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Transportation Research Procedia 45 (2020) 352–359

Transportation Research Procedia

www.elsevier.com/locate/procedia

AIIT 2nd International Congress on Transport Infrastructure and Systems in a changing world (TIS ROMA 2019), 23rd-24th September 2019, Rome, Italy

# Mobility justice in urban transport - the case of Malta

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**Abstract**

Malta has been experiencing a constant economic growth and population increase since the 1990s. Following accession to the European Union in 2004 and joining the Euro in 2008, the rate of growth has continued to increase unabated. This has resulted in rapid urban development, and increasing car ownership and use. The islands' urban fabric has changed with further urban land use densification, and increasing need for space for the car. In a small island state, land resources are not only limited but also highly contested. The result today is evident in the high costs of congestion, air and noise pollution, health impacts and overall decline of the quality of the urban areas due primarily to the overbearing presence of the car in the public realm. Inspired by the works of Vasconcellos (2014) and Gössling (2016) this paper aims to describe the islands' transport system development and highlight issues related to equity and justice. It investigates the main trends and the impacts on mobility justice through the issues of household income, accidents (road safety), urban area distribution and exclusion. The issues surrounding the social sustainability of the transport system is therefore put into question using socio-political approaches. The study also reviews current transport policies in an attempt to frame the issues of equity and social sustainability within the island's policy context. The study brings to the forefront growing concerns in Malta over the current political decisions on providing more roads for cars without any effective plans in support of other, more environmentally and socially acceptable forms of transport. Finally, the paper aims to raise awareness of the growing transport injustices in the system and provide some justification for more equity considerations in transport planning and infrastructure development.



*Keywords:* Mobility justice; equity; social sustainability; Malta; urban transport systems

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10.1016/j.trpro.2020.03.026

## 1. Introduction

Most cities today are afflicted by the negative impacts of motorized transport systems. Many studies have highlighted the implications of growing car travel from air and noise pollution, to congestion, accidents and last but not least, social exclusion (Gilbert and Perl, 2008, Kenworthy and Laube, 1996; Martens et al., 2012; Vasconcellos, 2014; Gwilliams, 2002). The concerns over the equity issues in transport have also been brought to the forefront with studies identifying barriers to access as one main challenge, but also those related to accidents and the burden of air pollution on the most disadvantaged (Martens, 2012; Lucas, 2012; Mullen et al., 2014).

These impacts are widely acknowledged in policy at most national levels and at supra-national levels including the European Union (EC, 2011). Most policy documents agree that public transport systems, walking and cycling are key to sustainable transport systems, particularly in cities. Change towards more sustainable transport systems however has been complicated by various factors including political discourse favouring the car, lack of public, and therefore, political support for change, perceived high costs, need to compromise and path dependency in trying to find solutions (Gössling, 2016; Schwanen et al., 2011; Bratzel, 1999; Imran and Pearce, 2015). Most recent literature also link this to growing contradictions between what is stated in the political discourse and the realities of transport systems developed to support the most unsustainable of transport modes, the car (Gössling, 2016; Reigner and Brenac, 2019; Keblowski et al., 2016).

This study is grounded within this context and the case study of a small island state. The islands of Malta, Gozo and Comino (referred to as Malta) are the southern-most tip of Europe and have been for the past decade recording high rates of motorization alongside a steady economic growth following membership into the European Union in 2004 and joining the Euro in 2008. Over the past three decades the main island's urban fabric has changed with further urbanisation, land use densification, and increasing need for space for the car. In a small island, land resources are not only limited by highly contested. The main island of Malta has one large urban area (islands are currently 33% built-up). Although the islands are split into six regions, short distances and a continuous urban fabric make the main island a city state in form and structure, comparable to a medium sized European city. Over 80% of the population is considered urban.

This paper aims to describe the islands' transport system development and highlight issues related to equity and justice. It investigates the main trends and the impacts on mobility justice through the issues of household income, accidents (road safety), urban area distribution and exclusion (Vasconcellos 2014, Gössling, 2016). Following this brief introduction, a detailed presentation of the case study provides for an understanding of the geography and small island context. The mobility conditions in the islands are discussed in the third section. A discussion on policy considerations and the politics of transport follow. A final section concludes the paper with an overall discussion and possible way forward.

## 2. The case study of Malta

Following independence from the British in 1964, Malta experienced slow and steady economic growth instigated primarily by tourism and some manufacturing. At the turn of the century the islands economic growth had picked up a steady pace and new sectors started diversifying the economy. All along, population growth and increase in the amount of tourists visiting the islands increased the pressure on the limited land resources. The population at the end of 2017 was 475,701 and over 1.8 million tourists visited the islands (NSO, 2019). According to Attard (2019) a high percentage of tourists still rely on the use of public transport during their stay on the islands. This is partly due to the effective public transport routes servicing tourist areas as well as Malta's long standing practice of driving on the left hand side of the road (reminant of the British rule).

Transport policies following independence all focused on providing infrastructure (roads). With the advent of the 90s and increasing standards of living, more households invested in private cars. This prompted more investment into roads and infrastructure for the car. The islands record one of the highest ratio of roads per square kilometer in Europe, with over 2,400km of roads serving the small islands just 316km$^2$ in area. Malta is just 27km in length and 14.5km in width. Journey distances are short with average distances travelled by car in the morning peak being 5.5km and mostly carried out within the urban agglomeration surrounding the capital city Valletta. Most of the urban area is estimated to be within 9 to 10 minutes walking distance from a town centre (Transport Malta, 2016).

The effects of car dependence translate into more and more land lost to cars within the urban areas and in towns and villages for both moving and stationery (parked) cars. Malta today records one of the highest rates of motorization in the world with 780 motor vehicles per 1,000 population (NSO, 2018). The lack of parking management over the years exacerbated the situation in urban roads with many being converted into one-way streets to provide more on-street parking, resulting in the narrowing of roads and limiting the space for buses, pedestrians and cyclists (see also Transport Malta, 2016).

Other impacts of increasing car depedence have been studied by Attard et al. (2015) where the costs of congestion, accidents, noise, air pollution and climate change mitigation were estimated to amount to 278 million euro, equivalent to 4% of the GDP. Transport Malta (2016) further estimated these costs to grow to 8.2% of the GDP by 2050 under a 'do minimum' scenario. Other implications of this growth in motorization relate to car emissions. Malta is now set to miss its EU emission targets for 2020 due primarily to its growth in transport $CO_2$ (EC, 2019).

## 3. Mobility conditions in the islands

This section outlines the main conditions that affect the transport system. It highlights the high levels of car dependence amongst the population and the impacts of such mobility on the population, particularly when considering transport justice concerns over access and exclusion, travel time, household income, urban space distribution and exposure to traffic risks.

### *3.1. Modal split*

The most significant indicator for car dependence is the shifting trends over time for mode of transport. In 1989, before the advent of formal planning, Malta already recorded over 50% car use, compared to 25% bus use among its population. These figures almost doubled in three decades with over 80% of trips being done by car and just over 10% being done by bus (Fig. 1.). As a result of the growth in car use, active travel reduced dramatically with the last surveys in 2018 showing a poorly 2% of trips being done on foot, whilst cycling remains negligible.

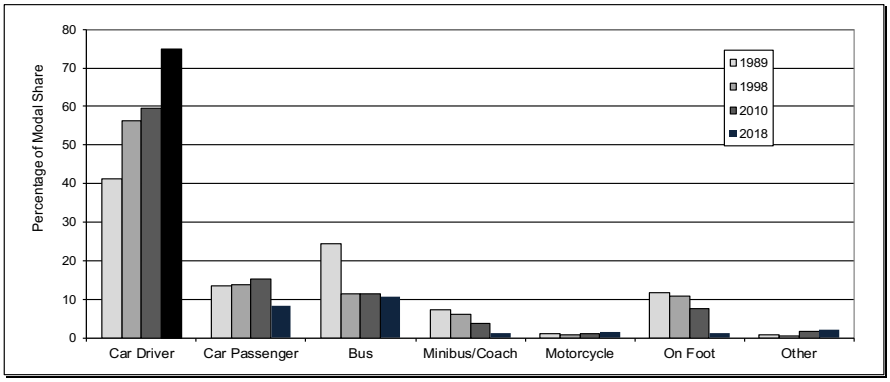


Fig. 1. Modal share of trips between 1989 and 2018. Compiled from Transport Malta (2010) and Project Aegle (2018).

This indicator alone however does not portray the impacts of car dependence and the underlying issues related to equity. A look at the regional modal split shows a difference between the wealthier (Western) and poorest (South Harbour) regions (Table 1). There are also subtle population age distribution effects with more elderly (over the age of 60) within the South Harbour region where bus use is high and more working age population in the Western region where the use of the private car is highest. Furthermore the increase in car dependence has also affected the health of the population, with Malta and its inhabitants being listed as one of the world's most obese and lacking physical exercise (WHO, 2018a).

Table 1. Regional modal split for 2010, average Household Disposable Income (HDI) for 2017 and population age distribution for 2017. Source: Transport Malta (2010), NSO (2019).

| Regions | Modal Split | | | | | | | Avg HDI | Population Age Distribution | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Private car | Bus | Foot | Ferry | Motorcycle | Cycle | Other | (in €) | 0-19 | 20-59 | >60 |
| South Harbour | **66.94** | **24.89** | 7.09 | 0.04 | 0.69 | 0.12 | 0.23 | **23,835** | 14,969 *(18%)* | **42,596** ***(52%)*** | **24,017** ***(30%)*** |
| North Harbour | 76.33 | 14.70 | 7.69 | 0.00 | 0.89 | 0.17 | 0.22 | 27,091 | 26,493 *(18%)* | 86,968 *(57%)* | 38,203 *(25%)* |
| South Eastern | 75.99 | 13.43 | 8.68 | 0.00 | 1.11 | 0.32 | 0.47 | 29,548 | 14,422 *(20%)* | 40,135 *(57%)* | 15,933 *(23%)* |
| Western | **80.52** | **11.31** | 6.65 | 0.00 | 0.60 | 0.46 | 0.47 | **32,754** | 11,605 *(19%)* | **33,479** ***(55%)*** | **15,608** ***(26%)*** |
| Northern | 74.32 | 13.20 | 8.68 | 2.32 | 0.58 | 0.39 | 0.51 | 28,271 | 15,419 *(20%)* | 46,755 *(60%)* | 16,376 *(20%)* |
| Gozo & Comino | 75.45 | **7.94** | 8.68 | 4.09 | 2.85 | 0.34 | 0.64 | 22,867 | 5,999 *(18%)* | 17,311 *(52%)* | 9,413 *(30%)* |

### *3.2. Access and travel time*

Building a transport system which primarily caters for private car use also affects the right of access for those people who for some reason or another do not have the opportunity to drive. There are over 68% of the adult population holding a valid driving licence, within which a strong gender and age bias is observed. The percentage of females over the age of 40 able to drive is significantly less than males (NSO, 2016b). This also explains observed higher use of the bus by female travellers and elderly women in the islands. Although it is evident from Table 2 that this issue will slowly resolve due to increasing gender balance in the 25-39 age group, it does not resolve the many other instances of transport disadvantage which push those outside the car to use public transport which is increasingly becoming less efficient due to lack of priority over traffic and the road which is becoming increasingly unsafe for pedestrians. The increase in the number of tourists visiting the island and relying on buses will also impact the resident population and their access to the service, particularly at peak tourist months and weeks.

Table 2. Percentage of population holding a valid driving licence by age and gender (2015). Source: NSO (2016b).

| Age group | Males (%) | Females (%) |
|---|---|---|
| 18-24 | 58 | 51 |
| 25-39 | 76 | 72 |
| 40-59 | 86 | 67 |
| 60+ | 76 | 23 |

Recent studies in Malta have supported this inequality between people using different modes of transport by also looking at travel time. Mifsud et al. (2017) looking at elderly mobility consistently found that journey times by bus took longer than by car. Transport Malta (2016) reports an average morning journey time by car of 19 minutes (for an average 5.5km trip) compared to 48 minutes by bus. Attard et al. (2015) report regional differences in average seconds of delay per kilometer (measure of car congestion) with the Northern Harbour experiencing 25.79 sec/km, the Southern Harbour 12.61 sec/km, the Southern region 22.08 sec/km, the Western region 14.44 sec/km and the Northern region 10.72 sec/km. The priority of the car (drivers) over and above other modes of transport in the road network has been highlighted in the literature (Gilbert and Perl, 2008, Gössling, 2016). It is evident in Malta that time is considered more valuable for car drivers than others using the bus, walking or cycling.

### *3.3. Urban space distribution*

The priority for cars in the design of urban roads (and parking areas) has already been identified as an injustice built-in, in many cities (see for example Vasconcellos, 2014, Shoup, 2005). As the number of motorized vehicles

increased, Malta's town centres also experienced a dramatic change in the use of public space in the roads and in off-street open areas. Transport Malta (2016) identified the impact of one-way streets, narrowing and removal of pedestrian walkways and increase in parking infrastructure as a problematic of the public space. This makes access to basic amenities around towns and villages very difficult and walking and even more so, cycling are percieved as unsafe.

Figure 2 shows the distribution of space at a local bus terminus in the town of Birkirkara, located at the centre of island in the Western Region. Pedestrian only access is visibly limited with much of the open space dedicated to traffic and parked cars. An analysis of the actual space distribution in towns will hopefully quantify this issue and provide evidence to policy makers who should work towards reversing the trends to promote sustainable transport. Work by Attard et al. (2017) have already demonstrated the potential of urban centres to become more sustainable and more livable places.


Fig. 2. Example of urban space allocation in the centre of Birkirkara, Malta. Photo credit: Steve Zammit Lupi (2018).

### *3.4. Household income*

The share of household income spent on transport is another important socio-economic indicator and provides some important insights into the equity impacts of a transport system. Figure 3 shows the percentage of household income spent on transport costs in each region of the island and the percentage of population at risk of poverty. The comparison shows a wide gap between the South Harbour and Gozo and Comino regions and the Western region which registers a lower percentage of people at risk of poverty. The gap however is less for the percentage of household income spent on transport and travel costs, meaning that the burden of costs is relatively the same for both rich and poor households. This counters principles of equity which would see lower costs for poorer households. Gozo and Comino are separate islands located at the north of Malta and lower travel costs reflect the smaller size of the island of Gozo (just 67km$^2$).

### *3.5. Road accidents*

In 2018 the World Health Organisation (WHO) estimated the global number of annual road traffic deaths at 1.35 million. The burden is disproportionately borne by pedestrians, cyclists and motorcyclists, in particular those living in developing countries (WHO, 2018b). More than half of global road traffic deaths are among pedestrians, cyclists and motorcyclists. These users are often neglected in the design of road networks in many countries.

In this study road accident injuries were analysed over the period 2005-2015, a decade which represents the highest increase in private motorised travel in the islands. Figure 4 shows the share of driver/passenger injuries and pedestrian injuries. It is evident that the share of deaths is slowly increasing among pedestrians with 38% of all deaths being pedestrians in 2005, rising to 45% in 2015. In 2014 the percentage of pedestrian deaths rose up to a record high of 60%. Similar trends are observed for grevious injuries going from 24% pedestrians greviously injured in 2005 to 34%

in 2015. This rise is also linked to the diminishing space allocated to pedestrians in the road environment (see previous discussion in Section 3.3).

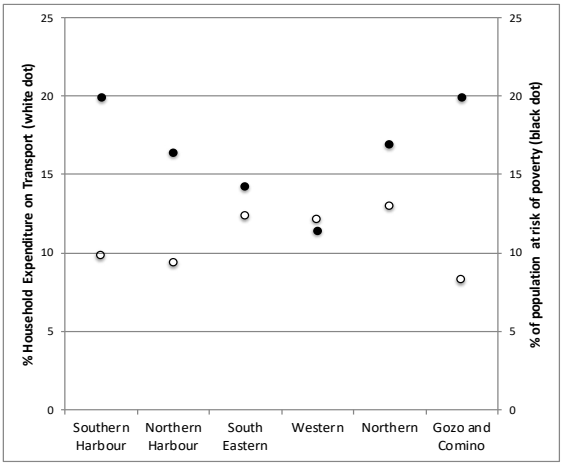


Fig. 3. Percentage household income spent on transport per region compared to the percentage of the population at risk of poverty in each region. Source: NSO (2016a).

Although no cycling injuries are reported in this period, accidents involving cycling are starting to appear in the local accident statistics as a result of increasing number of cyclists on the road. This increase is happening despite the lack of safe cycling infrastructure. Indeed, bicycle use hardly ever featured in transport policies, with planners and civil engineers having never received specialist training on the issues faced by cyclists (and pedestrians) (see also Vasconcellos, 2018; BAG, 2019).

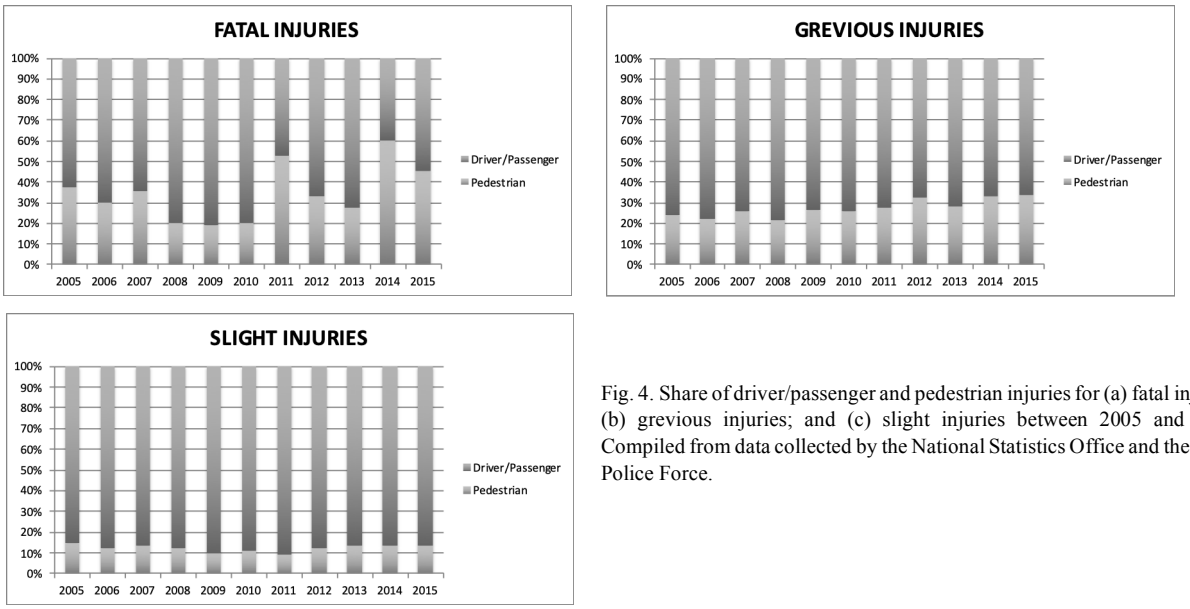


Fig. 4. Share of driver/passenger and pedestrian injuries for (a) fatal injuries; (b) grevious injuries; and (c) slight injuries between 2005 and 2015. Compiled from data collected by the National Statistics Office and the Malta Police Force.

## 4. Policy considerations and the politics of transport

The recently published National Transport Strategy 2050 and Transport Masterplan 2025 are very critical of the islands' transport system particularly about the fact that the predominant approach to tackling growth was and still is a predict-and-provide policy, mainly focused on the provision for more cars. It identifies the deficiencies in policies which promote public transport and is particularly critical of the measures which favour cars over people in urban areas.

> *The option to address traffic congestion by only increasing the supply and capacity of roads in Malta is neither an effective nor a sustainable solution in the medium term* (TM, 2016: p112).

The Masterplan lists a number of measures which, although not exhaustive, would certainly point Malta's transport policy towards that which would reduce traffic and pollution. The documents do not make specific reference to social equity or transport justice in the policy framework and this is probably the biggest weakness. One reference can be found.

> *The social impact of too many vehicles passing through urban areas has been identified as a major issue in Malta. High volumes of traffic passing through urban areas can often sever communities, physically segregating residents from basic amenities and community services. This can lead to marginalization of vulnerable groups such as elderly and a house-bound inactive society* (TM, 2016: p124).

Initiatives to increase equity in urban transport are scant. Legal documents and planning regulations have worked against inclusion and favoured the car as primary transport mode, particularly in urban development guidance with regard to parking and provision of open space. Land use and transport planning is almost non-existent, being replaced with development control to facilitate the construction industry. Overall poor public participation in the planning process and the weak voice of public transport users have resulted in a complete disregard of and resistance to measures aimed at limiting car use. The mention of parking charges and control in the islands is pure abomination.

Politicians on the other hand appreciate transport and mobility as a key challenge for the islands. Disregard of written policies however is rife due to populist pressure to provide more infrastructure for the car. The current government call for voluntary culture change rather than parking charges and limitations on car use (Pace, 2017) is testament to the focus of the current administration on road building and road widening programmes (Malta Independent, 2017), with very little interest in the needs of those outside the car. The recent rise of an advocacy group for cycling has indeed sparked tensions between cyclists and the transport minister for ignoring the needs of those that choose alternative, more sustainable modes of travel (www.bagmalta.org; Macdonald, 2019).

## 5. Conclusions and way forward

With rapid urban and economic development Malta exprienced heavy investment into infrastructure for the car, and this has left the islands with unsafe and uncomfortable environments for those outside it. Although a minority, the needs of these groups cannot be ignored on the basis of justice and equity but also because of the need for Malta to achieve its international obligations and reduce its transport emissions.

This study has identified main mobility conditions which point towards an increasingly discriminatory transport system which favours those in the car and disregards the needs of pedestrians and cyclists. The population's car dependence in turn influences politics, and whilst written policies point towards more sustainable transport, the realities of transport on the ground could not be farther away from this ideal. The need for change is evident in some of the more recent discourse and the setting up of vociferous advocacy groups. This research aimed to provide some evidence of an unsustainable transport future for the islands and the dire need of actions to improve equity.

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