mines and industries on the gold reef (Xulu-Gama, 2020). When legislative controls began to loosen towards the end of apartheid, partners and wives often moved close to their husbands but the hostels were maintained as male spaces. Even when the mines and factory owners completely lost control of the hostels, social controls

prevailed, and most hostels maintained single-sex environments. In Denver, one of the older residents remembered that he stayed at the hostel until "I got married then I moved because women are not allowed in the hostel" (D2, 49-year-old, Black father, 2019). Even today, women are not allowed in the hostel, and households are often split in Denver with men living in the hostel and women, following the historical pattern, of living with their children in a shack in the surrounding settlement. Again, this reveals the continued obduracy of apartheid policy and planning influencing the living conditions and division of domestic labour within families in Gauteng 25 years into the democratic era.

Understanding the choices that parents make with regard to the location in the Gauteng city-region reveals the ways in which spatial segregation endures in the urban environment as parents prefer to be close to family and other social support to share the burden of childcare. In some cases, this means navigating and tolerating gendered hostels and informal settlements with few residential amenities. For many parents, this means that their mobility and spatial footprints continue to be constrained by a poorly integrated transport system. Thus, historical and continued segregation in the city-region intersects with diverse dimensions of race, class and culture to perpetuate widespread gendered mobility patterns.

Conclusion

Despite economic and transport interventions over the last 25 years, the geography of Gauteng continues to be segregated by race and class. This means the mobility patterns are shaped by these dimensions. Our research has shown that these constrained mobilities are exacerbated by the dimensions of gender, family and culture across diverse locations in the city-region. By focusing specifically on parents, our research has shown how additional childcare responsibilities can amplify gendered roles, activities and spatial footprints. The gendered roles of parents have implications for how men and women navigate the city: men seem to travel further to seek work and to work, while women stay closer to home and continue to take on most domestic and childcare responsibilities.

There are, however, important nuances in the generalised patterns of gendered mobility. Different cultures, ideologies and even housing typologies shape the mobility of mothers and fathers. In Lenasia, access to driver's licenses and private cars was limited for women, and in Denver, cultural practices, migrant labour and the single-sex hostel informed the division of domestic labour and childcare responsibilities. In Edenvale, pervasive gender norms influenced which parent took responsibility for different childcare activities with mothers accommodating more adjustments to their daily lives.

Significantly, many parents cited the need for family and social support when choosing where to live in the city-region. For many respondents, accessing family and social support means staying or returning to the areas of their own childhoods or moving to areas where they can access a social network of support. This comes at the cost of location—being far from economic and educational opportunities; not having access to local amenities and having limited access to public transport

systems. These choices of parents help us to understand the ways in which racial and class segregation persist in the GCR and why it is critical to understand the mobility needs of parents when integrating public transport systems.

Using a gendered intersectional approach, this paper briefly demonstrates how the deeply entangled nature of identities and culture and the obduracy of historical form shape the current mobilities of men and women in the Gauteng City-Region. Understanding these micro-scale patterns of mobility allows us to highlight the differential impacts of policy decisions, explain some of the failures of interventions and begin to re-theorise gender and mobility in the Global South.

Declarations

Ethics Approval and Consent to Participate All procedures performed in this study that involved human participants were in accordance with the ethical standards of the University of the Witwatersrand institutional research committee and were given full ethical approval and these conform with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all individual participants included in the study.

Conflict of Interest The authors declare no competing interests.

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References

Atkinson, R., & Blandy, S. (Eds.). (2013). *Gated communities: International perspectives*. Routledge.

Baloyi, M. M. (2013). The Taxi Recapitalisation Policy: Is it a hollow dream? *Journal of Public Administration, 48*(2), 342–352.

Blackden, M., & Wodon, Q. (2006). Gender, time use, and poverty: Introduction. In Q. Wodon & C. M. Blackden (Eds.), *Gender, time use, and poverty in sub-Saharan Africa.* The World Bank.

Budlender, E. (2016). Edged out: Spatial mismatch and spatial justice in South Africa's main urban areas, SERI, 13 September 2016. https://www.seri-sa.org/images/Edged_Out.pdf. Accessed 20 Oct 2022.

City of Johannesburg. (2014). Corridors of freedom re-stitching our city to create a new future, City of Johannesburg, corridors of freedom_s.pdf (joburg.org.za)

Crankshaw, O. (2017). Urbanisation, racial desegregation and the changing character of inter-racial contact. In K. Lefko-Everett, R. Govender, & D. Foster (Eds.), *Rethinking reconciliation: Evidence from South Africa* (pp. 86–104). HSRC Press.

Criado Perez, C. (2019). *Invisible women: Exposing data bias in a world designed for men*. Penguin Random House.

Delbosc, A., & Currie, G. (2012). Modelling the causes and impacts of personal safety perceptions on public transport ridership. *Transport Policy, 24*, 302–309.

Grieco, M., & Urry, J. (Eds.). (2011). *Mobilities: New perspectives on transport and society*. Ashgate Publishing Ltd.

Harber, J., & Joseph, K. (2018). Governing the GCR series: Institutionalising the Gauteng City-Region, Provocation_Institutionalisting the GCR 6.indd (gcro.ac.za)

Harrison, P., & Harrison, K. (2014). 15 Soweto: A study in socio-spatial differentiation. In P. Harrison, G. Gotz, A. Todes, & C. Wray (Eds.), *Changing Space, Changing City: Johannesburg after apartheid.* Wits University Press.

Harrison, P., Rubin, M., Appelbaum, A., & Dittgen, R. (2019). Corridors of freedom: Analyzing Johannesburg's ambitious inclusionary transit-oriented development. *Journal of Planning Education and Research, 39*(4), 456–468.

Holdsworth, C. (2013). *Family and intimate mobilities*. Springer.

Levy, C. (2013). Travel choice reframed: 'Deep distribution' and gender in urban transport. *Environment and Urbanization, 25*(1), 47–63. https://doi.org/10.1177/0956247813477810

Lin, T., Wang, D., & Zhou, M. (2018). Residential relocation and changes in travel behavior: What is the role of social context change? *Transportation Research Part a: Policy and Practice, 111*, 360–374.

Mabin, A. (2013). The map of Gauteng: Evolution of a city-region in concept and plan. GCRO Occasional Paper 05.

Mathiba, L. (2019). *The challenges of upgrading informal settlements: A case study of Denver informal settlement*. University of Johannesburg (South Africa).

Mayson, S. S., & Charlton, S. (2015). September Accommodation and tenuous livelihoods in Johannesburg's inner city: The 'Rooms' and 'Spaces' typologies. *Urban forum, 26*(3), 343–372. Springer Netherlands.

McLaren, A. T. (2018). Parent–child mobility practices: Revealing 'cracks' in the automobility system. *Mobilities, 13*(6), 844–860. https://doi.org/10.1080/17450101.2018.1500103

Nzimande, B. (2019). Minister Blade Nzimande: Revised Taxi Recapitalisation Programme.

Oakil, A. T. M., Ettema, D., Arentze, T., & Timmermans, H. (2014). Changing household car ownership level and life cycle events: An action in anticipation or an action on occurrence. *Transportation, 41*, 889–904. https://doi.org/10.1007/s11116-013-9507-0

Parker, A., & Rubin, M. (2017). Motherhood in Johannesburg: Mapping the experiences and moral geographies of women and their children in the city. SA & CP GCRO Occasional Paper no.11, November 2017. Johannesburg: GCRO Motherhood in Johannesburg: Mapping the experiences and moral geographies of women and their children in the city | GCRO. Accessed 24 Aug 2022.

Parnell, S., & Pirie, G. (1991). Johannesburg. In A. Lemon (Ed.), *Homes apart: South Africa's segregated cities* (pp. 129–145). Indiana University Press.

Pirie, G. (1992). Travelling under Apartheid. In D. Smith, *The Apartheid City and beyond: Urbanization and social change in South Africa* (pp. 172–181). New York & London: Routledge.

Porter, G. (2008). Transport planning in sub-Saharan Africa II: Putting gender into mobility and transport planning in Africa. *Progress in Development Studies, 8*(3), 281–289.

Porter, G., Murphy, E., Adamu, F., Dayil, P. B., De Lannoy, A., Han, S., Mansour, H., Dungey, C., Ahmad, H., Maskiti, B., Clark, S., & van der Weidje, K. (2021). Women's mobility and transport in the peripheries of three African cities: Reflecting on early impacts of COVID-19. *Transport Policy, 110*, 181–190.

Prillwitz, J., Harms, S., & Lanzendorf, M. (2007). Interactions between residential relocations, life course events, and daily commute distances. *Transportation Research Record: Journal of the Transportation Research Board, 2021*, 64–69.

Raper, Peter E., Moller, LucieA., & du Plessis, Theodorus L. (2014). *Dictionary of Southern African Place Names*. Jonathan Ball Publishers.

Roberts, M., & de Madariaga, S. (2013). *Fair shared cities: The impact of gender planning in Europe*. Taylor & Francis Group.

Rubin, M. (2014). *Johannesburg's bad buildings programme: The world class city hegemony at work he world class city hegemony at work* (pp. 211–230). Urban governance in post-apartheid cities: Modes of engagement in South Africa's Metropoles. UKZN Press.

Rubin, M., & Parker, A. (2022). Many ways to care: Mobility, gender and Gauteng's geography. *Gender, Place & Culture*, pp. 1–24.

Scheidegger, U. (2009) Mobility and the promotion of public transport in Johannesburg. In Ohmacht T., Maksim H., & Bergman M. (Eds.), *Mobilities and inequality* (pp. 207–18). London: Springer.

Seedat, M., MacKenzie, S. & Mohan, D. (2006). The phenomenology of being a female pedestrian in an African and an Asian city: A qualitative investigation. *Transportation Research Part F: Traffic Psychology and Behaviour, 9*(2), 139–153.

Shen, Y., Chai, Y., & Kwan, M. P. (2015). Space–time fixity and flexibility of daily activities and the built environment: A case study of different types of communities in Beijing suburbs. *Journal of Transport Geography, 47*, 90–99.

Thomas, D. P. (2013). The Gautrain project in South Africa: A cautionary tale. *Journal of Contemporary African Studies, 31*(1), 77–94.

Uteng, T. P. (2011). *Gender and mobility in the developing world*. World Development Report 2012.

Valeta, L., & Walton, G. K. (2008). Integrated development planning and budgeting at local government. *Journal of Public Administration, 43*(1), 373–384.

Vanderschuren, M. J., Phayane, S. R., & Gwynne-Evans, A. J. (2019). *Perceptions of gender, mobility, and personal safety: South Africa moving forward*. Transportation research record.

Wang, D. (2015). Place, context and activity–travel behavior: Introduction to the special section on geographies of activity–travel behavior. *Journal of Transport Geography, 47*, 84–89.

Woolf, S. E., & Joubert, J. W. (2014). A look at paratransit in South Africa. https://www.up.ac.za/media/shared/404/ZP_Files/Innovate%2009/Articles/a-look-at-paratransit-in-south-africa_woolf-and-joubert-web.zp40153.pdf. Accessed 20 Oct 2022.

Xulu-Gama, N. (2020). Hostels in South Africa: Spaces of perplexity. *Strategic Review for Southern Africa, 42*(2), 231–234.

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