GUIDELINES ON PARKING MANAGEMENT SUSTAINABLE MOBILITY

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ResidentFirst

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This publication is dated February 2023 and is one of 24 documents being produced as part of the Local Councils' Association's ResidentFirst vision 2024, under the pillar of Sustainable Mobility.

This document is one in a series of documents on Sustainable Mobility and includes other important subjects – Walkability and Accessibility, Shared Transport, Last Mile Transportation and EV Changeover, previously issued by the Local Councils' Association. Importantly, all of these documents must be seen together in order to understand the complex subject of sustainable mobility in a holistic manner. The ultimate objective of this set of documents is to progressively reduce car dependence and move towards healthier, safer and more liveable societies wherein active mobility and/or shared mobility (with a focus on electric vehicles) may be the primary mode of transport.

Needless to say, a number of measures may be implemented, both to actively reduce the number of vehicles on the road and the need for on- or off-street parking requirements. For instance, the possibility of Green Travel Plans in both individual enterprises and public entities, as well as teleworking initiatives, eliminate the need for additional parking spaces around employment areas while alleviating congestion issues within those localities that double up as important employment hubs. Similarly, the availability and facilitation of more online facilities, such as online shopping and the provision of online Government services, reduce the need to travel and, consequently, park one's vehicle. In this respect, Local Councils could provide both the physical infrastructure and assistance to residents to use such services and thus reduce (or avoid altogether) travelling needs. Such measures have important indirect benefits to the environment, contributing to the reduction of traffic congestion and noise and air pollution.

At the same time, even though this objective is clear, a large proportion of the Maltese population currently relies on private vehicles for everyday needs and activities. Consequently, the parking issue is a reality that cannot be ignored but that must be addressed. This document centres on understanding further the parking issue and proposing strategies, in the form of steps, that could lead to potential solutions in the short-, medium- and longW-term. These strategies must be understood and considered together with other complementing steps found within the other Sustainable Mobility documents.

Contents

1. The Parking Crisis and the Need for Urgent Solutions

1.1 Introduction

Almost every locality in Malta suffers from some kind of parking issue – often a cause of headache for Local Councils and frustration for residents. With over 400,000 registered vehicles and 270,000 licensed drivers, the issue tends to centre on the need for space to park these vehicles when not in circulation. Occupying anything between 10 to 20 square metres per parking bay, in theory the country would need to provide 4 to 10 Million square metres of car parking space. In addition, vehicles are not static and potentially utilise an average of three to four different parking spaces daily.

The present critical parking issues go beyond space limitations for residents. The availability of car parking often influences whether or not individuals would use their private vehicles for journeys, even in those locations that are well served by public transport. Managing parking spaces essentially means managing the demand for car use, which directly affects road congestion. Few of us might stop to think about the fact that a significant contributor to congestion and unnecessary pollution within our local roads is vehicles driving around in search of vacant parking spots. In turn, this directly impacts the quality of our streets and their enjoyment. With proper parking management, fewer vehicles would navigate around roads to solely seek parking, liberating road space that could be rethought and restructured in order to accommodate other uses, such as cycle lanes or wider pedestrian routes, as the experience of the Slow Streets project has shown. In those streets that are part of established bus routes, less vehicular presence would enable smoother and faster public transportation, which in turn may become more appealing as an alternative mode of travel.

Central to the parking problem is the lack of a proper, up-to-date stock-taking of all available parking spots in Malta and Gozo, including on-street parking bays, off-street garages, public and private parking lots. This is a measure on which Transport Malta is working and, for which, the collaboration of all other parties, including Local Councils, is required. The data should additionally be analysed in tandem with the number of registered vehicles and licensed drivers. It is only with such an inventory that we may truly comprehend the magnitude of the problem and envisage the most appropriate solutions. The data should be collected for each and every locality in order to understand the particularities of parking issues in a truly contextual manner since there is certainly not a one-size-fits-all solution to parking. Such an inventory is critical in order to determine whether or not parking spaces should be reserved for specific purposes and/or users, such as electric vehicles and shared vehicles. Parking availability for micro-mobility vehicles, such as e-kick scooters and bikes, should also be included within potential parking solutions.

A parking strategy that considers the possibility of better thought-out parking projects is required so as to reduce the unnecessary presence of vehicles in our streets and better urban quality within our localities, with a direct influence on residents' quality of life. Such a strategy needs to move beyond simply increasing the provision of on-street parking,

which ends up assigning more space for car use rather than for recreational purposes – valuable urban space that could encourage opportunities for social interaction. The identification of such strategic parking areas is not to be seen as an ultimate 'solution'. The long-term objective should remain that of shifting to alternative modes of travel, and the provision of parking facilities does not contribute to the reduction of car dependence – indeed, it might actually incentivise further personal vehicle use. At the same time, however, urban space may be better articulated and allocated for better purposes with the possibility of a more strategic outlook to parking projects. This is discussed further in Step 5 of this document.

1.2 Why are Cars the Preferred Mode of Transport?

With so many cars on the road, it is amply clear that cars constitute the most popular mobility choice for most commuters on the Island. There are a number of factors that contribute to this reality, not least the available stock of cars at a relatively low cost (particularly the used cars market) with easy payment plans, which is appealing for residents as a primary choice of travel. Licences, particularly for those vehicles registered before 1 January 2009 as per the Annual Circulation Tax (ACT) provisions, are also relatively low, making the process of owning a private vehicle the easiest option that may cater for individuals' needs and furthermore going contrary to the 'polluter pays principle'. This reality has caused the number of privately owned vehicles to rise exponentially over the years. While the introduction of shared transport is in principle a very positive move that helps contribute to the reduction of vehicles on the road and, consequently, congestion and air and noise pollution, it has nonetheless inevitably resulted in the importation of further vehicles to Malta and Gozo, contributing to the increase in vehicle numbers (and, therefore, to more traffic congestion). Instead of having space for sustainable and qualitative infrastructure and activities, such an increase in vehicle numbers result in a further uptake of street space for parking.

At the end of September 2022, statistics indicated that there were 422,576 licensed motor vehicles in Malta, of which 74.9% were passenger cars[1] – a figure that has been increasing exponentially since the 1990s. In turn, at the end of 2021 there were 413,019 licensed motor vehicles and a corresponding number of 272,333 licensed motorists in Malta,[2] resulting in a high rate of motorization of around 1.5 passenger cars for each licensed motorist. The above statistics have a significant implication on urban space management, which in turn becomes an essential consideration from policy and decision-making points of view.

1 https://nso.gov.mt/en/News_Releases/Documents/2022/10/News2022_190.pdf

2 https://nso.gov.mt/en/publicatons/Publications_by_Unit/Documents/02_Regional_Statistics_(Gozo_Office)/2022/Regional%20Statistics%20Malta%202022%20Edition.pdf

Our local streets rarely promote walkability as a mode of transport, often characterised by narrow pavements which are not continuous, lacking adequate street furniture or landscaping that could provide proper shade during hot summer months. Such unsafe and disconnected pavements and crossings deter residents from walking who often opt to use their private vehicles instead. Poor air quality and noise pollution from motorised traffic further discourage people to choose walking or cycling ahead of travelling with their private vehicle. This subject is discussed further in another of our upcoming documents entitled Walkability and Accessibility.

Even though the advent of shared transport vehicles has led to an initial increase in vehicles on the island, shared transport has several benefits compared to privately owned mobility options and should therefore be encouraged and prioritised. Measures to improve car sharing facilities could be promoted and implemented in such a way as to make it more convenient to use one's own car. As an additional example, there is an issue with buses often having to share the same road space and infrastructure as that of other modes of traffic, public transport ends up being equally slow due to traffic congestion and overcrowding with passengers, especially during the summer tourist season, becoming less appealing for residents. This subject is in turn discussed further in our upcoming document entitled Shared Transport.

The parking problem is complex and multifaceted and stems from different reasons – the emphasis of road design policies on cars and the facilitation of car usage, as opposed to effective street design policies and guidelines that focus on higher quality pedestrian and cyclist-oriented streetscape environments; the planning approval and construction of further private and public housing

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without an acceptable delivery of parking requirements; not enough awareness about the environmental consequences of traffic congestion and the health benefits of walking and cycling; and last, but not least, decisions taken by residents themselves to purchase and use private vehicles rather than opting for alternative, more sustainable modes of transport such as walking or cycling.

There is therefore a collective responsibility to work in unison towards reversing this trend and finding possible solutions. A concerted effort involving all stakeholders is required – not only as being part of entities that may influence and incentivise different modes of transport but also ultimately as individuals and decisions related to their mobility patterns.

1.3 Planning for Parking Provision in View of the Shift to EV

As mentioned previously in this document, managing parking requires an up-to-date understanding of the current parking situation to be gained through data analysis. Future planning needs to take into account upcoming realities, notable of which is the shift from fuel-driven vehicles to electric ones, and it is crucial that the parking planning that is undertaken today supports such developments.

While reducing the number of vehicles on our roads remains a priority, electric-drive vehicles (EVs) has the potential to ease some of the environmental problems caused by the transport sector. However, in order to be effective, the transition to EVs needs to be more significant. Government has already committed to having 370 electric busses and a fully electric Government fleet (around 1,800 cars) by 2030.[1] This initiative aligns with the Paris Agreement and emissions reduction targets, for which city bus fleets should be fully zero-emission by 2030. Additionally, taxis and shared rides should be encouraged to shift to EV. The Maltese Government has targeted 65,000 plug-in hybrid electric vehicles (PHEV) and EVs on our roads by 2030.[2]

The shift to electric vehicles is therefore at a critical point, with them becoming a need rather than a choice. The country needs to anticipate and plan for the introduction of thousands of EV charging points and the effect this will have on the current road infrastructure and urban space, including parking provision.

More detailed information regarding the shift to EVs may be found within the document previously released by the Local Councils' Association, entitled Electric Vehicles Changeover.

1 As per the Low Carbon Development Strategy (LCDS) published by the MEEE: https://meae.gov.mt/en/Public_Consultations/MECP/PublishingImages/Pages/Consultations/MaltasLowCarbonDevelopmentStrategy/Malta%20Low%20Carbon%20Development%20Strategy.pdf (p46)

2 https://www.maltatoday.com.mt/news/xtra/113419/government_targets_65000_electric_cars_on_the_road_by_2030#.Y8UC3i0w2J8

1.4 The Need for Parking Management

Parking is a crucial part of transportation management and spatial planning, for both the short and long term, and a key transport policy issue that is becoming more pertinent as both car supply and demand keep increasing rapidly.

Parking management refers to strategies that aim for efficient use of parking resources. Effective parking management begins by identifying the various causes of parking problems that affect various stakeholders in order to arrive at feasible and sustainable solutions. Such problems can be identified through the process of collecting and analysing data, which is discussed further in STEP 1 of this document. Parking management in Malta is often only implemented as a reaction to specific problems arising in certain locations, such as the provision of more multi-storey car parks without having studied the available parking stock. Such a fragmented approach to the issue does not help to curb car use and indeed often ends up facilitating such use further.

Even though privately owned cars are often in the centre of attention when discussing the parking issue in Malta, it is important to note that parking management includes different types of vehicles, such as private and commercial (delivery) motorbikes, hawker trucks, large vehicles, car rentals and car dealer vehicles and other vehicles (such as campers and caravans), all of which are often parked in available bays for long stretches.

Parking management further includes strategies that address parking issues at different scales, from the standardisation of parking bay markings (ensuring a more efficient use of space) to understanding the provision of parking bays for an entire locality.

Among other issues, the absence of well-planned and efficient parking management leads to:

- inefficient land use due to misaligned parking supply with demand;
- less available space for alternative transport modes such as public transport, cycling, walking and shared rides; and
- negative environmental impacts due to cars driving around for parking; and
- negative environmental impacts due to vehicles using non-designated parking areas such as fields, with consequences including soil erosion, pollution in natural areas and disturbance to biodiversity

While it is clear that the reduction of on-street parking would make way for better walking infrastructure, possibilities for pedestrianisation schemes and the implementation of more open spaces, this cannot be implemented without parking management.

There is no simple solution that will address all parking issues. All key stakeholders should be involved in taking appropriate planning and movement-related decisions at both strategic and local levels.

1.5 Reducing the Number of Licensed Vehicles

As discussed previously, vehicle licences are currently relatively affordable. As a result, many residents do not think twice about purchasing a private vehicle or of retaining a vehicle even not frequently in use or, worse still, simply remaining parked on the street for indefinite periods of time. This phenomenon further means that individuals and families purchase more than one vehicle, which in turn requires more parking space on the local streets. If licences were to become more expensive and not all parking bays had to be free of charge, this would impact individuals' decisions before purchasing another vehicle. For instance, a resident could be guaranteed one free parking bay only. If more vehicles had to be purchased, then the resident would be required to purchase or rent a garage or pay for on-street parking. Furthermore, any second licence under an individual's name should be significantly more expensive than the first, so as to further discourage unnecessary vehicles on the streets.

Residents may also be encouraged to give up their vehicles, for instance after reaching a certain age, obtaining a sum of money in exchange for relinquishing their licence, in tandem with the grants currently in place for vehicle scrappage. Such a scheme should only be introduced if parallel affordable schemes are implemented to ensure that these residents do not become house-bound, and a service is in place to enable them to carry out their needs and leave their homes. This could be implemented through subsidised cab rides that may further be paid for by the Local Councils. This is an important consideration as numerous residents own cars that are parked on local streets without them being in use for prolonged periods.

Another important factor to consider is the importation of vehicles and the need for more controlled regulations. Importation of vehicles should be prioritised for fleets of shared transport and EVs over conventional fuel-based private vehicles. Capping the number of imported cars annually may also be a consideration, after having created an inventory of existing parking facilities.

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2. Steps Towards Strategic Parking Projects

In order to propose successful solutions, there needs to be a strong collaboration amongst all localities, especially for sharing parking information and data and driving behaviour. Data with regard to commuting residents should be studied in depth in order to determine parking patterns and capacities of future infrastructure projects. There should also be good communication between different Regional Councils, to identify successful strategies that other localities could implement.

Since the problem is multifaceted – including urban, political and social issues – it follows that potential solutions would have to address all these diverse issues simultaneously. Such a multidisciplinary approach would require that socio-economic studies are carried out to comprehend the full feasibility of such solutions. Providing isolated solutions would not yield successful outcomes. For example, introducing a paid parking scheme without enhancing pavements and infrastructure for other modes of transport would likely cause more resistance as residents would feel that no viable alternatives to driving are being provided.

Policies should be introduced in phases instead of being implemented all within a short time frame. This would provide the residents an opportunity to get accustomed to them, which may result in a better chance of success. This process of phasing introduces small measures along a long-term period with specific target goals. Such incremental short- and medium-term targets, framed within longer-term objectives, characterise the Slow Streets Malta proposals that have been prepared for a number of Local Councils and that are in the process of implementation.

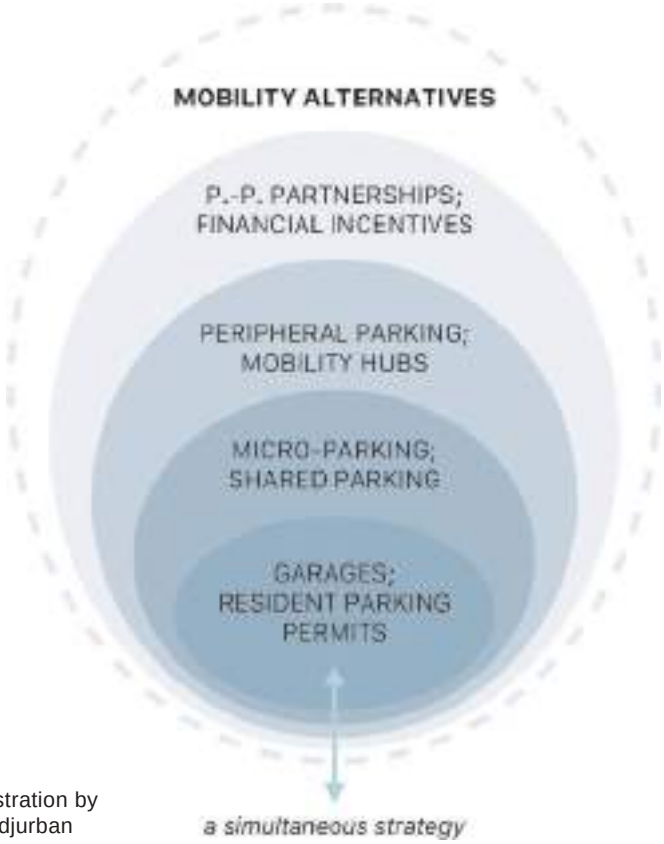
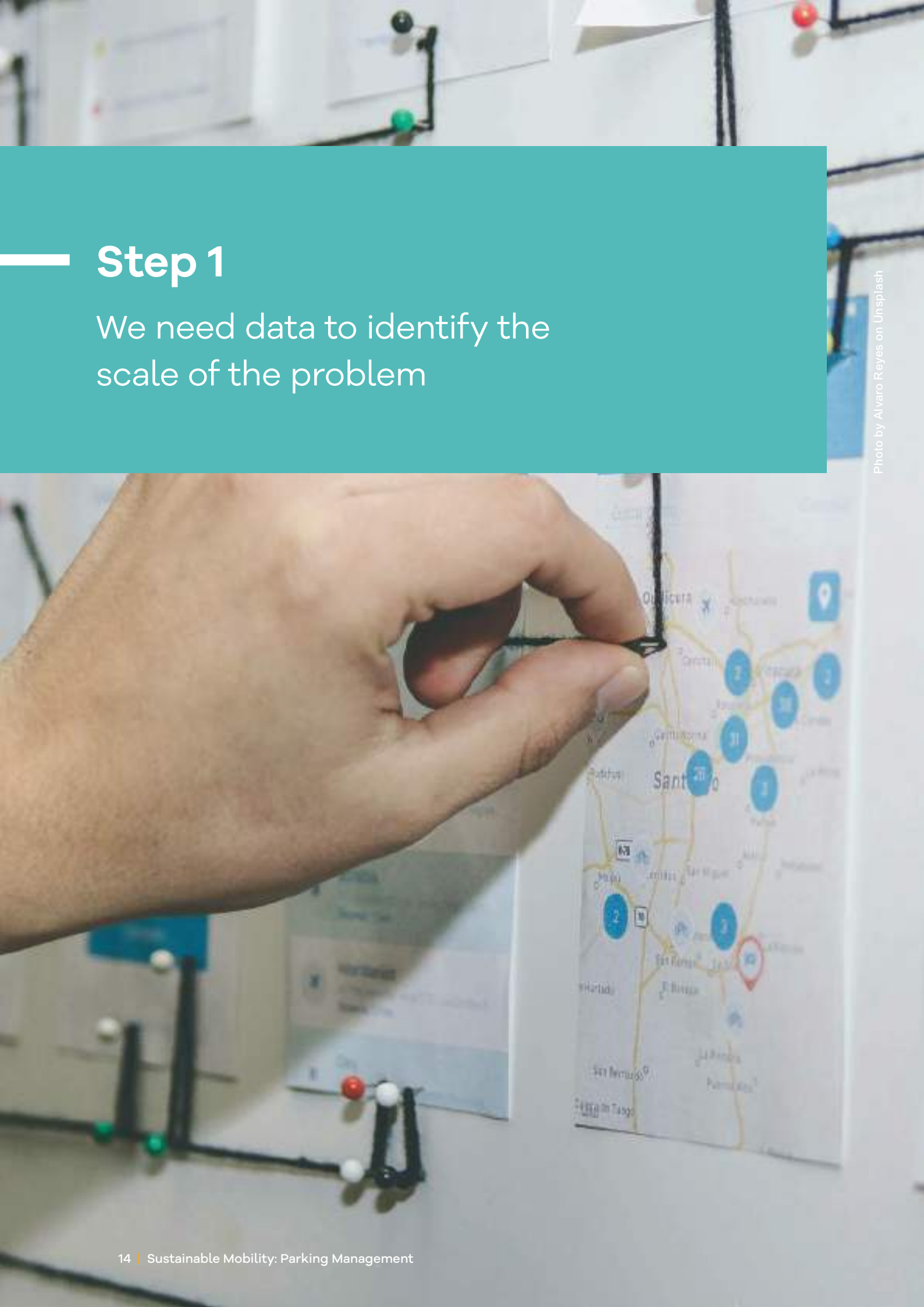


Illustration by Studjurban

Step 1

We need data to identify the scale of the problem



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Carry out an up-to-date parking inventory in every Local Council which may reveal how much on- and off-street parking is provided within a specific locality; how parking is being utilised, and if demand exceeds the capacity.

Having an updated parking inventory constitutes a critical component of good parking management, which would be able to provide solutions with available resources and minimal infrastructural projects. This implies that urban space may be used more efficiently for social and community-related, or educational and recreational purposes rather than being dedicated to parking lots that end up being wasteful and scarring our urban environment. Local parking surveys thus become important tools as they would typically aim to understand:

- how much parking is provided within a specific study area;
- how and when parking is being utilised; and
- if demand exceeds capacity.

When studying different causes of parking issues, specific attention should be given to different time and day realities for which the issue in question may be occuring. Collecting data on the supply of existing on- and off-street parking, Park and Ride (P&R) facilities, demand for parking spaces and turnover is important to be able to know which specific solutions to provide and at what scale. It enables planners to understand when new developments actually need to provide parking spaces and when the available inventory is sufficient. Recording existing data is also crucial to be able to plan and propose public space improvements, such as adding cycle lanes or widening pavements. New parking possibilities provided using Smart Parking Technology may also double up as important data collection points and should be taken into consideration as part of a wider potential solution to parking issues.

An inventory of parking spaces may also shed light on whether there are spaces that are not being utilised on a continuous basis. If this is the case, such parking spaces could be made available to residents thereby making available other parking spaces being taken up by residents. The said inventory can also provide more information on the use of reserved parking bays.

Considering the complexity of sustainability and its multidisciplinary nature, infrastructure projects including the planning of parking spaces and cycle lanes must be planned with respect to the bigger picture. This specific parking data needs to be understood in correlation with other fields of research to be able to reach a sustainable balance between efficient transport and healthy ecosystems.

Step 2

Viable mobility alternatives

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Reduce private vehicle dependency by encouraging transportation alternatives such as reliable public transport and micromobility.

Shifting the daily commute from cars to sustainable transport modes, both using public transport and, more notably, through walking and cycling, incorporates physical activity into everyday commuting and improves health and happiness, as discussed in another of our documents entitled Walkability and Accessibility, which includes strategies to achieve a more walkable and accessible society. Besides ensuring that there are viable mobility alternatives and generally pedestrian-friendly streets, people need to be encouraged to make the shift from using their private vehicles as the main means of transport to other sustainable modes of transport. That would generally include a mix of 'push and pull' strategies, such as:

- Continue improving the existing public transport service, including more efficient, faster and more reliable time tables and rethinking existing road infrastructure to introduce dedicated bus and cycling lanes as well as better pedestrian infrastructure;
- improving stops and stations including an improved component of green infrastructure, better shelter (enclosed waiting areas, with heating in winter and cooling in summer), seating facilities, real-time transit user information and better wayfinding;
- introducing more integrated transport policies and planning, including more integrated services, fares and ticketing, user information, infrastructure provision and management, transport and land use planning, and other public policies such as parking and fuel pricing;
- financially incentivising transit use and shared mobility, and funding such incentives from paid parking schemes;
- evaluating the possibility of introducing paid parking in specific zones, notably locality centres and busy commercial areas, while introducing measures to ensure that the affected vehicles would not shift to parking in adjacent residential areas; and
- providing discounted bike-share or car-share memberships.

One such strategy that has already been introduced allows for all Maltese residents to travel for free with the public transport.

In parallel with producing and introducing such strategies, there needs to be a continuous search for other possible improvements, new transportation modes and systems and their feasibility on the Island. It could for example be examined if the ferry services can be improved so as to attract more passengers and alleviate traffic from the roads further. Large-scale mass transportation systems, such as rapid transits, should continue to be assessed in terms of feasibility.

Step 3

Garages and resident parking schemes

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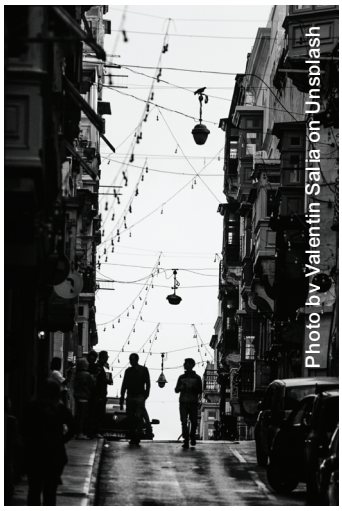
Incentivise residents to use their garages rather than on-street parking through strict enforcement measures and subsidising electrical charging points for EV vehicles, while simultaneously introducing resident parking permits issued by the Local Councils for use of local streets.

Many residents choose to park on the street rather than use their own garages, either because it is easier or because the garage has undergone a change of use. Garages are an important asset in solving the current parking problem, as they can significantly lessen the number of parked cars on our local roads. Therefore, schemes that encourage residents to park in their garages should be implemented, such as financial incentives or subsidising EV charging points. This scheme would encourage the use of EVs and simultaneously remove more parked cars from the streets. The planning requirement for new residential developments to cater for a minimum number of vehicles should be stricter, in order to ensure that the parking needs of all new residents are addressed. Additionally, developers may be encouraged to provide a surplus of parking provision in new developments which could be leased out to the residents within the immediate vicinity.

While Local Councils might wish to consider timed parking spaces for non-residents, residents could be prioritised further by the introduction of resident parking schemes. Such parking schemes are already in place in a number of localities, whereby parking priority is given to residents through the introduction of resident permit holders and defining various parts of local streets where parking may only be permitted if a valid permit issued by the Local Council is displayed on the vehicle. Permits are normally only issued to residents living in a street within the zone and are under the control of, and issued at, the discretion of the Local Council. Resident parking schemes are generally developed following discussions with residents, businesses and other stakeholders to address parking problems, improve road safety for all road users, improve access and parking for the disabled and prioritise residents within busy residential streets, and may be diffused further.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Step 4

Micro parking projects

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Identify potential micro parking projects at a neighbourhood scale (serving 20-30 cars) prioritised for residents in the immediate vicinity, carefully drawn up to ensure that the building's character and visual impact on the streetscape are not adversely affected.

While parking areas located at the peripheries of localities could be beneficial in terms of accommodating large vehicular volumes (discussed further in Step 5), their location may not be convenient for most local residents, particularly those living within the central parts of a locality. Residents may be less inclined to use peripheral parking than neighbourhood parking areas that are within walking distance of their homes. Micro parking projects that are more centrally located and distributed outside of the Urban Conservation Area of a locality, could therefore be more successful in this respect. More often than not, however, the more central the location the less available the space, especially in dense localities. For this reason, such parking proposals will need to be studied on a case-by-case basis and will differ from one locality to another. The intention is for these projects to be off-street when possible and developed on committed land so as to retain open, green and/or social areas.

Photo by Jaanus Jagomagi on Unsplash

In addition to smaller open parking lots, discussed in Step 8, developers and landowners could be incentivised to build smaller parking projects that serve their immediate neighbourhoods. These off-street facilities would accommodate a smaller number of cars but could potentially relieve local roads from on-street parking, thus liberating space for other recreational uses. The locations of such micro-projects should be studied in-depth to understand how many residents they could potentially serve and what their impact would be on local roads in terms of both traffic generation and streetscape implications.

Furthermore, as micro-projects are smaller in size, they are easier to fund and manage, also operating at lower maintenance costs. Therefore, developers and landowners could be incentivised to construct small car parks rather than residential blocks, especially if they are provided with financial support and fiscal incentives. Planning policies would ensure that the facades of such micro-projects do not impact the streetscape negatively but instead are sympathetic to the rest of the street where they are located, or even provide architectural interest which complements the local street character. These small garages could also incorporate active frontages at first floor, potentially providing small commercial spaces. Their structure should be designed in a way to be easily repurposed into another use in the future when an improved public transit system would reduce the need for extra parking.

The proposed micro-projects should also incorporate bicycle and/or scooter facilities, as well as EV charging points, thus serving as small multimodal hubs. When possible, micro-projects should also provide pedestrian connections through the building from one street to another, enhancing pedestrian connectivity within the locality. One of the most evident advantages of these smaller-scale parking projects is that they may be less risky investment projects than large multi-storey car parks or P&R projects.


Photo by Michael Fousert on Unsplash


Photo by Jordan Frierley on Unsplash

Step 5

Strategic parking projects

Photo by Vitor Paladini on Unsplash

In tandem, consider peripheral parking projects as mobility hubs to partly replace on-street parking within the locality centres with the potential of having liveable open and green spaces within the cores. Such hubs could potentially serve multiple localities, located off the arterial/distributor road network and be well connected to the locality centres.

In addition to smaller parking projects closer to the locality centres, more congested localities could also plan for more off-street parking such as peripheral parking facilities which allow commuters to avoid a stressful drive along congested roads and a search for scarce central parking. These hubs are similar in concept to Park and Ride facilities, generally characterised by a location that is:

- away from major activity centres;
- at the end or along an existing major transit route; and
- at the edge of a locality and connected to the centre by a frequent shuttle service and other first and last mile solutions, preferably using EVs.

Peripheral parking induces motorists to park and travel to the locality centre using another mode such as public transit, or more active mobility. These facilities decongest local roads for other uses, as there is sufficient place to park at the periphery of the urban area and relieve traffic in the locality's centre. This option would work well for smaller localities where travel time from the periphery to the centre is also short. Additionally, neighbouring localities with a shared periphery could potentially plan a joined parking facility that would serve all localities simultaneously. It is important to note that such parking projects would be located at the edge of development, not Outside Development Zone (ODZ) and their intention would be to replace existing dysfunctional on-street parking with more strategic parking hubs rather than ensuring the availability of parking.


Photo by Local Councils' Association Malta


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Step 6

Partnerships

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Promote private and public partnerships for various infrastructural projects, such as larger multi-storey car parking projects.

A public-private partnership means a contractual agreement between public and private sector partners to construct, operate, finance, maintain, and/or manage a parking facility or system. The public sector ensures that residents and taxpayers are best served in the long run while private investment provides the capital needed to build or maintain parking assets, which drives economic development. In order to mobilise private sector investments that may fill funding gaps for parking projects, certain conditions need to be put in place to attract and capture such investments. This occurs when (1) markets for parking projects are created, (2) there is an opportunity for good return on investment and (3) limited risk. Partnering up with the public sector may help significantly with regard to such risk limitation.

At the same time these public-private partnerships (PPP) may reduce the public sector's cost burden while also providing much-needed infrastructure. In order to further help such an investment, the Malta Development Bank (MDB) offers loans for public infrastructure at favourable rates. In turn, the Planning Authority's Urban Improvement Fund may be tapped into for the eventual project execution. Benefits of partnerships include accelerated project delivery time frames and the creation of economic development benefits and social impacts.

Well-planned shared parking schemes may provide a revenue-generating opportunity for investors while helping to alleviate the shortage of parking spaces, which in turn helps save travel time, and reduce fuel consumption, emission and road congestion. Such schemes may therefore be very effective and should be supported by Local Councils and potentially incentivised by the central government, even through the establishment of PPPs whereby private investment in urban parking facilities could be encouraged through subsidised land costs and /or rebate on registration tax, VAT refunds, planning fees and public funding schemes. The ability to significantly reduce operating costs through automation and technology could further attract investment in such parking facilities, particularly in relation to car lifts that reduce the circulation space needed within the parking area, often a significant component of the floorplate of a garage.

In terms of the design of such larger parking projects, it would be recommended that they would be located at appropriate locations (that are already committed for development) and that they would be designed to blend effectively within their surroundings. They could also integrate other facilities such as roof gardens, and/or the installation of PV panels.

Step 7

Fiscal and financial incentives

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Encourage the development of parking projects through financial incentives, notably fiscal-related.

It is evident that parking projects are currently needed in order to address the on-street parking problem. Fiscal and financial incentives can encourage the implementation of such projects and incentivise land owners and/or developers to choose parking projects over more residential developments. Incentivising parking development projects serves to add amenities that improve the quality of life and provide long-term benefits to the community, such as opening up new commercial opportunities. Such incentives should favour and prioritise parking projects that have a clear environmentally friendly approach, such as projects that include a strong element of green infrastructure.

Tax incentives could be key to stimulate private investment in such parking infrastructure. Developers could benefit from tax breaks or refunds in terms of VAT and property tax, investment tax credits, and loans having better interest rates and repayment terms, such as those available through the MDB.

In order for fiscal incentives to work properly, there must be a strong and clear planning regulatory framework and thorough studies must be carried out in order to properly assess how these parking projects would improve our urban environment, when seen at a strategic level.

Photo by Johan Rydberg on Unsplash

Step 8

Land banks and utilisation of existing surface car parks ancillary to commited land uses

Photo by Brydon McCluskey on Unsplash

Incentivise the use of publicly- and privately-owned undeveloped land as temporary parking areas in the interim period (until more permanent infrastructure is introduced) and the reutilisation of committed surface car parks ancillary to other land uses that lie idle during certain days and/or times.

Shared parking is a land-use strategy to optimise parking spaces, particularly within congested areas. Private parking owners of land uses such as supermarkets, industrial areas, malls, hotels, offices, schools, universities and hospitals, as well as individuals, may rent out their parking spaces during the hours of non-operation, therefore extending accessibility to other drivers. These parking spaces may be better priced in comparison to regular parking tariffs and could for example be used on a membership basis.

Parking demands have peak and off-peak periods depending on related land use. Such distinct, but complementary, patterns – such as office parking and parking within the school, college or university grounds, which is generally empty in the evenings and on weekends and residential parking, which is generally fuller within such times – offer an opportunity for localities to better satisfy their residents and commuters without increasing parking supply. The concept of different strategically located shared parking options helps to avoid vehicles having to navigate around local streets in search of an empty parking space. Naturally this requires proper management in order to ensure that the land use to which such a parking area is ancillary is not disrupted or compromised in any manner.

In tandem, land that might have development potential but that, for various reasons, might lie idle for a certain amount of time (possibly even years, as is the case with numerous pockets of land) may be defined as a 'land bank', doubling up as a potential surface car park within a specific locality that may be managed privately. Temporary permits may be issued in this respect, which would be renewed annually and which would automatically cease once a development planning application is approved for another permitted development.

Through technology, private parking sharing could be enabled through an online platform or phone application, which directly connects a private parking slot owner who shares his parking property when not in use with public users who are looking for a place to park for a certain amount of time.

Photo by Sven Mieke on Unsplash

3. Parking Policies for On-street Parking

The outdated strategy of simply providing more supply for general demand has become unsustainable. Local authorities should establish comprehensive parking policies that may include the management of the total parking demand, the selection of the location of parking facilities, a potential tariff policy, including the access for certain categories of users.

Essentially parking policy comprises a set of measures that are used to support and enforce parking management, so as to control user demand for free parking which impose limitations on urban space and developments. Parking policies do not usually require large investments, such as new infrastructure, and therefore may be implemented in a relatively short time.

The table below demonstrates some different parking management strategies that could be taken into consideration, each having potential effects:

Strategy	Description	Effect
Shared Parking	Parking serves multiple users based on various peak parking demands	Better use of existing parking
Increase capacity of existing facilities	Increase parking capacity by using otherwise wasted space, smaller stalls, valet parkers, angle parking, and revise time restrictions	More spaces in existing facilities
Remote Parking	Provide additional off-site or urban edge parking facilities (ensuring no further land take-up, soil sealing, biodiversity loss or further disturbance and degradation to the natural environment)	Increase spaces available
Overflow Parking Plans	Establish plans to manage occasional peak parking demands during special events, etc.	Increase spaces available

Strategy	Description	Effect
Address Spillover Problems	Use management, enforcement, & pricing to address spillover problems	Reduce parking impacts
Walking & Bicycling Improvements	Improve walking & bicycling conditions to expand range of destinations served by parking	Reduce parking demand; park once
Bicycle & Other Micro Mobility Facilities	Provide bicycle storage & employee changing facilities	Reduce parking demand
Intermobility Management	Encourage more efficient travel patterns, including changes in mode, timing, destination, & vehicle trip frequency	Reduce parking demand, spread peak demand
Parking Regulations	Regulate in favour of uses such as customers requiring quick errands, special needs, service vehicles and deliveries	Increase turnover of most convenient spaces
Parking Pricing	Charge motorists directly & efficiently for using parking facilities to recover parking facility costs and/or raise revenue to fund improvements. Such funds could additionally support environmentally friendly initiatives within the locality	Reduce demand, increase turnover of most convenient spaces. Ideally, funding to be used for environmentally friendly projects
Improve Pricing Methods	Use better charging techniques to make pricing more convenient & cost effective (pre-payment incentives, change machines, credit card, time limit extensions)	Increase resources for access and parking improvement

Strategy	Description	Effect
Financial Incentives	Provide financial incentives to shift mode such as parking cash out (financial incentives for carpooling, transit use, etc.)	Reduce employee parking demand
Unbundle Parking	Rent or sell parking facilities separately from building space (residential units may charge residents for individual parking spaces to "free up" other spaces increasing parking capacity)	Reduce resident parking demand
Parking Taxes	Implement/increase parking tax	Increase revenue for access and parking especially in high-demand areas
Improve Enforcement	Ensure that regulation is efficient, consistent & fair. Use license plate recognition technology, parking space sensors	Increase turnover in most convenient spaces
Reform Time Limits	Replace time limits with escalating time-based rates, e.g., increased rate beyond 2 hours	Increase turnover of parking spaces
Commercial Loading	Replace unpaid commercial loading parking with meters with escalating rates	Increase turnover of loading spaces, making them more productive, reducing double parking
Employee Parking Enforcement	Remote parking programmes during peak periods	Increase supply available to customers

Strategy	Description	Effect
Improve Information & Marketing, Smart Parking Technology	Provide convenient & accurate information on parking availability & price, using maps, signs, brochures & the Internet. Real-time guidance to available spaces, parking reservation coordinated with special events	Increase utilisation and improve customer satisfaction and convenience, while reducing cruising for parking
Payment Technologies	Multi-space meters, in-car meters, pay by phone, parking reservation system	Increase customer convenience

Adapted: https://www.vtpi.org/park_man.pdf

The use of Smart Parking Technology as part of wider smart city strategies, may go a long way in achieving multiple parking objectives for individual consumers and car park operators alike. Built into smart initiatives, these technologies may be integrated within last-mile mobility solutions (notably car-sharing programmes, park and ride projects and EV-charging opportunities, among others) and double up as important data collection points as discussed in Step 1 of this document. Parking areas that are equipped with smart parking meters could be linked to individuals' phones via an appropriate app that may direct residents to the next available car parking location and avoid unnecessary navigation within local streets in search for available parking opportunities.

The above strategies may be discussed at a locality-level and may be chosen for the short-, medium- and long-term resolution of specific parking realities. They are not mutually exclusive and multiple strategies may indeed be implemented in parallel according to each locality's needs. Once each locality has been able to address its specific parking context and issues related to it, a priority list could be set up including strategies on how to tackle the parking issue. Neighbouring localities could benefit from cooperating with each other if their priorities are similar. In this manner, the outcome could be even more successful and beneficial for the residents.

It is recommended that Regional Councils be kept in the loop for better cooperation. Furthermore, commercial areas and specific roads which cater for large commercial hubs should be prioritised when it comes to implementation of new measures.

4. Concluding Thoughts

As discussed, the parking problem is complex and multifaceted and stems from different reasons – road regulations and road design policies that are centred on the car and that facilitate car usage as opposed to higher quality pedestrian and cyclist-oriented streetscape environment; the planning approval and construction of further private and public housing without an acceptable delivery of parking requirements; not enough awareness about the environmental consequences of traffic congestion and the health benefits of walking and cycling; and last, but not least, decisions taken by residents themselves to purchase and use private vehicles rather than opting for alternative, more sustainable modes of transport such as walking or cycling.

The current parking crisis requires immediate change in both policy and awareness. Cars are the preferred choice of mobility both because of the ease with which one may procure a car and the unappealing current alternatives. The first objective of new mobility policies should therefore be to make cars the less appealing choice for transport, and when possible to reduce the need to travel altogether, as amply discussed in other documents within the LCA's Sustainable Mobility series. This document has identified some possible, critical steps that would be required to manage the reality of parking. At the same time, as stated earlier and in other documents issued by the Local Councils' Association, we must remember that there is a collective responsibility towards reversing the phenomenon of car dependence and moving towards better and more sustainable mobility options.

Proposed strategies should rely on combining incentives and disincentives to cause changes in commuters' travel behaviour (the 'push and pull' method discussed in this document). Car drivers may lean towards more sustainable transport with measures such as paid parking and reducing parking supply. Simultaneously, providing efficient and less costly alternatives would pull users towards public transport, walking, cycling and other sustainable modes, potentially funded by income generated from parking space management. The effect of 'pull' policies cannot be fully achieved without the complementary 'push' policies, and the two methods are inseparable.

Residents and other stakeholders should be involved in the decision making process, which would lead to better policies catering for the entire community's needs. A bottom-up approach ensures that residents' voices are heard in policy making and planning of the future development of the localities. This should be followed with top-down enforcement and monitoring to make sure all new policies are effective and achieve long-term goals. In tandem, all measures should be accompanied with education plans in order to inform younger generations on alternative modes of transport.

Defining a Potential Parking Strategy

As shown throughout this document, there is no single parking solution. It is more realistic to consider that there would be a combination of solutions and strategies that address both design- and management-related objectives. In all cases, solutions would have to be context-dependent, however some general possibilities may be identified.

Any parking strategy is to first identify the different types of users within a locality, comprising local residents, who should be allowed within the local streets and visitors, who would have a restricted access to such streets. In general, visitors should not be allowed to navigate around local streets, to the detriment of street quality and resident safety, for the sole purpose of seeking on-street parking. One may identify three sub-categories of visitors — workers, tourists and consumers (various retail, catering and/or leisure amenities). Even here one should distinguish between solutions targeted at different individuals who are visiting the locality for different purposes.

The Town Centre (which could be partly or fully designated as an Urban Conservation Area) should restricted the entry of extraneous vehicles and prioritise streets for local residents, the passage of emergency vehicles and that of service vehicles (at designated times only), with the possible introduction of Controlled Vehicular Access in such cores. At the interface between the core extents and the development zone/ scheme, in turn, one could envisage parking management in the form of short-stay (timed) parking areas (if on-street) and peripheral off-street parking areas. Different stay periods may be identified depending on the degree of commercial activity of the locality in question, with the possibility of payment for parking beyond certain times of stay. Within the general development zone, beyond the extents of the inner town or village core, one may incentivise the development of small-scale communal parking areas that are centrally and conveniently located, within walking distance of, key amenities and community facilities, primarily for the local residents.

Existing amenity space of various sizes, such as existing parking areas within school grounds and supermarkets, and located within various locations throughout the development zone, may also be used for specific purposes, such as during envisaged closures of main squares, or to provide ancillary parking amenity space when the spaces are not in use (that is, after the hours of operation). This would require strict management and enforcement with the introduction of effective fines, due to the required use of these spaces at specific times (largely during the morning hours).

A managed parking scheme may also be accompanied by a final typology located towards the edge of the development zone. This may be convenient as it may allow larger volumes to be contained, and ensure that non-resident vehicles would be limited, or even stopped, from entering the local street network. These areas should also double up as intermodal hubs. They would therefore be accompanied by the likes of Park and Ride facilities, bus interchanges, the availability of bicycles and e-scooters that may be rented, and so forth, in order to ensure that entry into the centre of the

town/village would not only be restricted to fewer vehicles but would furthermore occur through more environmentally sensitive means.

The above is brought together in the final illustration that schematically shows how such various solutions could together contribute to a strategy that balances the needs of residents and visitors alike, ensuring the amenity of the inner core and the local street network and balancing parking needs in a more equitable manner.

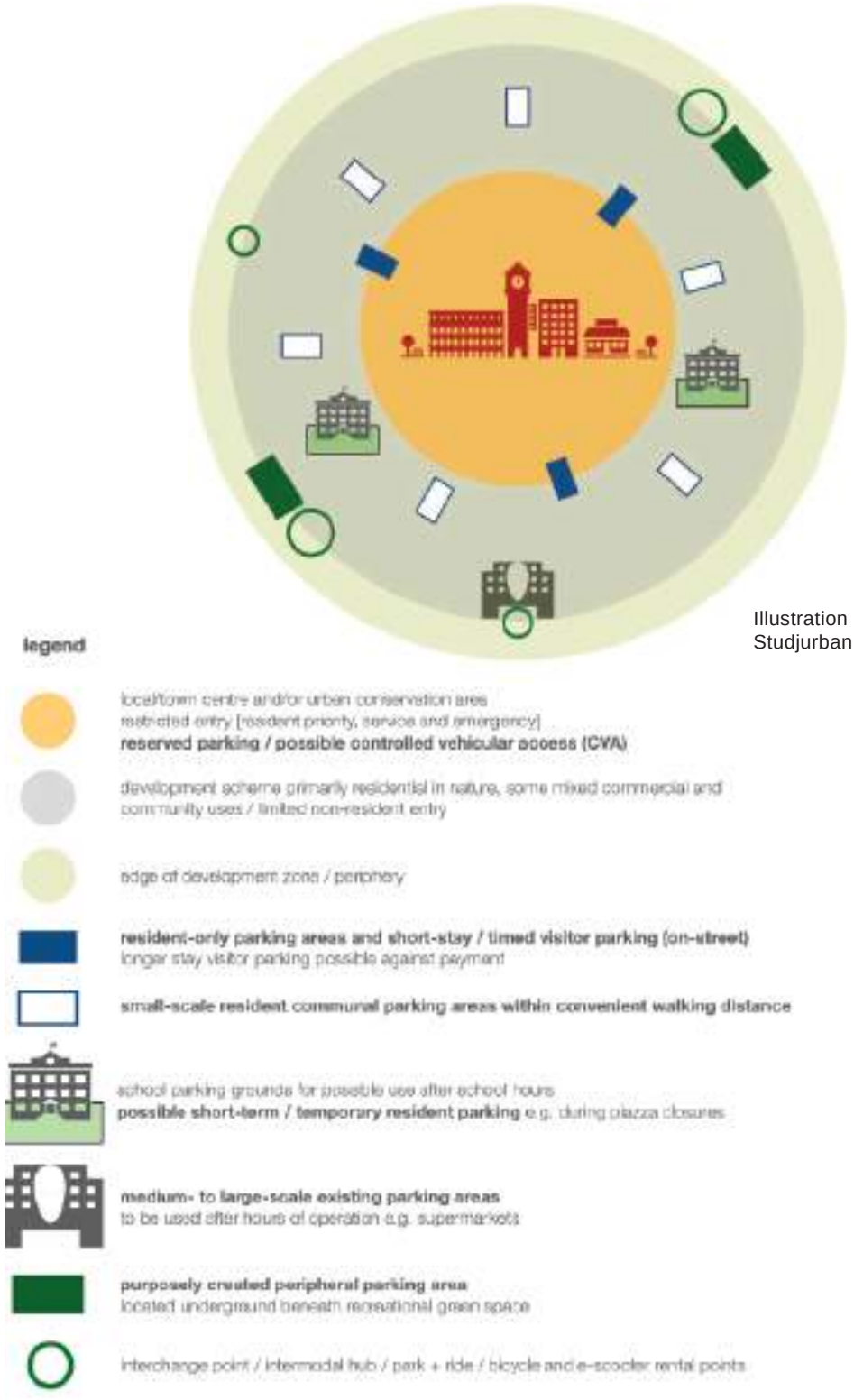

Illustration by Studjurban

Resource Section

Publications

In order to propose successful solutions, there needs to be a strong collaboration amongst all localities, especially for sharing parking information and data and driving behaviour. Data with regard to commuting residents should be studied in depth in order to determine parking patterns and capacities of future infrastructure projects. There should also be good communication between different Regional Councils, to identify successful strategies that other localities could implement.

Since the problem is multifaceted – including urban, political and social issues – it follows that potential solutions would have to address all these diverse issues simultaneously. Such a multidisciplinary approach would require that socio-economic studies are carried out to comprehend the full feasibility of such solutions. Providing isolated solutions would not yield successful outcomes. For example, introducing a paid parking scheme without enhancing pavements and infrastructure for other modes of transport would likely cause more resistance as residents would feel that no viable alternatives to driving are being provided.

Policies should be introduced in phases instead of being implemented all within a short time frame. This would provide the residents an opportunity to get accustomed to them, which may result in a better chance of success. This process of phasing introduces small measures along a long-term period with specific target goals. Such incremental short- and medium-term targets, framed within longer-term objectives, characterise the Slow Streets Malta proposals that have been prepared for a number of Local Councils and that are in the process of implementation.

Improving parking standards for sustainable mobility

(Civitas, European Commission)

— examines how parking requirement in new urban neighbourhoods should be designed to reduce building costs while also promoting sustainable mobility (part of the European Horizon 2020 project Park4SUMP, exploring parking management across 15 European countries)

https://park4sump.eu/news-events/news/improving-parking-standards-sustainable-mobility

Good reasons and principles for parking management

(Civitas, European Commission)

https://park4sump.eu/news-events/news/good-reasons-and-principles-parking-management

Practitioner briefing: Parking and sustainable urban mobility planning

(Civitas, European Commission)

— a guide on how to make parking policies more strategic, effective and sustainable

— a guide on how to make parking policies more strategic, effective and sustainable

https://www.eltis.org/sites/default/files/parking_and_sustainable_urban_mobility_planning.pdf

Urban Mobility in the EU – Public contributions to the consultations

(European Commission)

— main stakeholders include cities and their networks, stakeholders active in urban mobility and road safety fields, national and local administrations, citizens living in cities as well as the Committee of the Regions

https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/1995-Urban-Mobility-in-the-EU/public-consultation_en

Planning for more resilient and robust urban mobility

(European Commission)

https://civitas.eu/sites/default/files/sump_topic-guide_planning_for_more_resilient_and_robust_urban_mobility.pdf

Position Paper The European Parking Association

(EPA)

https://www.europeanparking.eu/media/1565/epa_position-paper.pdf

The European Mobility Atlas 2021

(Heinrich Böll Stiftung)

The European Mobility Atlas: Facts and figures about transport and mobility in Europe covers a multitude of transport-related aspects relying on evidence-based research and highlighting concrete, tangible mobility solutions from across the EU. For further information or to download the European Mobility Atlas for free, please visit the Heinrich Böll Stiftung website

https://eu.boell.org/en/European-Mobility-Atlas

Current and Past Projects

VARCITIES

(September 2020 — February 2025)

Malta is one of eight VARCITY pilot locations that will implement integrated and sustainable initiatives to increase the health and well-being of citizens.

https://www.varcities.eu/about-varcities/

SPROUT

SPROUT aims to provide a city-led innovative policy response to harness the impacts of new mobility solutions.

https://sprout-civitas.eu/

Innovacity 3.0

A novel design thinking workshop focused on urban mobility, focusing on the most pressing mobility challenges of five innovative cities — Barcelona, Munich, Helsinki, Paris and Debrecen.

https://www.eiturbanmobility.eu/projects/innovacity-2-0/

REVEAL (Regulating Vehicle Access for Improved Liveability)

A project designed to add Urban Vehicle Access Regulations (UVAR) to the standard urban mobility transition approaches of cities across Europe.

https://civitas-reveal.eu/

Msida Parking Detection Live Stream (MCAST)

View a recorded version of the live stream from this YouTube recorded link:

https://www.youtube.com/watch?v=zrtWvYz7PfI

Park4Sump

Park4SUMP aims to help cities integrate innovative parking management solutions into Sustainable Urban Mobility Plans (SUMPs) for a better mobility and quality of life.

https://park4sump.eu/index.php/

ITS (Intelligent, connected and cooperative transport systems)

ITS allows local and regional authorities to manage more efficiently and safely the transport network and to influence travel behaviour through the provision of static and real-time information services and integrated payment schemes.

https://www.polisnetwork.eu/topic/intelligent-connected-and-cooperative-transport-systems-3/

Tools

PUSH & PULL Case studies and Good Practise implementations

(Civitas, European Commission)

https://park4sump.eu/index.php/resources-tools/pushpull-tools

Good Practices (parking)

(Covenant of Mayors for Climate & Energy Europe)

https://eu-mayors.ec.europa.eu/en/home

The Green Parking Index in Stockholm

https://park4sump.eu/sites/default/files/GoodPracticesExamplesCaseStudies/Standards/CIVITAS_PARK4SUMP_Good_Practice_The_Green_Parking_Index_in_Stockholm_v2.pdf

The PARKPAD tool

— a locally applied audit process that helps cities to review parking policies, achieve consensus on improvements and finally develop an action plan that fits the cities' SUMPs

https://park4sump.eu/index.php/resources-tools/parkpad-tool

Urban Roadmaps Transports Tool

— an on-line tool to help develop the first scenarios of a SUMP using a simplified approach

Intertraffic webinars

— a knowledge-sharing online platform and free webinars organised on a regular basis

https://www.intertraffic.com/webinars/

Case Studies

Sweden's one minute city' experiment is redesigning parking space: Learn more

https://park4sump.eu/news-events/news/swedens-one-minute-city-experiment-redesigning-parking-spaces

Vitoria-Gasteiz receives the ParkPAD certificate:

https://park4sump.eu/news-events/news/vitoria-gasteiz-receives-parkpad-certificate

The Parking Ambassadors of La Rochelle

The municipality tries to offer people the experience of life without the car. By showing parking solutions and the different purposes public space can have, the city aims to implement a sustainable behavioural change.

https://park4sump.eu/news-events/news/parking-ambassadors-la-rochelle

Parking space management (European Commission Civitas initiative)

Krakow - View video:

https://park4sump.eu/resources-tools/videos/parking-management-krakow

Sofia - View video:

https://park4sump.eu/resources-tools/videos/parking-management-sofia

Sint Niklass - View video:

https://park4sump.eu/resources-tools/videos/parking-management-sint-niklaas

From on-street to off-street parking in Rotterdam

Rotterdam's efforts to encourage people to use off-street parking is mainly achieved through pricing policies. Besides a simple shift the city also reduces the number of on-street parking places in order to use public space better for people than only for parked cars. View video:

https://park4sump.eu/resources-tools/videos/on-street-to-off-street-parking

Funding Opportunities

EIT Urban Mobility KIC

EIT Urban Mobility is an initiative of the European Institute of Innovation and Technology (EIT), aimed at encouraging positive changes in the way people move around cities in order to make them more liveable places, co-funding up to €400 million (2020-2026).

https://www.eiturbanmobility.eu/

EIT Urban Mobility Malta Hub

Established on 22 September 2020, the EIT Urban Mobility Malta hub aims to inspire positive change to ensure accessible and sustainable mobility for all, facilitating networking between all the stakeholders and developing opportunities for local players representing industry, academia, research, innovation and cities. For more information on the Malta Hub and to get involved please follow: https://www.facebook.com/groups/161788548949933

Photo by Local Councils' Association Malta

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