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On 1 May 2007, the City of Valletta in Malta became one of a small but growing number of cities worldwide to introduce a form of road user charge in a bid to reduce traffic congestion and improve the air quality and the level of economic activity within the historic capital city. This article explains how and why the so-called Controlled Vehicular Access scheme has been designed and developed and looks at some of the challenges ahead. A report by Maria Attard and Marcus Enoch.

Valletta dumps V-licence road pricing scheme

The number of cars parking in Valletta on a daily basis exceeds available parking spaces by more than 5,000.

The island state of Malta is in the most remarkable situation in that it is one of the smallest nations in the European Union, has the highest population density of all Member States and has, for the past five years, 'battled' with Italy for the title of the country with the highest rates of motorisation in Europe.

Transport impacts and policy background

This increased car ownership is a result of two major factors that have influenced Malta over the past 20 years. First, was the steady increase in GDP per capita, therefore increasing the household disposable income that a family could spend on private mobility. Second, was the increasingly high status associated with ownership of a car and, similarly, the low status associated with riding a bus. This growth, both in economic terms and mobility was seen by Government as a sign of progress and was encouraged through the provision of road infrastructure. The number of vehicles per km of road over the years supports this claim (Table 1).

Despite this, Malta has had formal land use planning which was set out in the Structure Plan for the Maltese Islands in 1992 (Development Planning Act)¹. The Structure Plan was funded by the European Community and compiled by Colin Buchanan and Partners and Generale Progetti SpA in association with Planning Services Division of the Government of Malta. The provisions for transport planning at the time were set within the Structure Plan since no other formal organisation for transport existed. Transport planning became the prerogative of the Malta Planning Authority in 1992 (now the Malta Environment and Planning Authority) to be later formalised in the Malta Transport Authority in 2002 with the enactment of the Malta Transport Authority Act.

It became evident that the supply of

infrastructure could not match the increasing use of private cars. The complex patterns of land use, increasing dependence on the car and overall increase in mobility led to a number of problems – the most serious being congestion. Malta's unique characteristic, which is also a major constraint, is its small size. Space is at a premium and with a high density in what could be defined as an urban agglomeration, traffic tends to accumulate in particular areas of the network. This is coupled with a particular land use pattern in which Valletta, the capital city and central business district, attracts the single largest volume of traffic in peak hours.

Transport in Valletta

Valletta, a walled city built by the Knights of St. John in the mid-1500s, is today a UNESCO World Heritage site and functions as the primary administrative and commercial centre for the islands. Valletta is also a daytime city, with a population of over 50,000 during the day but a night time population of just under 7,000. Commercial activities that attract customers at night, including restaurants have experienced difficulties.

The city and its suburb Floriana, built later as an overspill to the city, are located on a peninsula that sits between two natural harbours. Access into the peninsula is limited to three access points, which channel traffic and create bottlenecks.

Of the 35,000 vehicles which pass daily through Floriana, 41% remain there. The remaining traffic proceeds



to Valletta (Figure 1).

Valletta covers a total area of 0.8km² and is physically constrained by walls and the sea on three sides. Traffic accessing the City has to fit in a relatively very limited area. The congestion caused by large numbers of vehicles trying to enter and park in Valletta, led to the introduction of a road user charge known as the V-licence in the mid-90s. In principle this idea was innovative and it took major cities like London and Stockholm much longer to follow suit.

use indicate that the city's available spaces are filled by commuters by 8:00am (given that shoppers and visitors do not visit before the shops opening time of 9:00am). It is worth noting here that on-street parking in Valletta was, up to May 2007, free with the exception of informal car park attendants at parking sites around the city who demanded gratuities from users.

In the end, it is clear that the V-licence was not achieving its intended objectives ie, to make car access restric-

alternative, less damaging modes, with preference being given to public transport due to the high level of access it offers.

Interestingly, in the meantime the proposed revision of the V-licence was already approved by Cabinet in 2004 with the adoption of the White Paper on Sustainable Land Transport, developed by the Malta Transport Authority. However, the Valletta and Floriana White Paper further specified the actual system to be used and the princi-

for state-of-the-art

The V-licence

The V-licence was open to all vehicle owners at an annual charge of E23, which eventually increased to E46 paid as a supplement on the annual renewal of the road licence. Residents and government owned vehicles were exempted from the charge. The V-licence gave such vehicles the right to access Valletta 24 hours a day, seven days a week. Such a restriction is thought to have dissuaded some drivers who may otherwise have been occasionally tempted to access the city for shopping and/or entertainment activities.

Thus, by 2004 over 32,000 passenger cars were paying the V-licence. Meanwhile, 4,968 vehicles had owners who claimed to be residents (exempt from the fee) although a night time parking survey in the city showed only 1,700 vehicles parked on the streets (with perhaps spaces for a further 300 vehicles in private garages). Overall, the revenue generated by the V-licence in 2004 was roughly E1.4m, a considerable increase when compared to the E0.2m generated in 1995. These revenues, alongside the registration taxes, road licences and other taxes imposed on motor vehicle purchases or use were never hypothecated towards specific transport projects. Instead, annual budgets for roads projects and public transport subsidy (introduced in 1995) are always allocated from the consolidated fund.

In total, the densely built city has some 2,985 on-street parking spaces. With a relatively small resident population of just under 7,000, half of the available parking spaces are used by residents. However the number of vehicles that enter and park in Valletta on a daily basis goes beyond the available parking spaces by more than 5,000 vehicles during the peak time which is reached at 11:00am. These patterns of

tions as fair as possible, while the annual increase in cars opting to pay for a V-licence only added to the congestion of Valletta and its surrounding towns. In addition, over the years these trends have negatively affected the environment of Valletta particularly through increased pollution, visual intrusion of vehicles in very narrow streets and damage to the architectural heritage of the city through chemical weathering of the soft limestone used for buildings. Another unhealthy practice has been the 'legalisation' of parking on pavements in order to increase the carrying capacity of the city, but obviously to the detriment of pedestrians and residents.

Replacing the V-licence

Consequently, in 2003 the Maltese Government commissioned work which was subsequently published in the form of a White Paper for Valletta and Floriana in 2005². This aimed to consolidate a range of previous transport initiatives in Valletta to:

- improve the quality of lives of its residents;
- of its general environment and appearance; and
- enhance commercial activity.

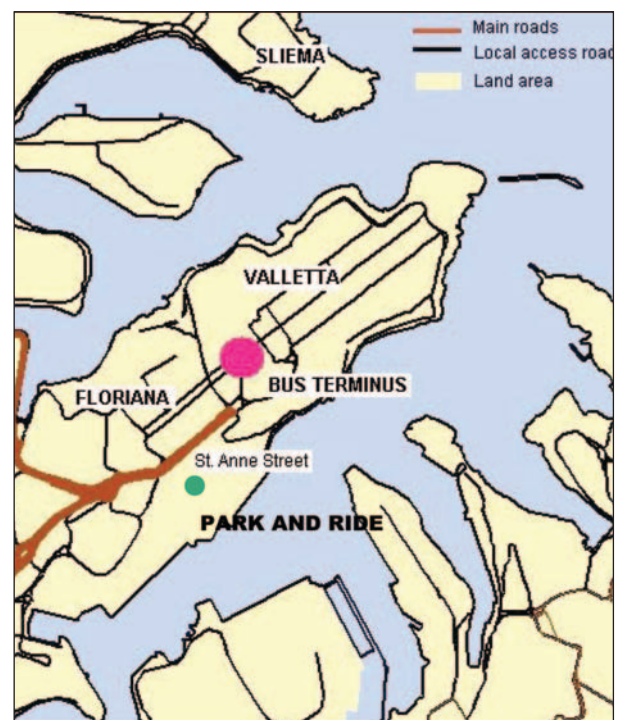
Thus, the Valletta and Floriana White Paper included several projects such as providing a Park and Ride service in Floriana to serve the capital (which started operations in November 2006); extending the existing pedestrian area in Valletta; providing 'vertical transport links' to parking areas located in the defensive ditches separating Valletta from Floriana; establishing other new alternative modes of transport including sea ferries; and the revision of the V-licence from being an annual charge to a pay-per-use charge. Fundamentally, the strategy seeks to encourage users to shift from the car to

principles on which the Controlled Vehicular Access system would be based.

While in principle there were hopes that implementing the new charge would be relatively easy given the notion was already established and timed /paid parking was already being introduced in other congested areas in the island, this was not the case. Therefore, following a full year of consultation, in July 2006 the Government decided that the Controlled Vehicular Access System would not apply to Floriana as originally planned, but only to Valletta (as had the V-licence).

A further decision to make the Park and Ride free also appeased further the commuter unions who represented principally the civil servants. Finally, since there is an ageing population in Valletta, exemptions were permitted

Figure 1:
Detail of the
Valletta and
Floriana
Peninsula





The aim is to reduce car-based travel to Valletta and Floriana by 50%, in particular to significantly cut peak traffic flows.

for children or close relatives of elderly residents.

Controlled Vehicular Access through ANPR technology

The decision was taken to adopt a similar technology to the system in operation in London (Automatic Number Plate Recognition) and then modify it. This means that vehicle registration numbers are captured both on their way in and on their way out of the controlled zone. In addition, charges are accumulated over time with a maximum capping per day. The system automatically recognises resident vehicles by calculating the number of times the vehicle slept within the zone and provides the operational flexibility for the Local Council to administer exemptions (disabled, emergency vehicles, etc).

Charges can be paid daily or accumulated in monthly invoices. The system operates during office and shop hours (including Saturday morning), but not after shopping hours, weekends and public holidays in an attempt to stimulate activity in Valletta at these times. The scheme therefore seeks to penalise commuters, provide increased parking turn-over of visitors and protect resident access. Overall the system was developed and is being operated by private contractors, the CVA Technol-

ogy Company Ltd (formed of Pater Holding Company Limited, Dakar Enterprises Limited, Genesis UK Limited and Charonite Company Limited) following a Government issued tender process.

In terms of targets, the aim is to reduce car based travel to Valletta and Floriana by 50%, particularly to significantly cut peak traffic flows and more effectively distribute flows into and out of Valletta throughout the day. The traffic reduction distributed over the main road network leading to the peninsula is projected to lead to up to 25% less peak hour traffic in some areas. The pay-per-use model, on the other hand should ensure better use of the limited infrastructure in Valletta but at the same time would be less discriminatory since it allows occasional users to access the city too. This was viewed by many as positive, including specific stakeholders such as the national theatre and the national conference centre which perceived that they were penalised by the V-licence restrictions in the evenings.

While the system was originally scheduled to start operating in March, the final go-ahead was only given by ministers in mid April. Given the launch date of 1 May 2007, this provided quite a challenge to the implementers of the scheme, although it meant that the CVA technology was tested more thoroughly. Also the pedestrian area was closed on the same day as the start of the CVA system and the proposed three month programme of public information was condensed into less than three weeks. However, despite these glitches it would seem that very early indications are that the system is working as planned.

Future challenges

For the future, the CVA scheme has been designed in such a way as to allow the system to be easily expanded to other areas (eg Floriana as originally planned) and beyond. More interestingly, it could also be made more responsive to policy needs thanks to the technology being able to identify when cars enter and leave the zone, and by the system drawing on the national vehicle licensing database. Thus, pricing rates could theoretically be based not only on time spent in the zone but could also vary by time of day, number of vehicles in the zone at the time of entry, vehicle type, vehicle engine size, emission levels, owner type and so on.

In this way, the system perhaps shows the next evolutionary step for road pricing from the London scheme. It will therefore be interesting to see just how much of a jump can be taken both in Valletta and beyond.

Acknowledgements

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About the authors

Dr Maria Attard is a lecturer in Geography at the University of Malta and an advisor on transport policy matters to the Maltese Government. Her email is maria.attard@um.edu.mt.

Dr Marcus Enoch is a senior lecturer in transport studies at Loughborough University, a visiting research fellow at The Open University and a freelance journalist. He can be contacted by email at m.p.enoch@lboro.ac.uk.

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1. Malta Environment and Planning Authority Website – see http://www.mepa.org.mt/index.htm?../spr/intro_spr.htm&1.
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Table 1:
Figures for Malta
(including Gozo
and Comino)

Total land area	316 km ²
Percentage land built-up	27%
Population (2005)	403,982
Licensed vehicles on the road	271,338
Percentage private vehicles	76%
Estimated vehicle km for private vehicles	9,000
Road infrastructure (km)	2,227

