



APPENDIX A

INTEGRATED TRANSPORT STRATEGY: FIRST PERIODIC REVIEW

Welcome to the first periodic review of the Integrated Transport Strategy.

This review analyses how effective the Strategy has been since its full introduction in July 2015 in achieving its aims and realising its Vision:

“To facilitate safe, convenient, accessible and affordable travel options for all the community, which are time and energy efficient, enhance health and the environment and minimise pollution.”

The Strategy proposes that “progress should be subject to a major review approximately every four years” and new measures or adjustments made in light of the evidence.

This review studies the evidence and progress to date and the accompanying policy letter identifies new work streams and opportunities to further enhance and development the Strategy.

BACKGROUND

In May 2014, the States approved the Integrated Transport Strategy as set out in the resolutions¹ and detailed in the Minority Report². This specified a co-ordinated set of measures that had been designed to work in unison to achieve the Strategy's aims and objectives.

Over the following 14 months, between the approval of the Strategy and the start of its implementation in July 2015, several of the key policy levers underpinning these measures were altered or removed. However, the aims and objectives were not adjusted accordingly.

Potential discrepancies between what the Strategy seeks to achieve and the mechanisms by which it can do so is a relevant consideration in reviewing its overall effectiveness. However, success is not merely determined by numbers and percentages. Many of the benefits of the Strategy establish mechanisms through which greater accessibility and improved road safety are promoted.

¹ Resolutions Billet D'Etat No IX, 2014

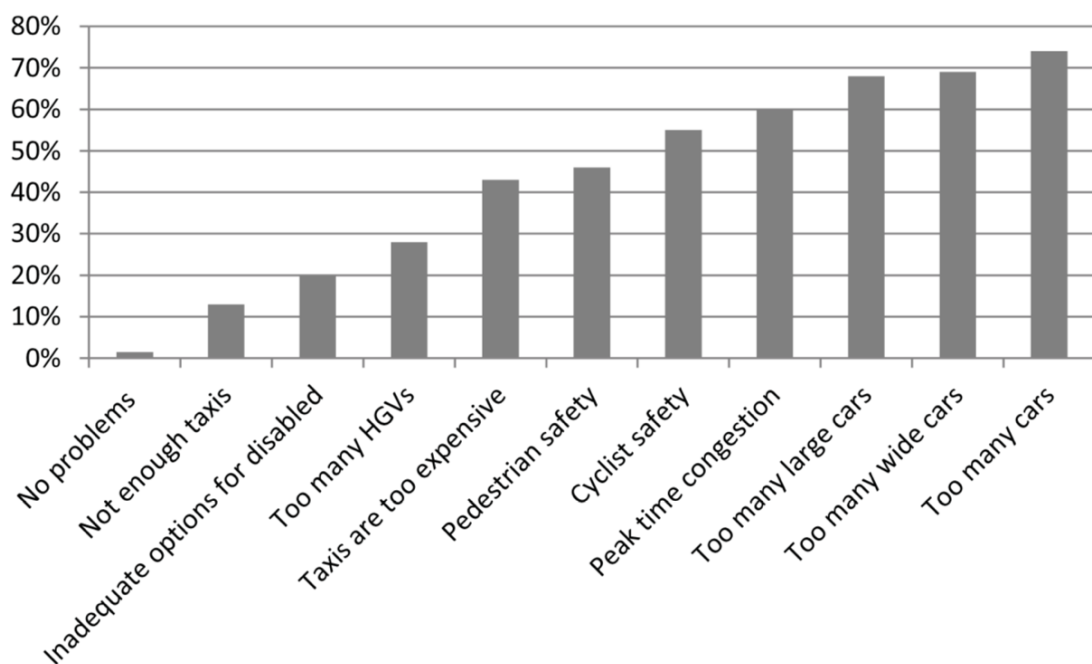
² Annexe, Billet D'Etat No IX, 2014

AIMS

The Strategy was developed to address the problems with our current transport system, largely as identified by the community through five sets of consultation.

“When asked what was wrong with the current situation in Guernsey, the most numerous responses were that there are too many cars, too many of them are too big or too wide and there is too much congestion in certain areas at certain times.”

Graph 1 - Responses to 2013 public survey identifying the main transport issues



These subjective responses correspond with objective analysis of Guernsey’s transport model that shows we are a car-dependent society – in other words, people feel they have little choice other than to use a car.

The Strategy aims to create a more balanced transportation system, where people have a greater range of viable transport options.

Table 1 - Auto Dependency and Balanced Transportation Compared
Factor Automobile Dependency Balanced Transportation

Factor	Automobile Dependency	Balanced Transportation
Motor vehicle ownership	High per capita motor vehicle ownership	Medium per capita motor vehicle ownership
Vehicle use	High per capita motor vehicle use	Medium per capita motor vehicle use
Land use density	Low	Medium
Land use mix	Single-use development patterns	Mixed-use development patterns
Land for transport	Large amount for roads & parking	Medium amount devoted to roads & parking
Road design	Road designs favouring automobile traffic	Road designs balancing modes
Street Scale	Large scale streets & blocks	Small to medium streets & blocks
Traffic speeds	Maximum traffic speeds	Lower traffic speeds
Walking	Mainly in private malls	On public streets
Signage	Large scale, for high speed traffic	Medium scale, for lower-speed traffic
Parking	Generous, free, rigid requirements	Modest, some priced, flexible requirements
Site design	Parking paramount, in front of buildings	Parking sometimes behind buildings

Source: The Costs of Automobile Dependency and the Benefits of Balanced Transportation, Todd Litman, The Victoria Transport Policy Institute, 2002

Car dependency can cause a variety of problems, given that it is typically inefficient in terms of time, space, energy and resources. Personal choice, convenience and mobility are inhibited, transport costs are high and regressive, and public health and the environment are negatively impacted.

One aspect that is poorly understood outside transport policy circles is the economic impact of car use. There is a common misconception that car use generates a net economic benefit, but research has shown that car use in fact generates a net economic loss.^{3 4} On the other hand, forms of

³ Science for Environment Policy, European Commission, Issue 418, June 2015

active travel such as walking and cycling have a net economic benefit to society. As one study⁵ observes,

“Critiques of automobile dependency are sometimes accused of being ‘anti-automobile’, which represents this as an ideological rather than an economic issue. Reducing excessive automobile dependency is no more anti-automobile than healthy diets are anti-food.”

Achieving a more efficient and economically beneficial mobility balance is at the heart of the Strategy, which is “designed to make a significant and worthwhile start on the path to an integrated and sustainable transport system.”

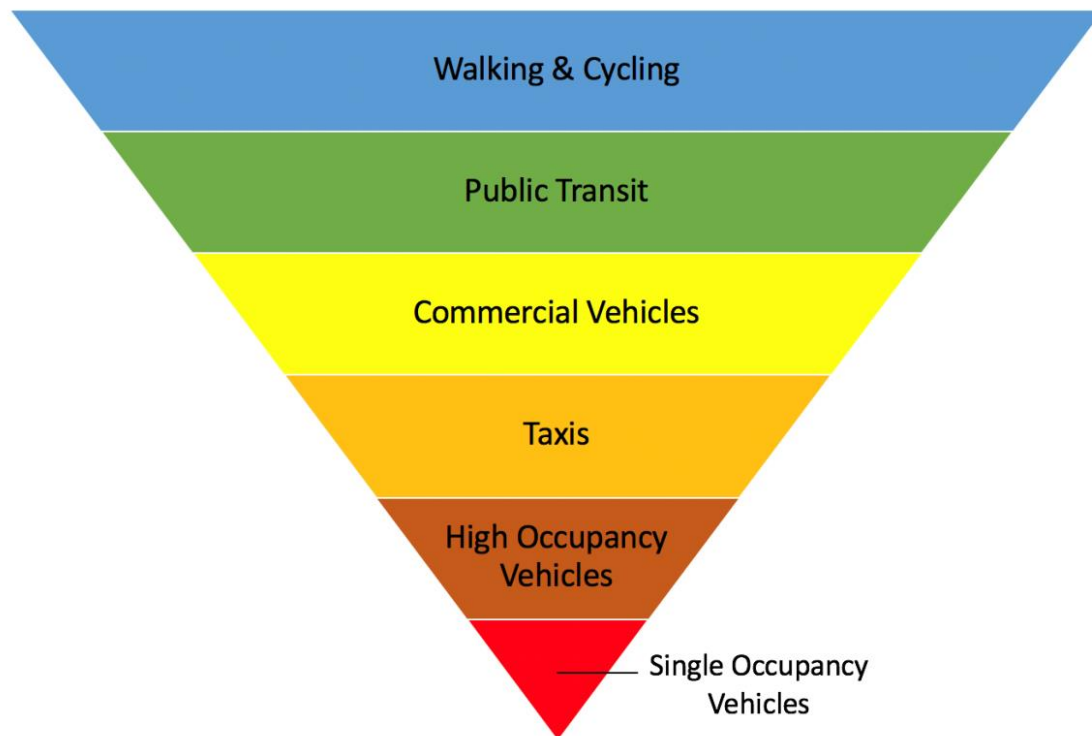
The principal aim of the Strategy is to achieve modal shift – in other words, to reduce the number of miles travelled in cars in favour of walking, cycling and bus use. It seeks to do this “principally by making the alternatives significantly easier and more attractive than at present.”

The Strategy explains the numerous positive outcomes of effecting this modal shift, including economic benefits to retail centres, safer journeys, improved energy efficiency, reduced pollution, enhanced health, better accessibility and inclusivity and a more attractive public realm.

⁴ Transport transitions in Copenhagen: Comparing the cost of cars and bicycles. Gössling, S. & Choi, A. S. (2015). *Ecological Economics* 113: 106–113.

⁵ The Costs of Automobile Dependency and the Benefits of Balanced Transportation, Todd Litman, The Victoria Transport Policy Institute, 2002

One of the resolutions agreed by the States was the adoption of the Transport Hierarchy, which sets out a specific order of preference in terms of modes of transport. This hierarchy underpins the Strategy.



Walking and cycling are given equal weight in terms of promotion because both are non-polluting, affordable, energy-efficient forms of active travel that deliver health, economic and environmental benefits.

However, the Strategy recognises that in terms of vulnerability, people travelling by foot are at the very top of the hierarchy, above people riding bikes, who are themselves also vulnerable road users. Risk to these road users derives not from their modes of transport per se, but almost exclusively from motorised transport, especially from larger and heavier vehicles.

The Strategy makes clear that

“The strong message from the consultations is that one of the main reasons people do not walk or cycle is because they fear being hit by a motor vehicle. This must be addressed.”

It also stresses that those who choose to drive larger, heavier vehicles have an additional responsibility towards more vulnerable road users, proportionate to the risk they inherently present.

These aims and core principles were endorsed by the States in May 2014 when the Strategy was first adopted and they remain extant. This mandate transferred to the Committee *for the* Environment & Infrastructure in May 2016: in delivering the Strategy the Committee has adhered to these principles whilst working towards the overall aims.

OBJECTIVES

The Strategy identifies a range of objectives to work together to achieve the aims and realise the Vision:

- To reduce the number of car journeys, particularly solo-occupancy trips – reducing peak-hour traffic by an expected 10%;
- To increase the number of journeys made by alternative forms of transport, particularly active travel modes – ideally doubling the numbers of people travelling by foot, bike and bus;
- To achieve a greater proportion of smaller motor vehicles, especially in terms of car widths;
- To achieve a greater proportion of cleaner, low emissions motor vehicles;
- To improve safety for all road users, particularly vulnerable road users;
- To improve transport accessibility for all members of the community, particularly non-drivers and those with disabilities or on low incomes;
- To improve the public realm, particularly in the main centres.

POLICY MECHANISMS

The key policy levers originally agreed by the States in May 2014 to achieve these objectives were:

- Charges for commuter parking through paid long-stay public parking and a tax or levy on corporate parking (with commensurate improvements to free parking for retail and residents) to discourage people to commute by car, generating revenue to help adequately fund the Strategy;
- An improved, free-at-point-of-use (fare-free) bus service complete with fit-for-purpose bus infrastructure to encourage people to make journeys (commuter journeys in particular) by public transport, and to make transport more affordable;
- Significantly increased investment in walking and cycling infrastructure to make active travel safer, easier, more accessible and more affordable to encourage greater take up of these modes;
- A first registration duty based on emissions and vehicle width to actively incentivise cleaner, narrower vehicles (with subsidies for the cleanest and narrowest) and dis-incentivise wide, high emissions vehicles (with a maximum charge of £5,600 for the widest and most polluting), generating the bulk of the revenue to fund the Strategy;
- A policy of preferential parking for small cars and electric cars to make the use of small vehicles and low emissions vehicles more convenient than large vehicles and high emissions vehicles;
- Review speed limits to enhance safety for people using non-motorised modes of transport such as walking and cycling;
- Support the development and implementation of travel plans for schools, businesses and States departments;
- Embed the principles of accessibility and active travel into the Island Development Plan, and take accessibility into consideration across all work streams;
- Renovate specific areas of the public realm in the main centres to make them more attractive, vibrant and accessible to the public.

The policy levers that were subsequently altered by States decisions were:

- Charges for long-stay public commuter parking and a tax or levy on corporate commuter parking were not introduced (meaning the commensurate improvements to short-stay retail parking were also foregone), removing the key disincentive to commute to work by car, whilst also removing a revenue stream for the Strategy;
- Free bus travel was not introduced, removing the key incentive to commute by public transport by negating the competitive advantage of fare-free buses compared with charged-for commuter parking;
- First registration duty was heavily diluted: the width element was removed altogether, whilst the emissions element was charged at a fraction of the intended rate (maximum cost of £690 as opposed to £3,200 as originally intended, removing the subsidy for narrow or electric vehicles and also removing any meaningful disincentive to purchasing wide, high emissions vehicles;
- The funding mechanisms were significantly altered, greatly reducing anticipated investment in active travel infrastructure, ruling out the potential option of constructing a purpose-built bus depot which would have made the operation of the bus service more efficient.

These significant shifts in policy profoundly affected the Strategy's likely capacity to realise the original objectives and fully realise the Vision, but the Vision and objectives remain the measure by which the effectiveness of the Strategy are to be assessed.

MEASURING PROGRESS

Objective:

To reduce the number of car journeys, particularly solo-occupancy trips – reducing peak-hour traffic by an expected 10%

Progress

Fixed traffic studs are counters are positioned at various locations around the island and record vehicle movements on a 24/7 basis. Where data is missing or insufficient for analysis purposes, average figures are used (see figures in below tables highlighted in grey).

The table below analyses peak-hour (08:00 – 09:00) Monday to Friday vehicle movements during the morning commute along the four main arterial routes into Town. It shows a 4.7% reduction since 2014.

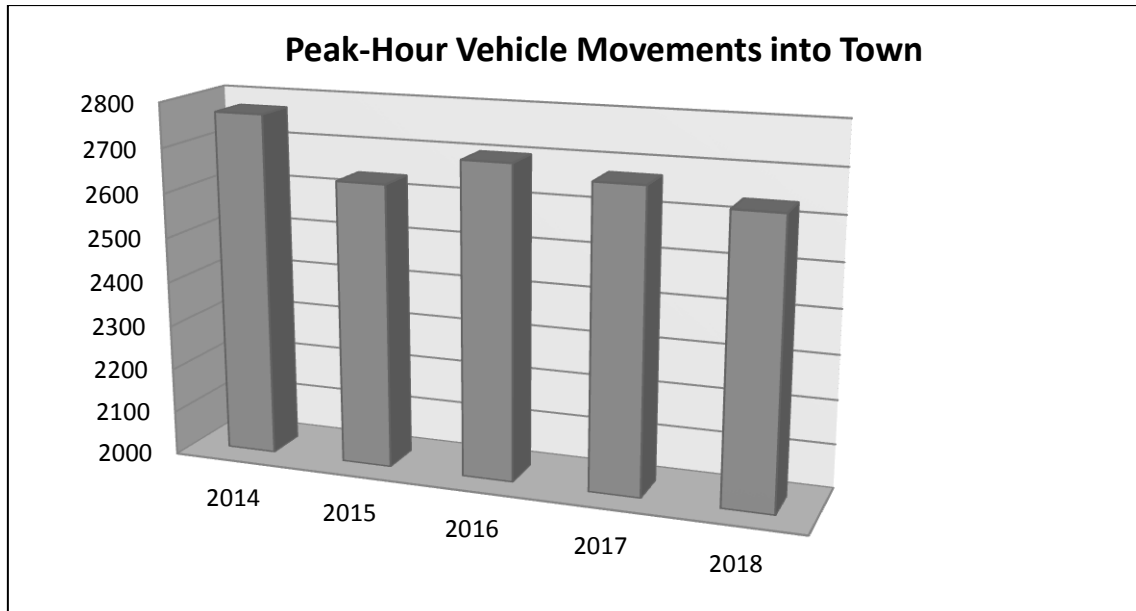
Table 2 – Weekday average movements into Town during the morning commute

'Peak-Hour' Movements into Town (08:00 - 09:00)						
Year	St George's Esplanade	St Julian's Avenue	Le Bordage	Le Val des Terres	Total	% change from 2014
2014	1127	650	481	509	2767	
2015	1049	653	449	486	2637	-4.7
2016	1094	649	479	479	2701	-2.4
2017	1068	611	469	526	2674	-3.4
2018	1043	615	468	511	2637	-4.7
Period Average	1076	636	469	502	2683	

Source: Fixed traffic studs and counters

The reduction in vehicle movements is encouraging and is further illustrated in the graph below.

Graph 2 – Peak-Hour Vehicle Movement Analysis into Town (08:00–09:00 Weekdays)



Source: Fixed traffic studs and counters

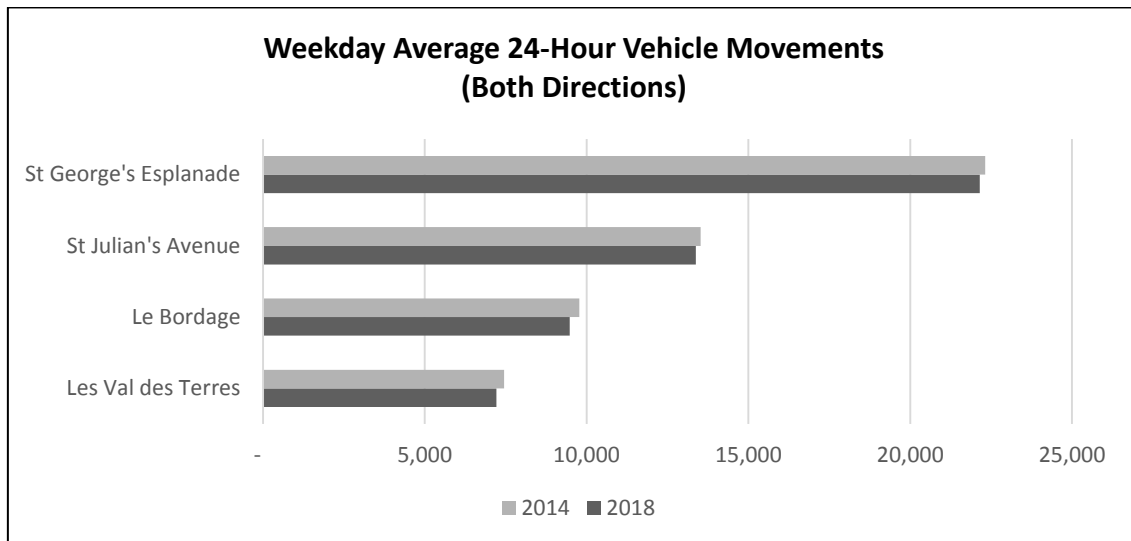
The table below shows average daily weekday counts (in both directions) along the same four arterial routes into and out of Town. The data indicates a slight reduction in combined weekly vehicle movements on these roads totalling 842 movements (down 1.6% since 2014).

Table 3 – Weekday Average 24-Hour Vehicle Movements (Both Directions)

Principal Roads	Weekday Average 2014	Weekday Average 2018	Difference	% change
St George's Esplanade	22,319	22,152	-167	-0.7%
St Julian's Avenue	13,524	13,381	-143	-1.1%
Le Bordage	9,775	9,480	-295	-3.0%
Le Val des Terres	7,453	7,216	-237	-3.2%
Total	53,071	52,229	-842	-1.6%

Source: Fixed traffic studs and counters

Graph 3 – Weekday ‘Peak’ Hour Movements



Source: Fixed traffic studs and counters

Baseline data⁶ was collected in 2013 as part of the original Strategy in order to identify the method of travel used to commute to Town. A vehicle survey carried out along Les Banques between 07:30 and 09:00 on a weekday identified a total of 1,732 motor vehicles and 56 bicycles. The vehicle count results were as follows:

- 56 were bicycles (3.1%)
- 50 were motorcycles (2.8%)
- 1,446 were cars, taxis or minibuses (80.9%)
- 172 were goods vehicles (9.6%)
- 52 were heavy goods vehicles (2.9%)
- 12 were buses or coaches (0.7%)

A separate survey identified that approximately 85% of cars during the morning commute were driven by a solo-occupant.

A more detailed vehicle and passenger survey undertaken on 17 May 2019 at the same times and location as the 2013 survey counted 2,473 people heading towards Town in a total of 1,810 motor vehicles plus 83 bicycles.

⁶ Billet D'Etat No IX, 2014, Appendix F

Of the totals:

- 65 were people walking (2.6% of commuters)
- 83 were people riding bikes (4.4% of vehicles) (3.4% of commuters)
- 144 were people travelling by bus (5.8% of commuters)
- 52 were people riding motorbikes (2.7% of vehicles) (2.1% of commuters)
- 1,400 were people driving cars (74% of vehicles) (56.6% of commuters)¹
- 347 were people driving commercial vehicles (18.3% of vehicles) (14% of commuters)¹
- 11 were bus drivers (0.6% of vehicles) (0.5% of commuters)
- 371 were passengers in cars or commercial vehicles (15% of commuters)

¹ Approximately 80% of cars or commercial vehicles were driven by a solo occupant.

Table 4 – Analysis of Vehicle movements by type along Les Banques during the morning commute (07:30–09:00)

Mode of transport	2014 Survey	Overall %	2019 Survey	Overall %	Difference by Mode 2014/19 %
Bikes	56	3	83	4	+48
Motorcycles	50	3	52	3	+4
Cars	1,446	81	1,400	74	-3 ¹
Commercials	224	12	347	18	+55 ¹
Buses	12	1	11	1	-8
Total	1,788	100	1,893	100	
Solo-occupancy vehicles		85		80	

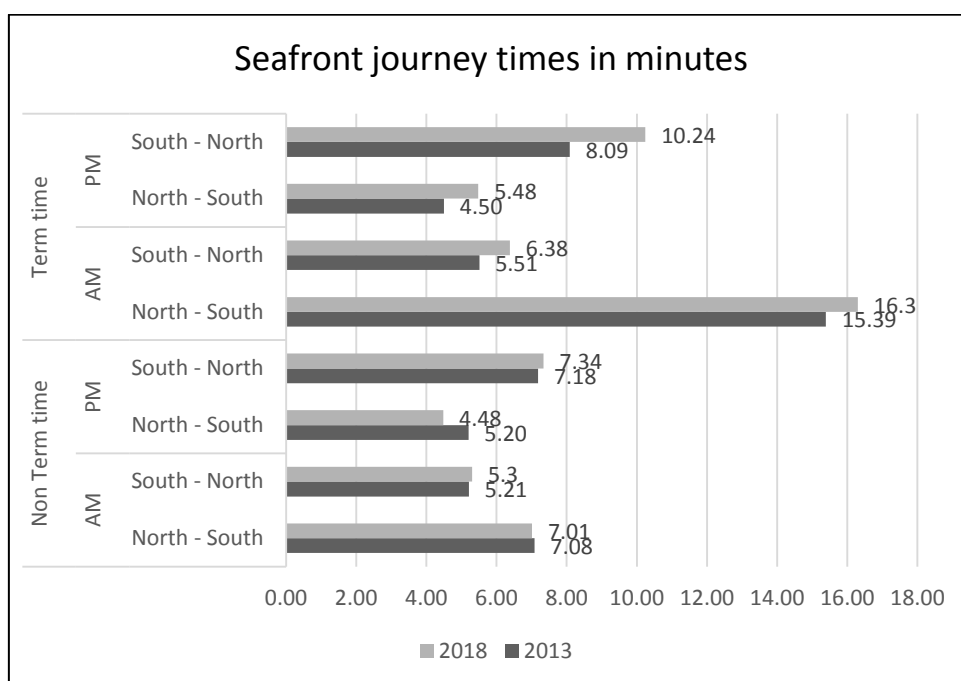
¹Categorisation of cars and commercials may have varied across the two surveys

Source: Manual surveys

In summary the 2019 survey identified a 48% increase in people riding bikes along Les Banques compared to 2013, a 4% increase in people riding motorbikes and a 5% reduction in solo-occupancy car use.

Journey times along the eastern seafront were also measured as part of the Transport Strategy data collection in 2013 and then compared again in 2018. In broad terms there is no significant change in journey times along that route, although on average journeys in 2018 can take a little longer. What is particularly noticeable is that outside of school term times there are significant reductions in journey times along this route, in common with many other routes, specifically in the morning commute.

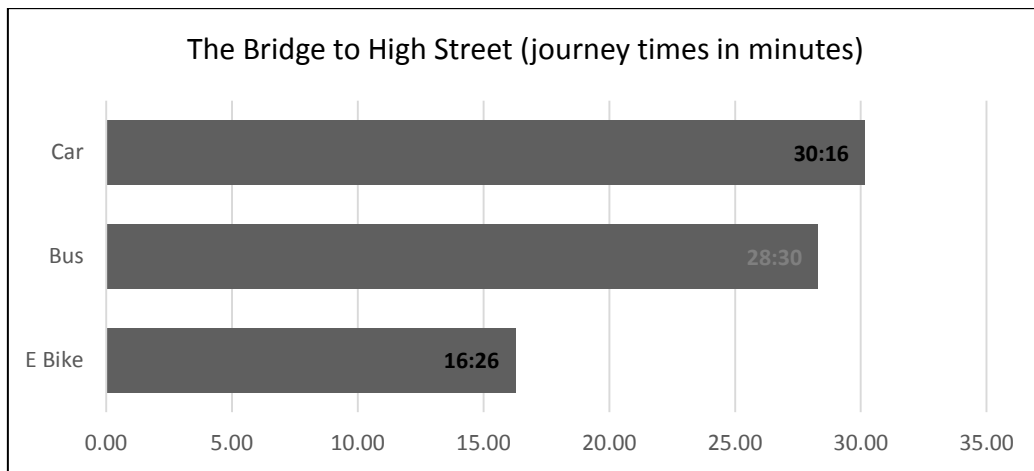
Graph 4 – Seafront Journey Time Driven Surveys



Source: Manual surveys

A comparison between three different modes of transport (a bus, a car and an e-bike) on a typical commuter journey door to door from the Bridge to Town departing at 8am shows that the car commute took the longest (at 30 minutes 16 seconds); the bus journey was around two minutes quicker (at 28 minutes 30 seconds) and the e-bike (at 16 minutes 26 seconds) was nearly twice as quick as the same journey by car.

Graph 5 – Seafront Journey Time Surveys for different modes of transport



Source: Manual surveys

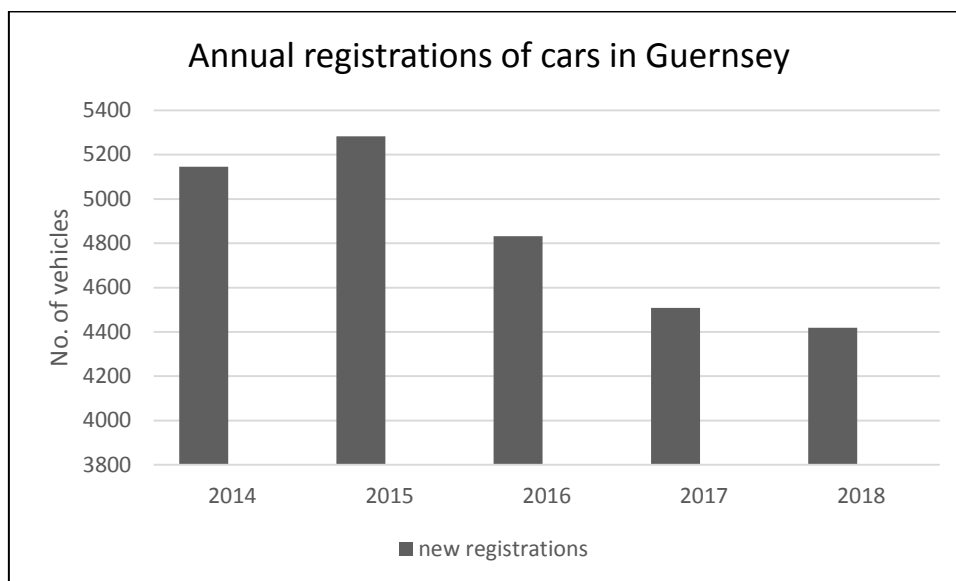
In terms of vehicle numbers, annual motor car registrations (both new and used) continue to fall, with just 3,451 cars being registered in the island in 2018 compared to 4,159 in 2015. In total the number of cars registered per annum since 2014 has dropped by 14.9%.

Table 5 - Annual Car Registrations

Year	New	Used	Total	Annual Variation	%	Cumulative since 2014 %	Cumulative since 2014 - new cars only %
2014	2642	1413	4055				
2015	2766	1393	4159	104	2.6	2.6	4.7
2016	2477	1294	3771	-388	-9.3	-7.0	-6.2
2017	2341	1218	3559	-212	-5.6	-12.2	-11.4
2018	2175	1276	3451	-108	-3.0	-14.9	-17.7

Source: Driver and Vehicle Licensing Database

Graph 6 – Annual registrations of new and used cars in Guernsey



Source: Driver and vehicle licensing database

At the end of November 2019 a total of 1,795 new cars and 1,210 used cars had been registered (3,005 in total) compared to 2,074 and 1,177 (3,251 in total) during the same period in 2018. This represents a further 7.6% drop in annual registrations.

As regards car parking, there are currently some 1,830 commuter long-stay (5hour and 10hour) parking spaces in St Peter Port, the majority located on the North Beach, Salerie, Castle Emplacement, South Esplanade, La Vallette and Odeon Car Park. Short-stay (½hour to 3hour) parking occupies approximately 1,340 spaces, primarily on the Albert and Crown Piers and at the front of the North Beach car park.

Demand for long-stay parking has historically been very high: it is typically between 95% and 100% occupancy on weekdays. Demand on Saturdays is similar, especially in the summer, albeit commuters are replaced to an extent by shoppers and people making use of harbour facilities. Data collated since the Strategy began shows that 10-hour spaces are typically taken by around 08:15 on weekdays, or earlier on North Beach. Anecdotal and observational data suggest that many commuters also park in short-stay spaces (mainly 3 hour) and either move their vehicle, change their parking clock or risk not changing their parking clock during the working day. This demonstrates that demand for free commuter parking is

unsurprisingly high – a phenomenon called supply-led demand. In other words, the fact that these spaces are not charged for on a user-pays basis is in itself inducing that high level of demand^{7 8}.

There is usually short-stay parking available in Town on weekdays, even on busy cruise ship days. However, there is a clear preference for parking on the piers, with little appetite from shoppers to walk even modest distances. Saturdays are usually the busiest day with shoppers competing with port users for available short-stay parking. Demand in the winter months for short-stay parking is generally lower, with the exception of the run-up to Christmas when changes to short-stay parking arrangements are made to allow extra time for people to shop, albeit at the expense of a lower turnover of parking spaces.

Conclusions

Results to date have shown an encouraging shift away from car journeys (especially solo-occupancy) at peak commute times, given the absence of the main ‘push’ mechanism (paid long-stay commuter parking) and the main ‘pull’ mechanism (free bus use) envisaged in the original Strategy objectives.

Key positives include:

- 1) A reduction in traffic flows in the morning commute of 4.7% since 2014;**
- 2) Weekday average vehicle movements on key arterial routes into and out of Town have also reduced by 1.6% compared to 2014;**
- 3) Annual car registrations are down 14.9% since 2014.**

In more general terms, local research⁹, confirmed by empirical evidence¹⁰, shows that even though fuel prices have been relatively high in recent

⁷ Understanding Transport Demands and Elasticities: How Prices and Other Factors Affect Travel Behavior, Todd Litman, Victoria Transport Policy Institute, February 2017

⁸ Europe’s Parking U-Turn: From Accommodation to Regulation, Michael Krodansky and Gabrielle Hermann, ITDP, Spring 2011

⁹ Billet D’Etat No IX, 2014

years, this is unlikely to be a significant push factor away from car use. Fuel price is (perhaps surprisingly) inelastic and has a proportionately small effect on modal shift, but may account for any small reduction in traffic volumes.

The high long-stay parking space occupancy rates are possibly one of the most effective push factors, as searching for or securing a suitable parking space can be time-consuming and stressful, as can using a short-stay space. These twin issues make commuting by car a little less convenient than some people may be prepared to tolerate. However, this in itself is a self-limiting push factor: average occupancy rates don't tend to drop for any length of time because when a valuable asset such as a long-stay parking space is offered for free, demand will always rise to meet the supply, keeping occupancy rates at (or very near) saturation point.

Journey times could also be a push factor. As stated above, on a typical commuter journey 'door to door' from the Bridge to Town departing at 08:00, an e-bike was substantially quicker than a bus or car journey. If dedicated public service vehicle infrastructure (for buses and taxis) could be provided along the seafront, at least in part, then journey times for these modes of transport could be substantially improved.

Providing short-stay parking of even shorter duration ($\frac{1}{2}$ hr or 1hour duration as opposed to 2hour or 3hour) close to Town shops might assist retail and act as a deterrent to commuters who might otherwise abuse short-stay parking spaces.

Improving congestion on the school commute could also have significant benefits for reducing journey times into St Peter Port.

¹⁰ Understanding Transport Demands and Elasticities: How Prices and Other Factors Affect Travel Behavior, Todd Litman, Victoria Transport Policy Institute, February 2017

Notwithstanding this, bus passenger numbers at commuter times are up more than 16% in the last four years, indicating that the steadily increasing popularity of the bus service may be a pull factor, especially when considered in conjunction with the push factors described above. Similarly, improved walking and cycling infrastructure along that main commuter corridor and the rising popularity of e-bikes may be another pull factor.

Without these initiatives, car journeys would almost inevitably have increased in recent years, especially taking into account the increase in working population.

Objective:

To increase the number of journeys made by alternative forms of transport, particularly active travel modes – ideally doubling the numbers of people travelling by foot, bike and bus

Progress

These targets are ambitious but show the level of change required to make a meaningful difference to vehicle journeys recorded, particularly during commuter periods. Baseline data¹¹ for active travel journeys in 2013 along the east coast commuter route prior to the implementation of the Strategy showed that walking and cycling both had a low modal share – around 3% each. The number of people commuting by solo-occupancy car journey was also very high at 85%.

- *Bus Use*

The most successful element of the Strategy to date is the significant annual increases that have been experienced in bus passenger journeys. There are comprehensive records of bus passenger numbers stretching back many years, which can be analysed at quite a granular level.

A total of 1,837,787 passenger journeys were recorded on public scheduled bus services during 2018, representing an increase of 50,218 journeys, or a 2.8% increase when compared with the previous year. This was the fifth consecutive annual increase recorded and represented a total annual increase in passenger numbers of 370,457 since 2014. This provides an impressive compound annual growth rate of 6%.

Figures to November 2019 show further significant growth with an additional 100,489 passengers carried to date this year as compared to 2018 representing a 6% increase. In mileage terms, assuming an average

¹¹ Billet D'Etat No IX, 2014, Appendix F

journey length of 2.5 miles, an overall increase of 470,946 passengers equates to around 1,177,365 fewer car miles per annum.

Bus passenger journeys in the summer months can be heavily influenced by fluctuations in the numbers of journeys undertaken by tourists and, in particular, cruise ship passengers. Since the last dip in passenger numbers in 2013, Q2 & Q3 (April to September) passenger journeys have risen by 41.5% to September 2019. Importantly, it is in the winter months where significant growth has also been witnessed with Q4 & Q1 (October – March) passenger journeys increasing by 37% to March 2019. This is particularly encouraging as passenger journeys in the winter months are largely undertaken by the resident population.

Modest growth has been experienced across most fare types in 2018 as compared with 2017 with the number of fare paying passengers rising by 42,705 (3.2%), student users up by 5,753 (3.1%) and concessions (OAPs) up by 3,944 (1.6%). The Nightowl services operated across three routes on Friday and Saturday evenings continue to be popular with an additional 3,355 passengers using the service in 2018, representing a growth rate of 15%.

The number of Smart Card fare products increased by 72,832 (13%) in 2018, with the corresponding number of people paying by cash reducing by 30,127 (4%). With the recent introduction of contactless technology, it has never been easier to catch the bus.

Annual passenger journeys had previously peaked in 2010 before declining swiftly in 2013 to a level of 1.35 million, then increasing steadily again to the current level of 1.84 million in 2018. Historically, numbers have declined since the heydays of the 1960s and 70s when multiple car ownership was much less prevalent, falling to a low of just 878,111 in 2000. With an estimated 1.95 million passengers expected to be carried on scheduled bus services during 2019 this shows the extent of the turnaround in the contribution of public transport services to the island's daily transport requirements. A monthly breakdown of passenger carryings is detailed in Table 6, with longer-term historical analysis provided in Table 7.

Table 6 – Annual comparison of bus passenger journeys 2014 – 2018

Month	2014	2015	2016	2017	2018	Increase	%
January	83,440	89,692	88,290	100,019	111,572	28,132	33.72
February	78,870	81,962	94,760	102,032	107,027	28,157	35.70
March	97,381	97,303	109,504	125,639	119,782	22,401	23.00
April	104,925	114,465	128,097	139,292	136,911	31,986	30.48
May	136,879	148,609	153,692	164,847	179,514	42,635	31.15
June	150,660	157,860	165,453	184,971	188,129	37,469	24.87
July	172,226	170,188	185,114	192,477	199,929	27,703	16.09
August	176,443	163,826	193,896	203,997	209,130	32,687	18.53
September	155,028	154,946	171,282	178,204	179,675	24,647	15.90
October	115,663	122,697	134,097	145,859	150,695	35,032	30.29
November	95,870	98,907	109,642	126,713	126,906	31,036	32.37
December	99,718	106,346	119,901	123,519	128,290	28,572	28.65
Total Year	1,467,103	1,506,801	1,653,728	1,787,569	1,837,560	370,457	25.25

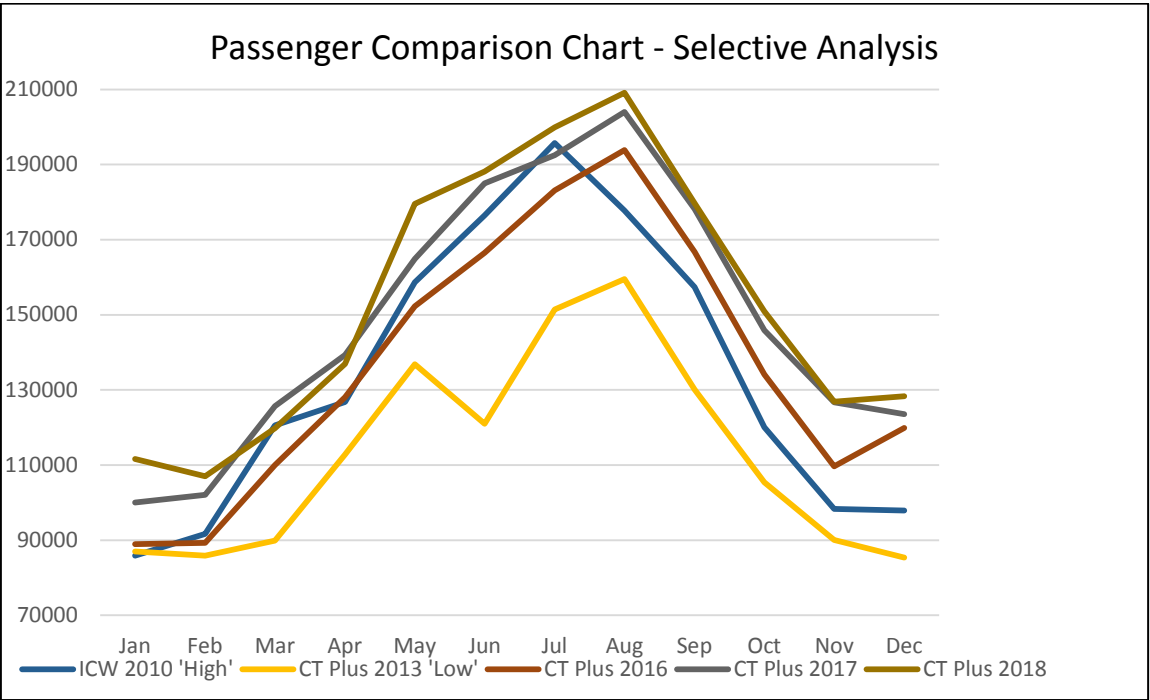
Source: Ticketer

Table 7 – Historical analysis of bus passenger journeys (1996 – 2018)

Year	Passengers	Year	Passengers	Year	Passengers
1996	1,093,212	2004	1,304,049	2012	1,486,205
1997	1,128,101	2005	1,393,693	2013	1,354,993
1998	1,054,185	2006	1,405,414	2014	1,467,103
1999	941,052	2007	1,438,803	2015	1,506,801
2000	878,111	2008	1,531,257	2016	1,653,728
2001	954,908	2009	1,567,565	2017	1,787,569
2002	1,057,627	2010	1,607,017	2018	1,837,787
2003	1,201,799	2011	1,563,966	2019	Est 1,950,000
Period Lows		Period Highs			

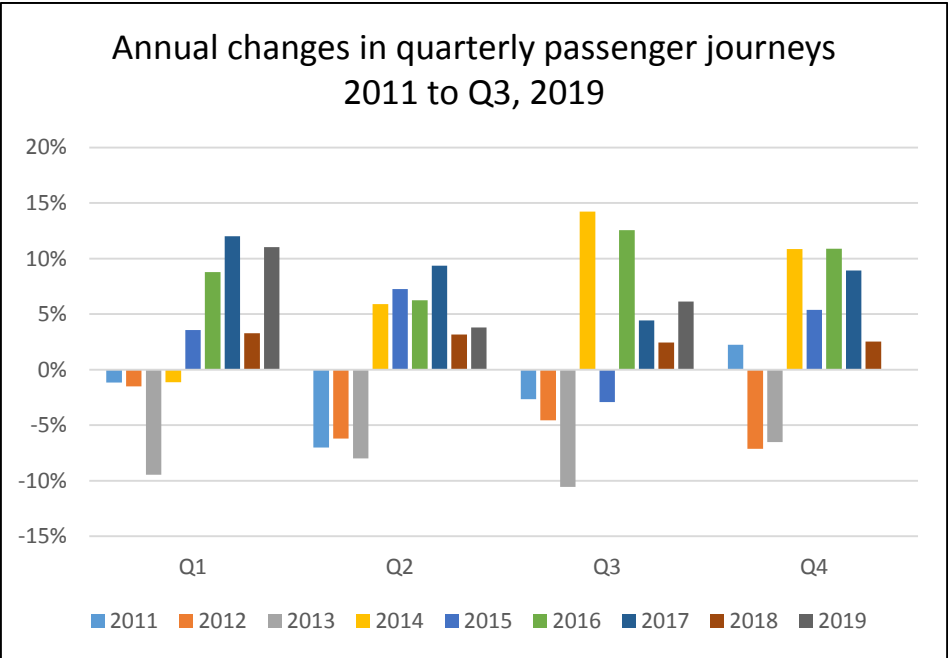
Source: Ticketer

Graph 7 – Compares previous ‘high’ (2010), ‘low’ (2013) with the period 2016 to 2018



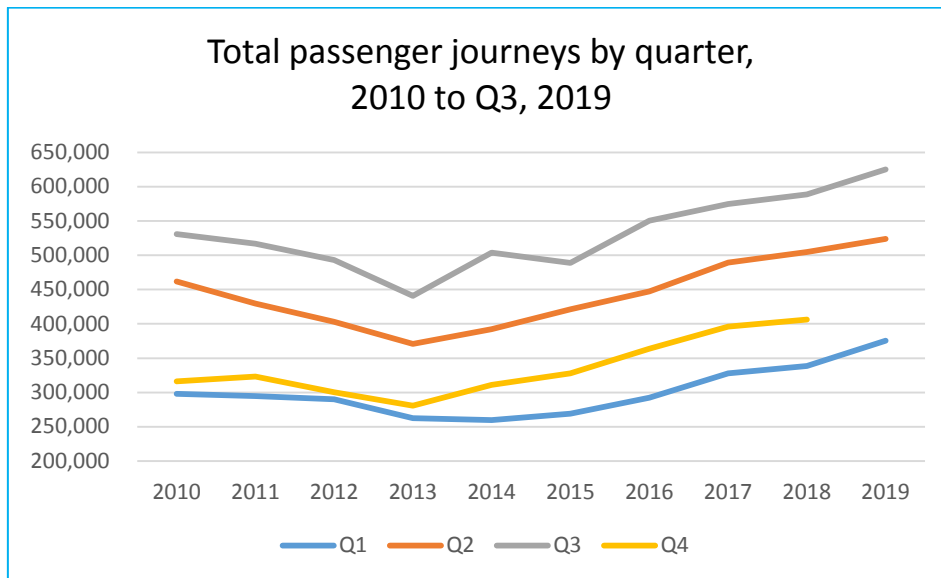
Source: Ticketer

Graph 8 – Annual changes in quarterly bus passenger journeys



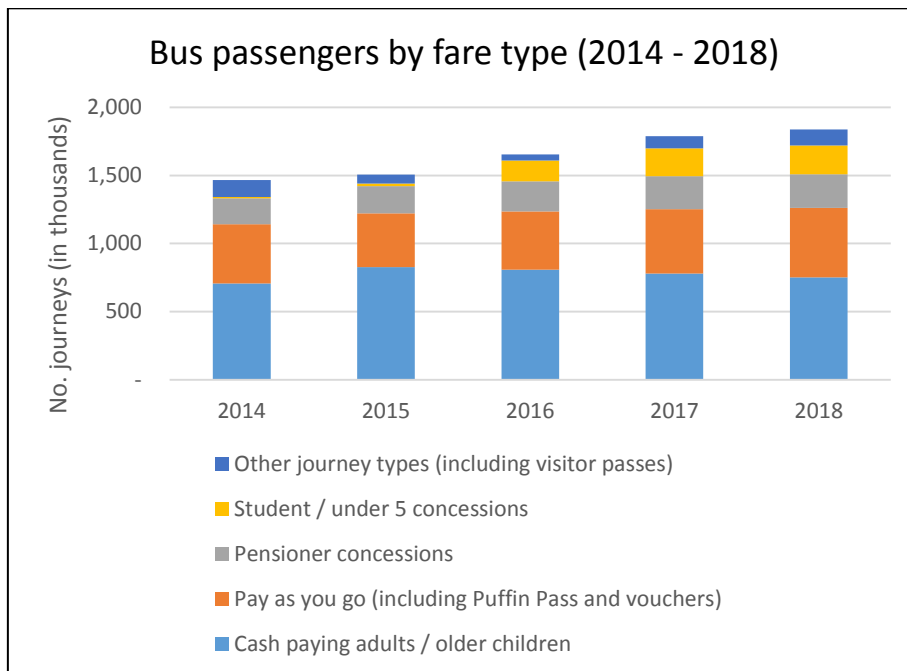
Source: Ticketer

Graph 9 – Total bus passenger journeys by quarter



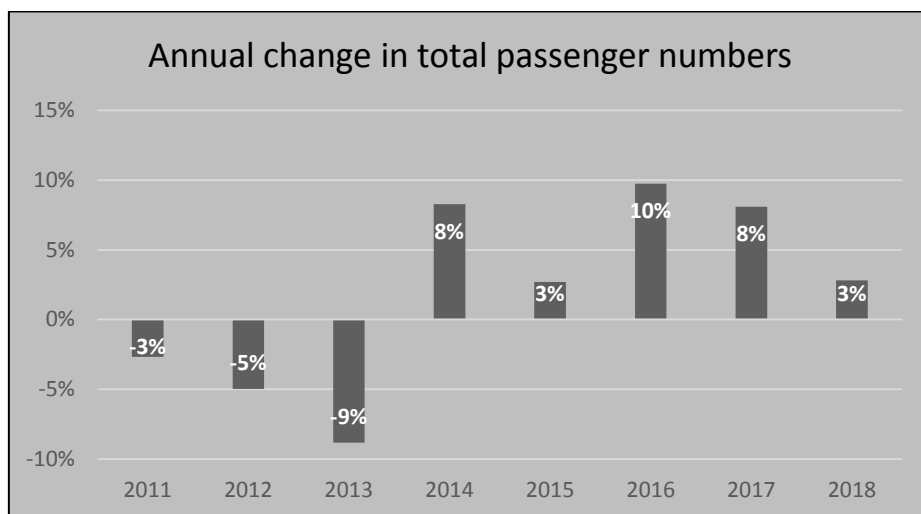
Source: Ticketer

Graph 10 – Total number of bus passenger journeys by fare type



Source: Ticketer

Graph 11 – Annual change in total bus passenger journeys



Source: Ticketer

Table 8 - Total bus passengers by quarter (2014 – Q3, 2019)

	Total passenger journeys			
Year	Q1	Q2	Q3	Q4
2014	259,691	392,464	503,697	311,251
2015	268,957	420,934	488,960	327,950
2016	292,554	447,242	550,292	363,640
2017	327,690	489,110	574,678	396,091
2018	338,381	504,564	588,734	406,067
2019	375,673	523,730	624,847	

Source: Ticketer

As Table 8 illustrates, the quarterly figures have risen substantially since 2014.

These increases are reflected in average route loadings as set out in Table 9.

Table 9 – Average loadings by bus route (Terminus to Terminus)

Route	Average Loading July'14*	Average Loading July'19**	Route	Average Loading July'14*	Average Loading July'19**
11	19	24	60	N/A	4
12	17	28	71	18	27
21	9	12	81	15	23
31	13	19	91	62	44
32	N/A	14	92	35	33
41	30	32	93	33	28
42	29	31	94	N/A	25
51/52	14	11	95	N/A	24
61	15	17	P2	N/A	8
13	N/A	25			

*week of 28 July – 1 August 2014

**1 July – 31 July 2019

Source: Ticketer

Passenger journeys during the commuter period (06:00–09:30 and 16:00–18:30) in Quarter 1 have also shown a significant increase between 2016 and 2019 with a growth of some 16,950 passengers (16.1% in three years) as evidenced in Table 10 below.

Table 10 – Quarterly commuter bus passengers

Commuter Passenger Analysis - Quarter 1 (Jan-Mar)							
Year	AM (06:00-	PM (16:00-	Total	Annual Increase	Cumulative Increase	% increase	Cumulative Increase
2016	50,000	55,331	105,331				
2017	53,964	57,537	111,501	6,170		5.9	
2018	53,831	59,867	113,698	2,197	8,367	2.0	7.9

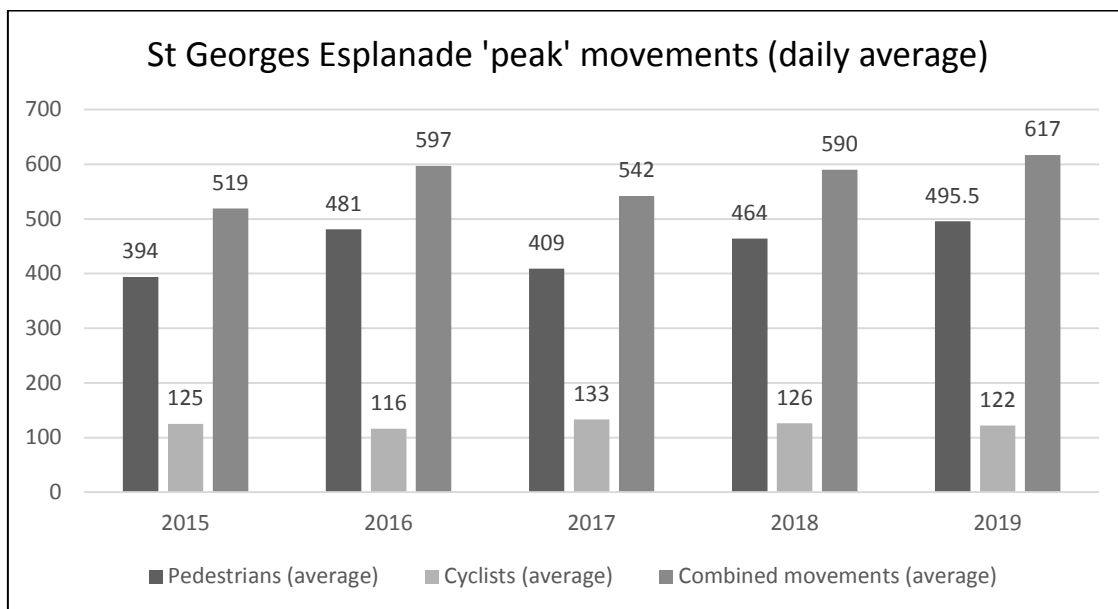
2019	57,366	64,915	122,281	8,583	16,950	7.5	16.1
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Source: Ticketer

- **Walking & Cycling**

Baseline data for walking and cycling is limited to St George's Esplanade, Les Banques and the Baubigny cycle contraflow system. Because of this limitation, accurate analysis of progress towards this objective is difficult, but the increase in active travel we can see from like-for-like comparisons of these existing small data sets is encouraging. Beyond these data, we have some very loose proxies.

Graph 12 – Walking and cycling counts during the morning commute (07:30–09:00)



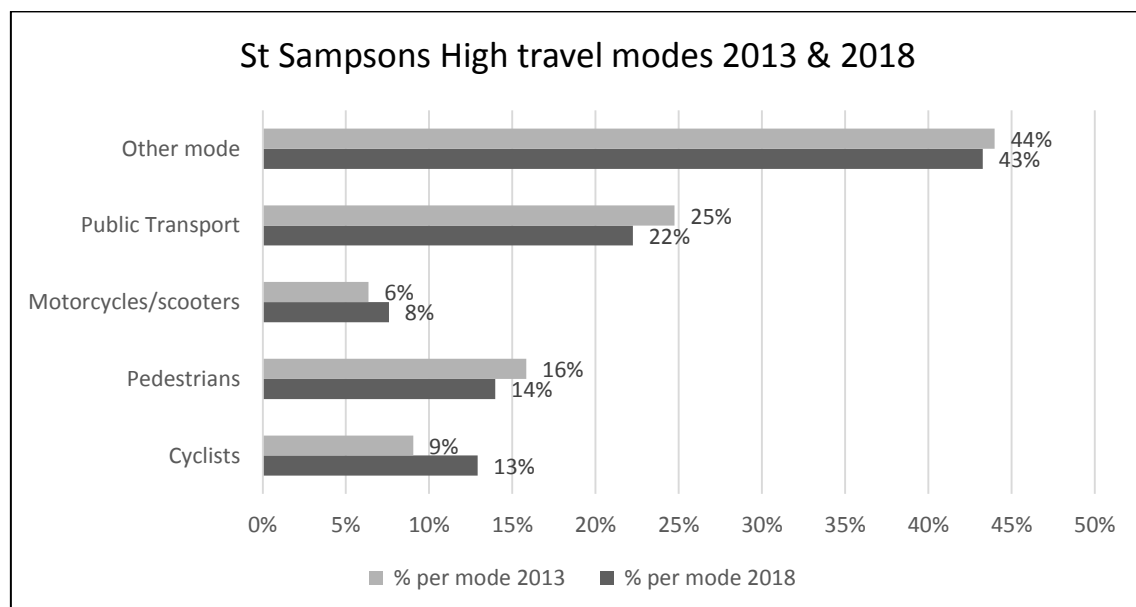
Source: Manual surveys

Counts of people walking along Gategny Esplanade at peak commuter times show that numbers have increased by around 25% when compared to 2015, up from 394 to 495 across the survey period. This increase is largely attributable to more people walking. However, these particular counts include people driving cars who subsequently walk into Town having parked in the Salerie Car Park, so may include an element of 'car sharing' or changes in parking habits.

The number of people cycling appears fairly constant in these limited data, unlike the surveys undertaken in 2013 and 2019 along Les Banques which indicate a potential growth in cycling of up to 48%. This is perhaps more in line with anecdotal evidence from various workplaces which report a marked increase in numbers of people cycling to work over the past five years.

In other areas, modal share for cycles at St Sampson's High School dropped from 23% in 2009 to just 9% in 2013, but had increased to 13% again by 2018. Modal share for walking dropped slightly from 16% in 2013 to 14% in 2018.

Graph 13 – Walking and cycling counts during the morning school commute (07:30–09:00)



Source: Manual surveys

Membership of the Guernsey Bicycle Group, the local organisation for people who ride bikes, was around 1,000 by 2014; by the end of 2018 it was more than 1,830 – an increase of around 80%. Although this is a very loose and highly generalised proxy measurement, it is nonetheless a positive indication that cycling as a mode of transport is growing in popularity in the island.

Bicycle retailers report a general increase in bike sales and a new shop dedicated to e-bikes opened in early 2019. These are both indicators of a growing market.

In April 2018 a total of 387 e-bikes were sold by local retailers as part of an initiative to promote this alternative form of transport in which a 25% discount was offered on all sales. Subsequent surveys of people who purchased an e-bike under this initiative suggested that, on average, each e-bike had been ridden for 683 miles over 12 months. If the average mileage figure is then applied to all of the e-bikes sold under this initiative it would give a total of circa 265,000 miles per annum. Other data collected from these surveys show that 57% of those e-bike journeys mainly replaced car journeys, while 63% of those e-bike owners reported that their e-bike has replaced motor vehicles as their primary mode of transport.

Although we don't have pre-Strategy baseline data to compare, we do have two years' worth of public bicycle stand occupancy data. These show that comparing 2017 with 2018, average bicycle stand occupancy across the 19 public bicycle parking areas increased by 8.9% in the mornings and by 5.9% in the afternoons, although interestingly the afternoon occupancy rates in both years are at least 20% higher than morning occupancy rates.

These factors support the suggestion that more people are travelling by bicycle now than they were at the start of the Strategy.

Conclusions

Bus passenger numbers have increased month on month and year on year since 2014. The States' continued investment in the bus service has paid significant dividends, providing a stable platform on which to develop a reliable, affordable, timely and quality service – all important factors in building passenger confidence. With expected carryings up by nearly 500,000 passenger journeys by the end of 2019 this equates to a potential 1.25 million miles of saved car journeys per annum based on a conservative estimate of each passenger journey averaging 2.5 miles.

Based on Q3, 2019 data, passenger numbers have increased by 24% since 2014, up from 503,697 passengers to 624,847 for the first quarter in just 5 years. Compared to the low of 2013 the increase is 41.7%.

Since 2014, a number of new bus routes have been introduced and frequency increased at peak times on key corridor routes. In addition to the figures quoted above, school bus services (provided by a mix of States and private hire operators) carry an estimated **350,000** students to and from school annually as compared to around 322,000 in 2014. Improving school transport provision is an important element of seeking to address commuter transport congestion.

New bus shelters, free Wi-Fi, a bus real-time information app and the recent introduction of on-bus contactless payments are all helping improve the experience of travelling by public bus.

Feedback from the travelling public and the Bus Users Group confirms that the new fleet has been well received as the new vehicles are considered smarter, narrower, more comfortable and convenient than the ageing fleet they replaced. These improvements all contribute to the quality of the service, which is one of the most important pull factors.

Key positives include:

- **Bus passenger numbers have increased by 32% since 2014 with solid growth in both the commuter peak and the shoulder months;**
- **At the current rate of growth, annual passenger journeys on scheduled bus services should exceed 2.0 million in 2020 (up over 500,000 since 2014);**
- **These 500,000 additional bus journeys may have reduced car journey miles by an estimated 1.25 million per annum on Guernsey roads.**

Although the comparisons for walking and cycling are based on relatively small data sets, the apparent upward trend in active travel commuting is positive given the modest improvements that have so far been made to walking and cycling infrastructure.

The policy of allowing people to ride cycles (carefully) through roads closed to motor traffic has been very well received by the bike-riding community, as has the shared-use path uphill only on Le Val des Terres. Soft measures like these may have helped support the apparent increase in cycling by making travelling by bike feel safer and more convenient.

It is probable that the rising popularity of e-bikes has contributed to the apparent increase in cycling uptake.

The Strategy's 2018 e-bike initiative was very successful in meeting its objectives. 387 new e-bikes were bought by local residents through the scheme and results across a wide range of transport, health and wellbeing outcomes have been very positive and sustained. Over 60% of participants surveyed reported that their e-bike has replaced motor vehicles as their primary mode of transport and 55% have found using an e-bike more convenient than driving. Since the initiative, demand for e-bikes is reported to have gone from strength to strength, with the island's first dedicated e-bike retail outlet opening early in 2019 to meet this sustained increase in demand. This significant degree of modal shift underscores the further potential of e-bikes in achieving the Strategy's Vision.

Another Strategy initiative that has made cycling a more viable transport choice has been the linking up of Ruettes Tranquilles to form a network of routes, promoted through clearer signage, a map and an app. This network makes it easier to avoid main roads and makes cycling more accessible to visitors and to locals, especially those looking for bike-friendly commuter routes. At the end of August 2019, the app had been downloaded 2,561 times.

An on-going programme of cycling infrastructure enhancement has seen the introduction of various other improvements, such as safer crossings, additional cycles stand locations and covered cycle shelters.

Similarly, an ongoing programme of infrastructure enhancement for people travelling on foot (including those in wheelchairs and on scooters etc) has already improved the experience in many areas. Wider footpaths, more and better designed crossings and improved lighting all contribute to greater convenience and safety for people on foot, while the Ruettes

Tranquilles network again has helped people find more pleasant walking routes away from the main roads.

Key positives include:

- **Surveys of people who purchased an e-bike under the subsidy scheme in 2018 indicate a potential combined annual saving on car miles of up to 265,000 miles;**
- **Surveys along the seafront indicate a rise in both cycling and walking during the morning commute.**

Objective:

To achieve a greater proportion of smaller motor vehicles, especially in terms of car widths

Progress

Small cars are popular in Guernsey as they bring many benefits, including fuel efficiency, low emissions, and ease of manoeuvrability on our constrained road network.

However, beyond these inherent benefits, there are only two policy-related incentives to buy a small vehicle: the low (or zero rated) first registration duty and preferential parking. The relative advantage of paying a low first registration duty under the current system (with its maximum charge of £690 for the highest emissions vehicles) is significantly less than it would be in the UK, or indeed than it would have been under the duty originally agreed by the States in 2014, where the maximum charge would have been £5,600 for the largest and highest emissions vehicles.

In order to be classed as a small car in Guernsey, cars need to be less than 3.7m long. There is no width restriction but small cars are usually narrower than 1.7m and are certainly amongst the narrowest in circulation.

Registrations of new small cars in 2018 made up approximately 15% of the overall car market. This is a similar percentage to recent years and reflects

the popularity of this sector of the car market in Guernsey. Overall, the number of small car models currently in production now make up approximately 9% of the car database in Guernsey. This compares favourably to the UK where the figure is just below 4%. However, the fact that the annual percentage has remained stable in recent years indicates that policy measures have not been a major influence in consumer habits.

Conclusions

Small car parking occupancy rates show high demand – although this is in line with most free public parking in Town, so it simply confirms that there are high enough numbers of small cars in circulation to regularly saturate the 139 small car spaces available.

Preferential parking for small vehicles is a soft incentive that is unlikely to have had much (if any) influence over vehicle purchasing habits. It may, though, have had some bearing on the specific vehicle chosen for specific journeys to Town in households where choice exists. Accordingly, any increase in proportion of small and/or narrow vehicles will be due to incidental factors rather than policy levers.

Incidental pull factors include the relative convenience of smaller cars on our narrow roads and lanes, and the fact that smaller cars tend to be lighter, which tend to burn less fuel and therefore cost less to run than a bigger vehicle.

Key positives include:

- **Small cars continue to be popular in Guernsey and make up approximately 15% of annual new car registrations;**
- **Approximately 9% of total cars registered in Guernsey are now small cars, compared to just 4% in the UK.**

Objective:

To achieve a greater proportion of cleaner, low emissions motor vehicles

Progress

Since moving away from motor tax in 2008, there has not been any mechanism by which to collate accurate figures for vehicles in circulation on the island's roads. However, by analysing annual registrations and de-registrations since motor tax was abolished, the total figure of 84,327 motor vehicles officially registered as at the end of 2018 can be reduced to an estimated 61,300 vehicles in active use in the following categories:

Cars – 45,400;

Commercial vehicles – 8,200;

Motorcycles – 7,700.

The Strategy's first registration duty¹² is based on CO2 emissions but, unlike the UK and many other jurisdictions, there is no active incentive (i.e. subsidy) for zero emissions vehicles. The quantum of the charge for high emissions vehicles is typically a very small proportion of the total cost of the vehicle. Accordingly, despite a continuing reduction in annual vehicle registrations and environmental improvements and fuel efficiencies being made in combustion engine design, revenue from first registration duty has remained fairly constant and for 2019 has already exceeded the sums raised in both 2017 and 2018.

Income from first registration duty since its introduction on 1st May 2015:

2016 - £634,070 (from 01/05/16);

2017 - £1,193,780;

2018 - £1,162,255;

2019 - £1,180,120 (up to 16/12/19)

¹² See Appendix 13

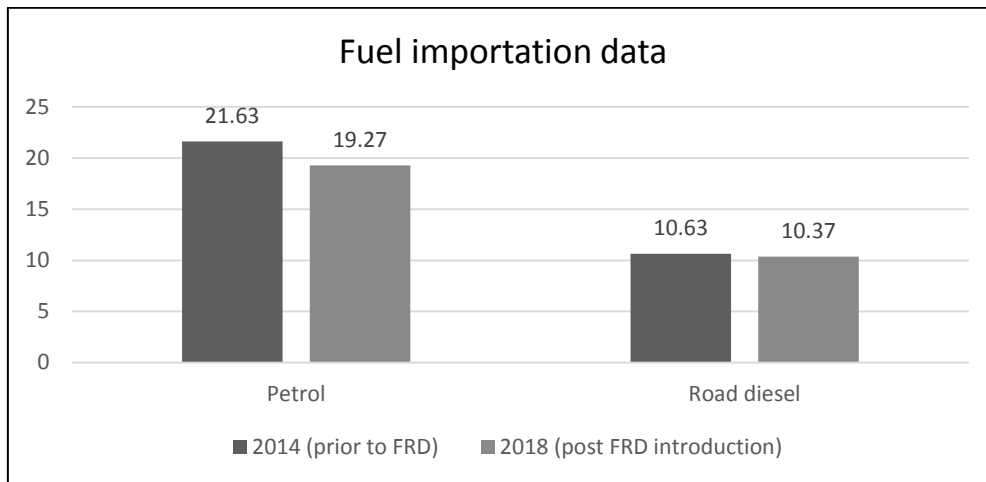
Looking more closely at first registration duty income it is clear that the current rates are having no impact on the number of higher emissions vehicles being registered in Guernsey. For example, the number of diesel vehicles registered in the highest emissions bracket (over 141 g/km) between 1 January and 19 December 2019 is 7.7% higher than it was at the same point last year (392 vehicles versus 364 in 2018). The position is the same for petrol cars registered in the highest emissions bracket (over 166 g/km) where the number has risen by 12.4% in the same period (371 vehicles versus 330 in 2018). This contrasts with the overall position where the total number of cars being registered annually continues to fall.

These high emissions vehicles are likely to be larger models such as Sport Utility Vehicles (SUVs), which typically consume around a quarter more energy than a medium-sized car. This reflects a growing trend of rising SUV sales internationally, which threatens to cancel out the emissions reductions from improved fuel efficiency in smaller cars and increasing EV numbers. In fact, according to the International Energy Agency¹³, SUVs have been the second-biggest cause of the rise of global CO2 emissions over the last decade, behind only the power sector and ahead of heavy industry, heavy goods vehicles and aviation.

Fossil fuel consumption for road transport is falling gradually, in line with trends in other jurisdictions, as newer, more fuel-efficient passenger cars replace older models. There is a direct correlation between fuel consumption and carbon emissions, so this gradual decrease is evidence that the island's fleet as a whole is generating fewer emissions.

¹³ Growing Preference for SUVs Challenges Emissions Reductions in Passenger Car Market, Laura Cozzi & Apostolos Petropoulos, International Energy Agency, October 2019.

Graph 14 – Fuel import analysis for petrol and road diesel

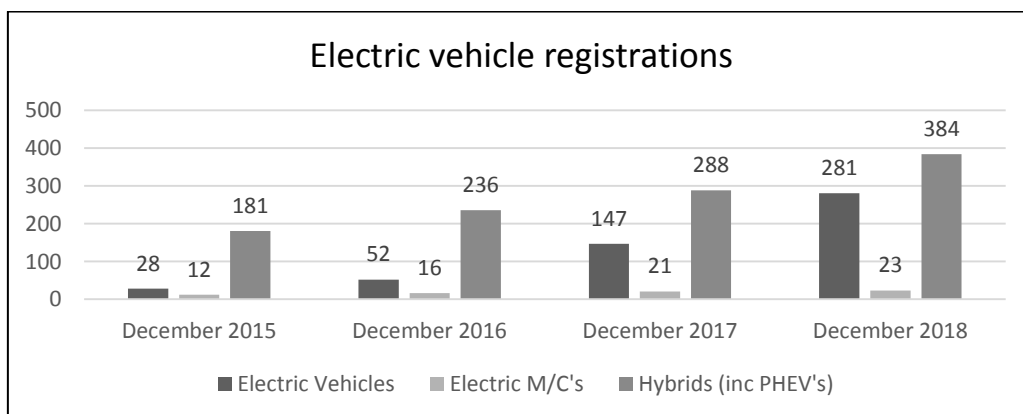


Source: Guernsey Facts & Figures Booklet

Baseline greenhouse gas emissions data shows emissions from transport-related fuel consumption in Kilotonnes of CO₂ equivalent as 117.6 in 2013, 117.3 in 2014, 115.5 in 2015 and 114.1 in 2016: a downward trend that mirrors increasing fuel efficiency and the transition to electric vehicles (EVs).

Registrations of EVs in Guernsey continue to grow, and whilst they still represent less than 1% of the estimated total number of car and light vans currently in circulation on Guernsey's roads, electric vehicles are now accounting for around 3.7% of new registrations annually. EVs and alternative fuel vehicles together account for around 7% of the total number of annual registrations.

Graph 15 – Electric/Hybrid vehicle registrations

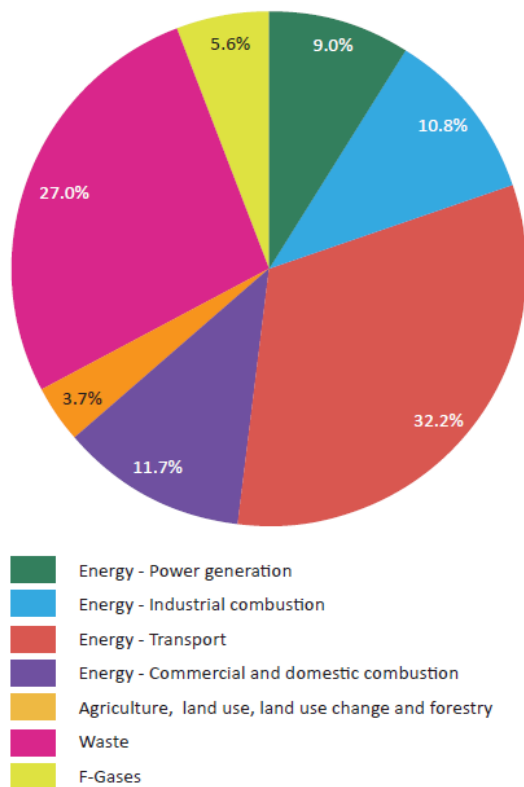


Source: Driver and Vehicle Licensing database

The number of EVs has continued to rise in 2019, with a total of 384 vehicles registered by 30 September, an increase of more than 100 vehicles compared with the start of the year. The overall number of hybrid cars registered has also increased by a similar amount in 2019, up 89 to 473 at 30 September. The number of electric motorcycles has more than doubled from 22 to 46 in the last nine months, with the introduction of a number of new models to the market this year.

Notwithstanding this, in global terms progress towards this objective is slow. The most recent greenhouse gas emissions data available show that transport is responsible for the biggest proportion of Guernsey’s emissions – over a third of the total. In 2017, transport contributed 32.2% of the total greenhouse gas emissions, as illustrated in Graph 16.

Graph 16 – Greenhouse gas emissions data
Figure 3.1.2 Percentage contribution of emissions by source 2017



Source: States of Guernsey Facts & Figures 2019

In terms of licensed public transport operations, there has been a notable switch to alternative fuelled vehicles in the taxi industry, with some 34 hybrid vehicles now in regular use in a fleet of 125 taxis. This equates to approximately 850,000 miles per annum driven by hybrid taxis.

The Committee has recently replaced 33 of its Euro 3 diesel buses with 34 new Euro 6 Ultra-low emission StreetVibe buses (ULEBs). This has resulted in reductions in emissions of the most harmful pollutants, Nitric Oxide and Particulate Matter, by as much as 98% and 90% respectively. For comparison, 50 of the new Euro 6 buses emit the same levels of Nitric Oxide between them as just one Euro 3 bus. The following table provides a comparison between the emissions of a Euro 3 Dennis Dart and our new Euro 6 StreetVibes.

Table 11 – Comparison of emissions data for public buses

Emissions	Euro III (g/KWh)	Euro VI (g/KWh)	% change
Nitrogen Oxide (NOx)	5.0	0.01	-98%
Particulates (PM)	0.1	0.01	-90%
Carbon Monoxide (CO)	2.1	1.5	-29%
Hydrocarbons (HC)	0.66	0.13	-80%

Source: Official EU emissions data

Cgon units (now called Atmosclear) have been fitted to the remaining eight Euro 3 diesel buses in order to reduce emissions further. Initial indications show a reduction in both fuel consumption and emissions on these vehicles. Overall emissions of the bus fleet are now a small fraction of what they were just three years ago.

Conclusions

Although there is nominally a policy mechanism to encourage a switch towards lower emissions vehicles through the first registration duty, which is based on CO₂ emissions, the duty is set at a rate that is unlikely to influence consumer behaviour.

Guernsey's duty is also a one-off cost, typically considered part of the purchase cost for people buying a new vehicle. The top band for the most polluting vehicles is just £690. The UK equivalent (in common with many other jurisdictions) is not a one-off cost: vehicle excise duty is payable in each of the first six years after registration.

The top band for the most polluting vehicles in the UK is £2,000 in the first year, then either £140 or £450 (depending on the value of the vehicle) per year for the next five years. The total duty over six years is therefore between £2,700 and £4,250 for very high emissions vehicles. The higher one-off cost on top of annually recurring charges are more likely to influence consumer choice than a lower one-off charge.

It is unsurprising, then, that there has been no significant change in purchasing habits towards lower emissions vehicles since first registration duty was introduced in 2016. Indeed, the notable increase of vehicles in the highest emissions bracket is evidence that the first registration duty is not at all effective in that respect.

The rise in numbers of electric and hybrid vehicles in the last three years has been steep, but it started at a very low base: EVs are still only a tiny fraction of the island's vehicle numbers overall.

EVs have a growing share of the market internationally, driven by government subsidies and investment into research and development by manufacturers. EV market share in Guernsey is well behind that of other jurisdictions¹⁴: it is less than half that of the UK, where EVs represent 1.86% of the market, and many orders of magnitude smaller than Norway, where EVs have a 39.2% market share.

As there is no subsidy for electric vehicles in Guernsey, the move towards them is likely to be influenced by a number of external factors. As the EV market matures there is a greater range of choice and availability, including in the second-hand market (in which EVs are much closer to cost parity with internal combustion engine vehicles).

¹⁴ December – EV Registrations, Society of Motor Manufacturers and Traders, May 2018

Environmental considerations influence the purchasing decisions of some Guernsey consumers, as do running costs. Because the only taxes levied on vehicles in Guernsey are first registration duty (which is zero-rated for EVs)

and fuel duty, because electricity is a far cheaper form of fuel than petrol or diesel (largely because it is not taxed) and because EVs typically require less maintenance, it costs significantly less to run an EV compared with an ICEV.

These pull factors help to explain the rise in EV numbers locally, while the absence of a subsidy helps to explain why that rise hasn't been greater. External market forces seem to be driving the majority of progress towards meeting this Strategy objective.

Key positives include:

- **A 14-fold increase in the number of electric cars and a 4-fold increase in the number of electric motorcycles;**
- **Over 25% of the local taxi fleet is now hybrid;**
- **A significant reduction in annual emissions from the States owned public bus fleet.**

Objective:

To improve safety for all road users, particularly vulnerable road users

Progress

Road safety can be measured in two ways: by the objective facts relating to data such as collisions and injuries, driven speeds etc, and by people's perception of safety. Both are valid and relevant. There is often a mismatch between the two.

The objective data show us that Guernsey is a safe place to travel, with few deaths and serious injuries resulting from road harm, both in absolute and relative terms. Notwithstanding this fact, it is important to acknowledge that every death or serious injury has a significant impact on these individuals and their loved ones. Not all road traffic collisions are reported to Guernsey Police, so injury data (especially for minor injuries) are likely to be inaccurate. A UK report¹⁵ concluded that "injuries sustained on Britain's roads may be around five times more common than police injury statistics suggest."

Three of the top roads for reported collisions in Guernsey are St Julian's Avenue, South Esplanade and Collings Road. Collisions are more likely in areas where there are high volumes of motorised and non-motorised transport modes mixed.

Collision data recorded in Guernsey between 2014 and 2018 as compared with the UK and Jersey is shown in Tables 12 to 16.

¹⁵ Road Injuries in the National Travel Survey: Under-Reporting and Inequalities in Injury Risk, Dr Rachel Aldred, 2018.

Tables 12-16 – Collision reports involving injury

Table 12 - Recorded Collision Data for 2014						
Jurisdiction	Deaths	Per 100,000	Serious injury	Per 100,000	Slight injury	Per 100,000
UK	1,775	3	22,807	35	169,895	264
Jersey	1	1	50	50	326	323
Guernsey	0	0	11	18	145	233

Table 13 - Recorded Collision Data for 2015						
Jurisdiction	Deaths	Per 100,000	Serious injury	Per 100,000	Slight injury	Per 100,000
UK	1,732	3	22,137	34	162,340	247
Jersey	0	0	66	65	257	255
Guernsey	1	1	10	16	88	141

Table 14 - Recorded Collision Data for 2016						
Jurisdiction	Deaths	Per 100,000	Serious injury	Per 100,000	Slight injury	Per 100,000
UK	1,792	3	24,101	37	155,491	237
Jersey	2	2	69	66	244	234
Guernsey	0	0	9	15	133	214

Table 15 - Recorded Collision Data for 2017						
Jurisdiction	Deaths	Per 100,000	Serious injury	Per 100,000	Slight injury	Per 100,000
UK	1,793	3	24,831	38	146,162	221
Jersey	1	1	55	52	221	209
Guernsey	2	3	18	29	101	163

Table 16 - Recorded Collision Data for 2018						
Jurisdiction	Deaths	Per 100,000	Serious injury	Per 100,000	Slight injury	Per 100,000
UK	1,782	3	25,484	38	134,894	203
Jersey	N/A ¹		N/A ¹		N/A ¹	
Guernsey	0	0	7	11	119	190

¹Data unavailable at the time of going to print

Source: Department for Transport – Reported road casualties in GB: 2014-2018 Annual Reports & Guernsey and Jersey Police Accident statistics

Subjective data shows that people can feel vulnerable walking or cycling in Guernsey and that the size, width, volume and perceived speed of vehicles are a concern to many.

If the rise in high emissions vehicles identified through first registration duty equates to a greater number of SUVs on Guernsey's roads, this will have implications with respect to this objective. SUVs have a disproportionately negative impact on road safety compared with other personal motor vehicles. A range of factors including their height, weight, shape, rigidity and headlight line combine to make SUVs significantly riskier to all road users, including their own occupants, people in passenger cars with good safety standards, and especially people who are not inside a vehicle. Once SUVs establish a foothold in a market, sales tend to increase sharply. Economist Michelle White describes this phenomenon as an "arms race"¹⁶: as more SUVs appear on the roads, people in passenger cars feel increasingly vulnerable and are more likely to switch to an SUV, strengthening the feedback loop.

First registration duty data suggest this pattern could exist in Guernsey. It seems probable that we have both a relatively high percentage of small cars and, conversely, a growing proportion of large vehicles.

'Vulnerable road users' is the broad term given to people using non-motorised forms of transport – so people who are walking, riding a bike, travelling in a wheelchair or mobility scooter or being pushed in a buggy, for instance. The most fundamental form of vulnerability is that of the human body to withstand force: people using non-motorised forms of transport are therefore put at much greater risk by people using faster moving, heavier vehicles. The heavier the vehicle and the faster it is travelling, the greater the responsibility of the person in control of it for other road users' safety.

¹⁶ The "Arms Race" on American Roads: The Effect of Sport Utility Vehicles and Pickup Trucks on Traffic Safety, Michelle White, University of California, San Diego, 2004.

Some groups of road users are inherently more vulnerable than others. People over the age of 65 are significantly more susceptible to injury than other age groups in the event of a collision¹⁷ (both inside and outside a vehicle), for example, and primary school-aged children cannot accurately judge the speed of vehicles travelling over 20mph¹⁸ so are at greater risk than adults in that respect. People with visual or hearing impairments, as well as people with limited mobility, are also at greater risk of being involved in a collision.

Traffic volumes are another key risk factor: vehicular traffic presents a risk to all road users, so reducing the number of motorised vehicles (which pose the highest risk) improves road safety for everyone. Even regardless of traffic volumes, though, increasing numbers of people walking and cycling also has a positive impact because of a phenomenon known as the safety-in-numbers effect¹⁹. In other words, the more people that walk or ride a bike, the safer each will be, even where traffic volumes don't drop. However, the combination of reduced traffic volumes and increased active travel is optimal: a modal shift from motorised vehicles to non-motorised forms of transport makes travelling less risky for everyone.

The safe system approach is based on the principle that death or serious injury on our roads is never acceptable: it takes a holistic view of the transport system (i.e. interactions between road users, roads and roadsides, vehicles and vehicle speeds) to minimise the likelihood of anyone getting hurt on our roads and to minimise the severity of any collisions that do occur. The safe system approach is proven to be a very effective form of road safety management, which is why both the World Health Organisation²⁰ and the Organisation for Economic Cooperation and Development²¹ (among others) recommend that all countries implement

¹⁷ Road Traffic Injuries in the Elderly, W Y Yee, P A Cameron, M J Bailey, Emergency Medicine Journal, Volume 23, Issue 1, April 2006

¹⁸ Reduced Sensitivity to Visual Looming Inflates the Risk Posed by Speeding Vehicles When Children Try to Cross the Road, John P Wann, Damian R Poulter, Catherine Purcell, Psychological Science, Volume 22, Issue 4, April 2011

¹⁹ Safety-in-numbers: A Systematic Review and Meta-Analysis of Evidence, Rune Elvik, Torkel Bjørnskau, Safety Science, Volume 92, February 2017

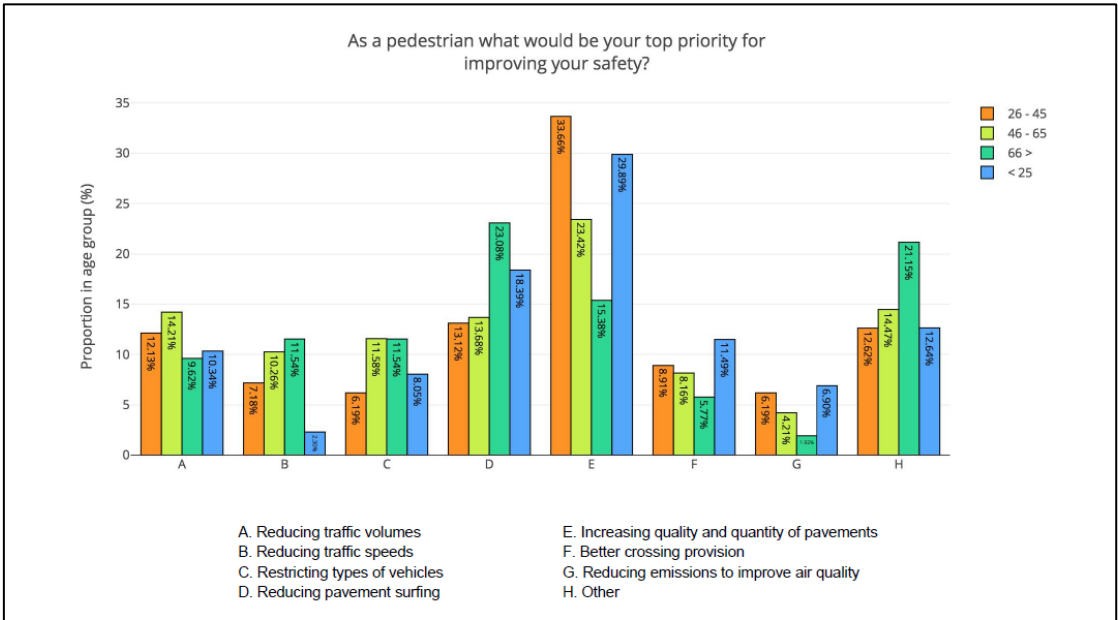
²⁰ Global Plan for the Decade of Action for Road Safety 2011-2020, United Nations Road Safety Collaboration, March 2010

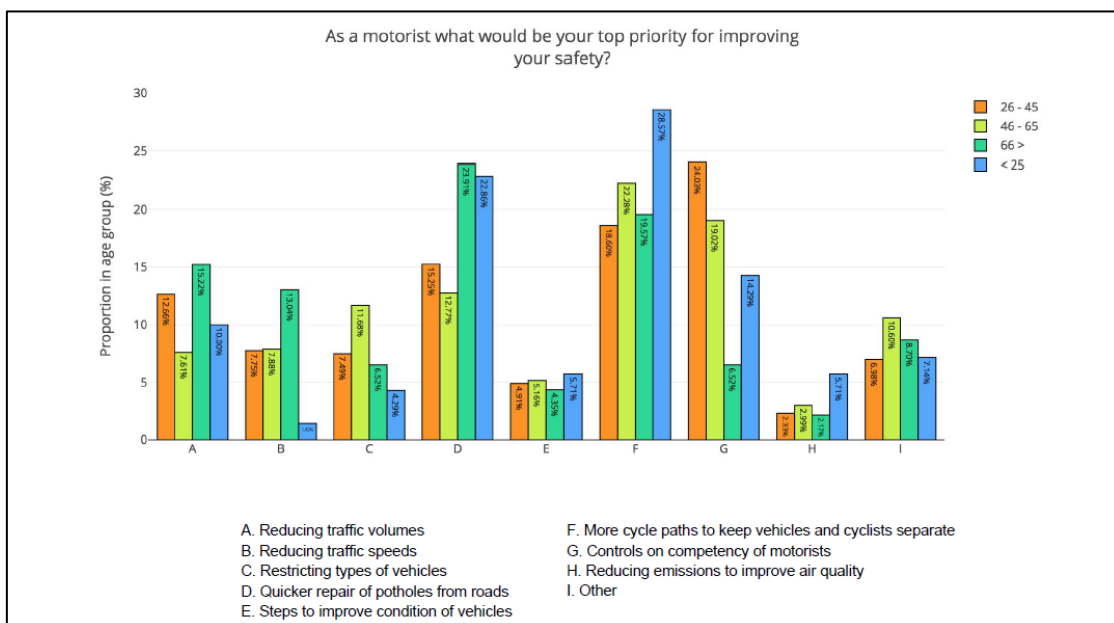
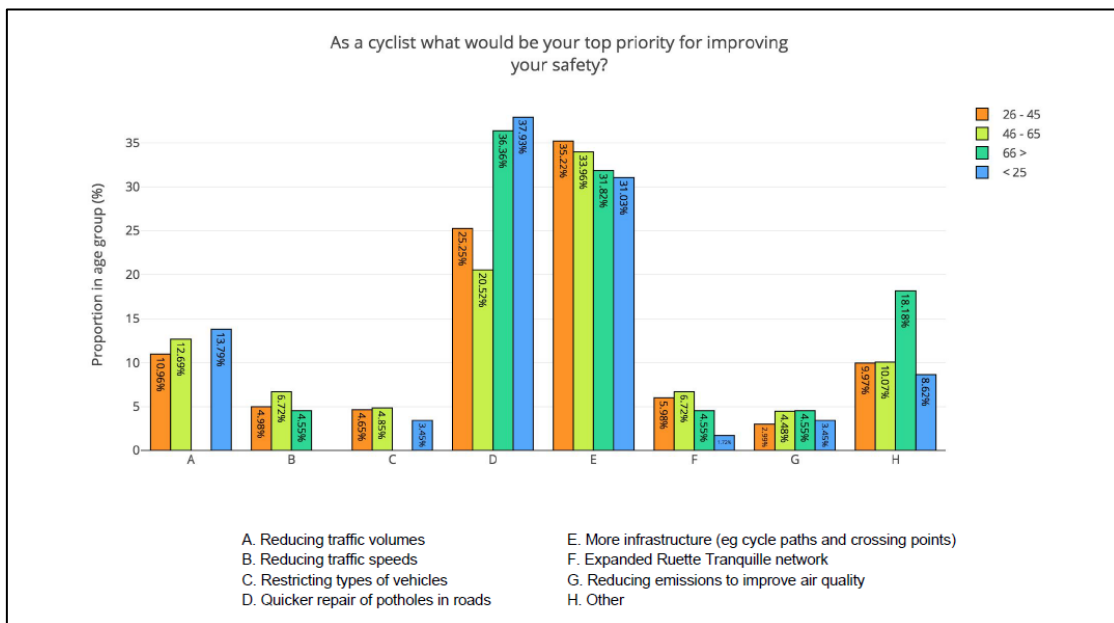
²¹ Towards Zero: Ambitious Road Safety Targets and the Safe System Approach, Joint Transport Research Centre for the OECD and the International Transport Forum, January 2008

it. The safe system approach also aligns with broader social, economic and environmental goals, such as more vibrant and accessible town centres, increases in physical activity and reductions in congestion and pollution.

The safe system approach recommends that speed limits should be ‘self-explaining’ (or ‘self-enforcing’ as it’s sometimes known) as far as possible. Studies show that zones are usually the most effective and reliable way to reduce speed in small areas, especially where the road geometry is adjusted, for example making traffic lanes narrower and less straight, introducing physical calming measures such as speed cushions, and using visual cues such as different textiles and clear signage.

Graphs 17-19: Apptivism survey – headline results





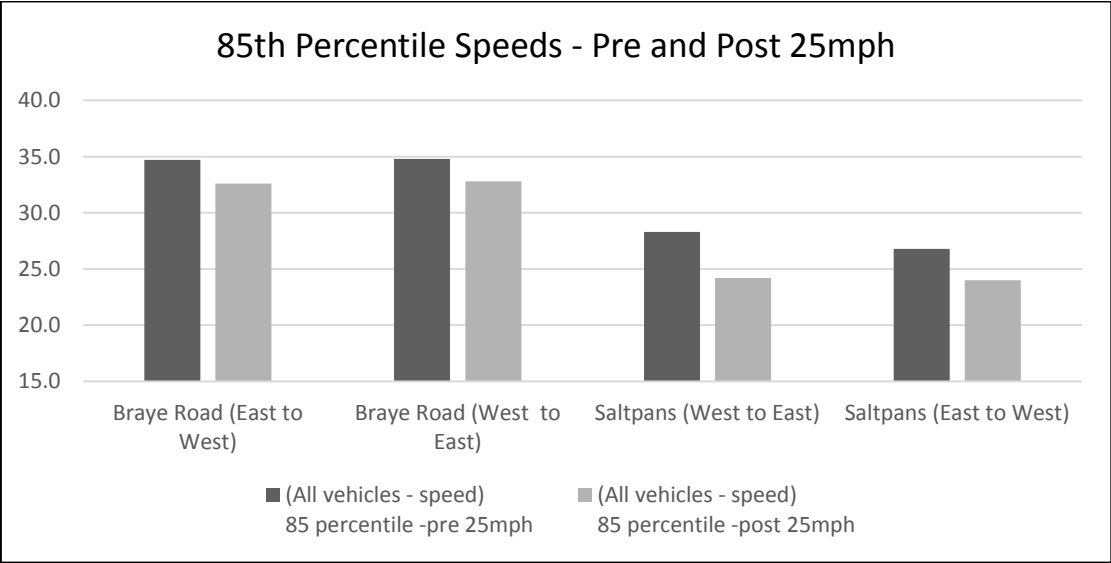
The universal priority across all three categories of road user in terms of safety was improved infrastructure, primarily in relation to the creation of more dedicated space for walking and cycling, but also in respect of highway maintenance. People who walk or drive also prioritised driver education/competency in their top three responses. Volumes of traffic and traffic speed were also identified.

A number of infrastructure projects relating to the provision of new pavements and improving existing shared facilities have been initiated. Measures have also been taken to address driver speeds. Phase 1 of the speed limit review better aligned busy community hubs with lower speed limits, following the principles of the safe system approach. Four new 25mph zones were created around local centres and a school, while the boundaries of five existing 25mph zones were adjusted to reflect development.

Initial results of speed surveys undertaken during peak hours before and after the changes were implemented show that average speeds (the sum of each vehicle speed divided by the total number of vehicles observed) have reduced by as much as 3.6mph, and 85th percentile speeds (the speed at or below which 85% of all vehicles are observed to travel) have reduced by as much as 4.3mph.

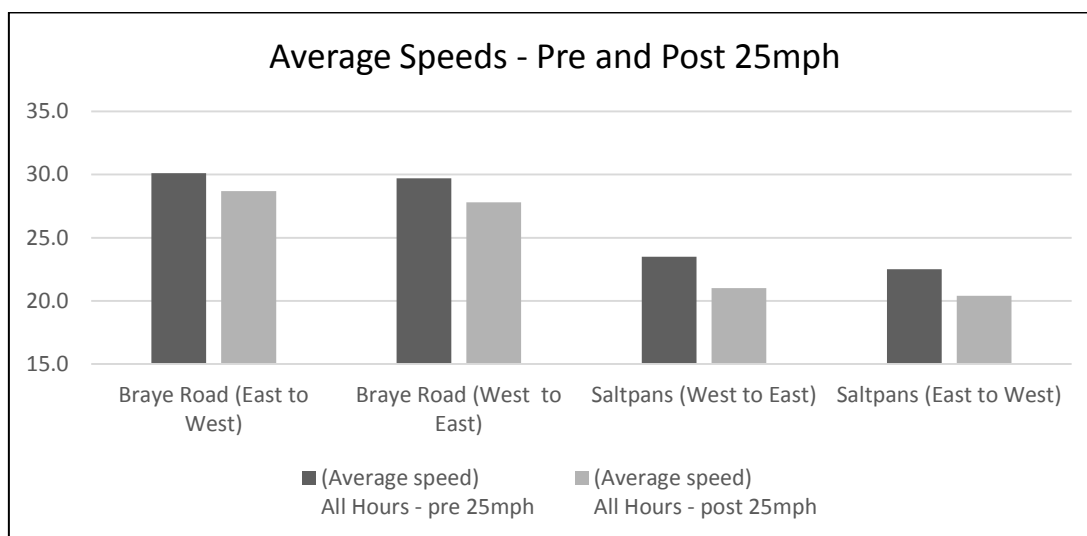
In Braye Road, for example, average speeds during peak hours have reduced from 29.5mph to 27.8mph in a westbound direction, and from 28.3mph to 26.3mph in an eastbound direction. In Saltpans, average speeds during peak hours have reduced from 23.1mph to 20.0mph in a westbound direction and from 24.4mph to 20.8mph in an eastbound direction.

Graph 20 - Analysis of 85th Percentile traffic speeds in Braye Road and Saltpans



Source: Traffic counters

Graph 21 - Analysis of Average traffic speeds in Braye Road and Salt pans



Source: Traffic counters

These decreases in speed are encouraging, particularly considering that no traffic calming measures have been introduced at this time. For each 1mph decrease there is an approximate 4 to 5% reduction in the likelihood of serious injury or death being caused in the event of an accident with a vulnerable road user.

Historical data show that there is a statistically significant increase in walking and cycling associated with similar speed limit decreases in equivalent local areas in the UK²². It is reasonable to expect to see a similar effect in Guernsey.

Most of the current 25mph limits in Guernsey are part of zones (as opposed to limits for individual roads) and the use of roundels at key entry points helps to emphasise the parameters of the zone. Other measures have been used sparingly to date. One example is at the Longfrie where data showed that average speeds into the St Pierre du Bois 25mph zone from the west along La Route du Longfrie were excessive, even after the introduction of a filter at the junction at the crossroads (which was introduced primarily for traffic flow reasons but did have a measurable traffic calming effect). A raised table has now been built at the junction,

²² 20mph Research Study: Process & Impact Evaluation Headline Report, Atkins, AECOM and Professor Mike Maher (UCL), November 2018

both to slow traffic speed going into the St Pierre du Bois 25mph zone and to help vehicles turning onto La Route du Longfrie.

A watching brief is being kept on the other 25mph zones so that appropriate measures can be trialled and/or implemented if speed limits are not proving to be sufficiently self-explaining.

Bikeability training has been rolled out to all States primary schools and is proving popular. Programmes delivered in conjunction with the emergency services educate those in secondary school on the dangers of speeding and other forms of dangerous driving. Other ongoing programmes of walking and cycling infrastructure enhancements are improving safety for vulnerable road users. However, a network is only as strong as its weakest link, so the cohesion of walking and cycling routes is an important factor.

Conclusions

There are still many key roads in Guernsey (even within some local centres) that do not have adequate – or any – footpaths, or adequate safe crossing points. Footpaths have been widened and new crossings introduced in a number of locations, including features such as dropped kerbs and blister paving to assist people with disabilities. However, many footpaths are still too narrow for people to pass each other without stepping into the carriageway and there are still many key walking routes that are interrupted by a lack of safe crossing points. Some proposed crossings (such as on Rue Poudreuse) have not been progressed as planned as they require the permission of private landowners, which has been withheld.

There are currently only two sections of separated cycling infrastructure in Guernsey, one in Baubigny and the other being the principal cycle route along the eastern seaboard. Some improvements have been made to the eastern seaboard cycle path: access and egress to/from Bulwer Avenue in the north has been made safer, as has the junction with Salerie car park. Further improvements are planned to signs and lines, access to Victoria Avenue and in relation to the various bus laybys that intersect the cycle

route along the eastern seaboard at given points. Improving access to and from the path at the Weighbridge/North Beach was identified as a priority in an independent report in 2015, but progress has been frustratingly slow. The creation of a separate bus/taxi lane along part of the seafront would help to circumvent the safety issues presented by bus laybys cutting into the cycle path.

The provision of separated footpaths and cycle paths is far safer than mixing people travelling on foot or by bike with motorised transport, and the few areas that exist in the island are well used. However, notwithstanding the modest improvements in recent years, Guernsey's separated cycling infrastructure is not high quality compared with provision in other places.

Separated infrastructure in combination with one-way systems will need to be introduced if meaningful changes are going to be made.

Working alongside the Committee *for* Education, Sport & Culture, Travel Plans are being introduced at the two proposed new school sites and work is ongoing on the introduction of Travel Plans at other schools.

Key positives include:

- **Bikeability training is now being delivered across all States primary schools;**
- **A reduction in average and 85th percentile speeds has been achieved in areas where there is potential for greater conflict between motor vehicles and vulnerable road users;**
- **New pavements and other safety improvements have been introduced in a variety of locations.**

Objective:

To improve transport accessibility for all members of the community, particularly non-drivers and those with disabilities or on low incomes

Progress

Being able to access transport and then reach an intended destination is fundamental to a functioning society. It can be precluded by poor road infrastructure or poor provision of appropriate options. In line with the aims of the Strategy, specific consideration is now given to including improved facilities for vulnerable road users, including people with mobility or other disabilities that might impact their ability to get from A to B, when designing planned road resurfacing projects. Most usually this involves the inclusion of dropped kerbs and tactile paving at road junctions but can also include the provision of new or widened pavements, improved bus waiting facilities and either controlled or uncontrolled (informal) crossing points to assist people walking to cross the road in a safer environment. Recent examples where accessibility standards have been improved include works undertaken at L'Erée, Les Gravées, Ruettes Brayes and South Esplanade.

In recent years the number, location and design of disability parking spaces in public areas have been improved with emphasis on ensuring sufficient availability, proximity to amenities and ease of access to/egress from vehicles.

Priority is also being given to improving accessibility to, from and within community areas, as the value of providing improved accessibility is only as good as the weakest link. More recent achievements in this regard include improvements in Market Street, Le Truchot, at the bottom of Cornet Street and at the Town Church. Church Square, the High Street and Le Pollet have been identified as priorities for accessibility improvements.

In terms of public transport, all of our buses have been wheelchair accessible since 2003 and, more recently, with the introduction of a new fleet of buses we have introduced a passenger announcement system

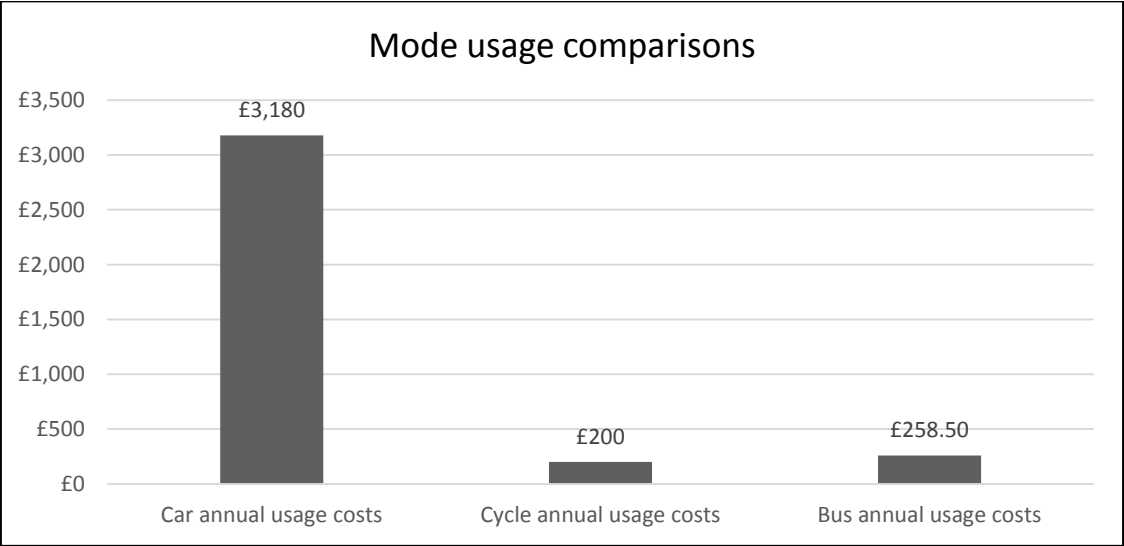
which provides both visual and audio prompts as to where and when to alight the vehicle. Disability awareness training has been undertaken by all scheduled bus service drivers and has also been offered to taxi drivers. In 2018, a new “Access Card” was introduced on all scheduled bus services. The cards can be shown to bus drivers to help them identify the person’s disability or condition so they can be offered additional support if required. Approximately 500 cards have been issued to people with a wide range of disabilities or health-related issues.

Four new wheelchair-accessible taxi plates have been issued in a new accessibility category and the Committee *for the* Environment and Infrastructure can also license an additional four accessible taxi plates if demand outstrips the service provision.

The importance of public transport as a social service should not be underestimated. In this regard it needs to be accessible and affordable, have good network coverage and be timely and reliable.

Financial accessibility to transport is another key consideration.

Graph 22 - Affordability – cost of transport – per mode



These figures are based on:

- Bus fares previously charged at 55p per Puffin Pass x 470 journeys per annum = £258.50 per year.
- Cycle ownership being the purchase cost divided by 10 (years of ownership) + estimated annual maintenance @ £50 per annum Therefore: £1,500/10=£150+£50 = £200 per year.
- Car ownership being the purchase cost (say £17,000 or £1,700 per annum over 10 years), Fuel Use (6,000 miles per annum based on 40mpg = 150 gallons/682.5 litres @£1.35 = £920) plus insurance @£260 and servicing/maintenance @£300 = £3,180 per year.

This analysis shows that for someone earning approximately £30,000 per annum, car ownership would account for 10% of their salary.

However, comparisons with the UK and Jersey show that the cost of running a car in Guernsey is relatively cheap, primarily because of the absence of consumption taxes.

Table 17 – Estimated cost of running a car in Guernsey. Jersey and the UK

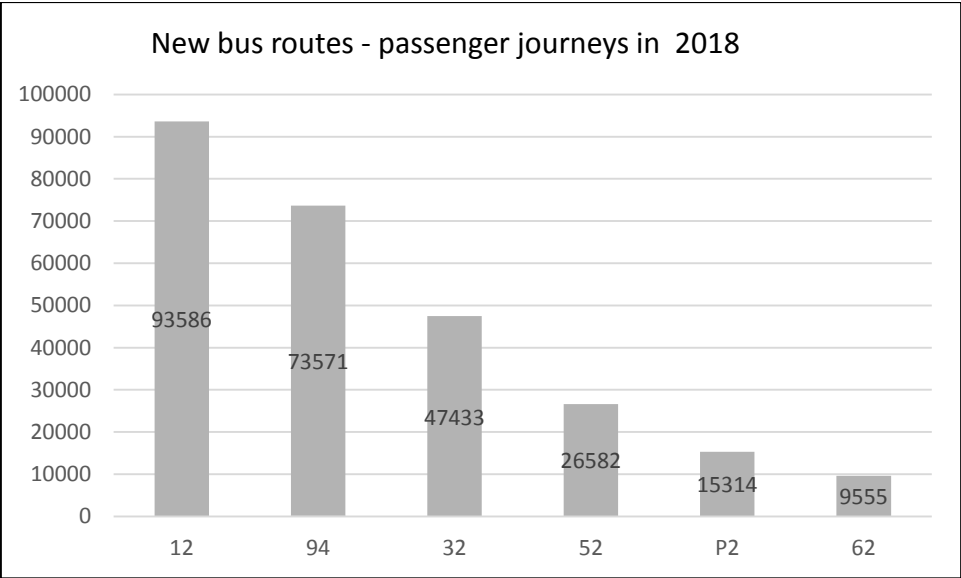
	Guernsey £	Jersey £	UK £
Annual:			
Fuel Duty	438	313	377
Vehicle Tax	-	-	140
Consumption tax on fuel and insurance	-	34	182
Parking and roadworthiness test	-	125	102
TOTAL ANNUAL COSTS	438	472	801
One off costs:			
First registration	150	268	220
Consumption tax on purchase	-	801	3,204
TOTAL ONE OFF COSTS	150	1,069	3,424

Source: Policy & Resources Committee – Taxation of Motoring Policy Letter

Over a five-year period, the average annual costs would be £468 in Guernsey, £686 in Jersey and £1,486 in the UK.

The Scheduled bus service network offers a comprehensive island-wide service with a minimum frequency of 30mins at peak times on all routes. With approaching 2 million passenger journeys on the network every year, the service has become an important and integral part of society and none more so than for non-drivers, those on low incomes or those with disabilities. New scheduled bus routes introduced since 2014 include Routes P2, 12, 32, 52, 60 and 94. In 2018 these routes facilitated a total of just under 127,000 passenger journeys.

Graph 23 – Passenger journeys on new bus routes during 2018



Source: Ticketer

Fares have been maintained at an affordable level, with the flat rate for a single journey capped at £1 and cheaper multi-buy fares available with a Puffin Pass. Fare-free concessions for children, students and over 65s ensure there is no financial barrier to bus use for those groups. By comparison with Jersey and the UK, the Guernsey scheduled and school services are more affordable and financially more accessible for people on low incomes.

School buses also have an important role to play: they currently complete some 350,000 student transfers per year, using a mix of States owned and private hire vehicles. Since 2014, new school bus services have been introduced at Castel, Grammar, St Martin and Les Beaucamps schools.

Conclusions

Significant incremental improvements are being made to our road infrastructure to improve accessibility but this is a long-term objective and will take time to complete.

Using the public bus service represents a viable and cost effective alternative to car ownership and, for some, is the only form of transport that they can afford. Using a taxi at times when buses aren't available or to reach bespoke destinations is a viable option for many. Both forms of public transport have seen further improvements in accessibility provisions for people with a physical disability.

Key positives include:

- **An affordable, timely and fully accessible public bus service;**
- **Provision of wheelchair accessible taxis;**
- **Completion of a review of disabled parking provision and updating of parking space design;**
- **Continued improvements to road infrastructure to support accessibility.**

Objective:

To improve the public realm, particularly in the main centres

Progress

Public realm enhancements in Market Street were completed in May 2019 and have transformed the area into a vibrant and attractive place to be. Similar proposals for the North Plantation are at an advanced stage of planning.

In each area, vehicle movements are restricted, the road resurfaced and the surrounding aesthetics improved to make it more welcoming to people to move around on foot and to spend time there – for example by facilitating al fresco dining or socialising.

Some high footfall areas of old flagstone pavement in Town become so smooth over time that they are slippery in wet weather. Several of these areas of paving such as the Pier Steps and St James Street have been regenerated to restore their grip and make them safer to walk on.

The first two major public realm projects have taken a long time to get through the concept, design and planning phases, largely because of the different stakeholders involved. However, the results in Market Street show the benefits that can be achieved.

Conclusions

Market Street is an excellent example of how a previous tarmacadam road can be transformed into something far more practical from an accessibility perspective and aesthetically pleasing on the eye.

More subtle changes being implemented at South Esplanade and La Vallette have had similar results and the next project will see a more ambitious resurfacing scheme being undertaken at North Plantation.

Further schemes of this nature will increase the potential for the businesses in the locality to grow their revenue from improved customer dwell time, as well as enhancing the general look, feel and ambience of Town. Other more ambitious areas for enhancement include the High Street, Church Square and the Lower Pollet.

Key positives include:

Noticeable improvements in the visual appearance of parts of Town providing improved opportunities for businesses to attract customers.

CLOSING SUMMARY

Despite the absence of several key policy mechanisms (for example, paid long-stay parking, a free bus service and a first registration duty based on width as well as emissions), there has been some notable progress towards the Strategy's objectives.

There has been a modest reduction in the number of car journeys, including solo-occupancy trips, reducing peak hour traffic by around 5% against a loose target of 10%.

There has been a significant increase in the number of journeys made by alternative forms of transport. In terms of active travel, small data sets and broader proxies suggest an increase in people walking – possibly by about 25% – and in people riding bikes – possibly by about 50%. These increases would not meet the original idealised target of doubling active travel numbers, but nonetheless represent a positive improvement since the introduction of the Strategy. Bus use has been very strong with significant growth, increasing year on year since 2013, now totalling nearly 42% above that baseline.

While the overall proportion of smaller cars on the vehicle register continues to increase, as per the Strategy's objective, the annual percentage of small car registrations has remained at or around 15% for the last five years. There is neither any mechanism to specifically encourage nor any data set to easily quantify the change in proportion of narrow vehicles, but it is unlikely that there will have been any significant change in this respect either.

There has been some notable growth in the uptake of cleaner, low emissions motor vehicles, with EV registrations rising around 14-fold from a very low base at the start of the Strategy. In total numbers, however, they still represent less than 1% of vehicles in circulation on Guernsey's roads. There has been no significant swing towards lower emissions ICE vehicles; in fact, conversely, there has been a marked increase of vehicles registered in the highest emissions bracket – an 8% increase in the highest emissions diesels and a 12% increase in the equivalent petrol vehicles in

the last year alone. These factors combined expose the ineffectiveness of the current first registration duty in achieving this objective.

Road safety is difficult to quantify, but it does appear there has been a general, modest improvement in terms of the statistics recorded by the Police as well as speed data in zones where limits have been reduced. Without a comparable baseline, progress in terms of the subjective data can't be measured, but they do highlight clear areas of focus. Incremental measures have been introduced to improve safety for vulnerable road users in particular.

Transport accessibility has also been improved: measures aimed at making travel options accessible for people with disabilities have been prioritised, as have measures to make alternative forms of transport easier, safer and more convenient. In terms of financial accessibility, active travel and bus use remain affordable options, even for those on low incomes.

The public realm in St Peter Port has been enhanced in several ways, big and small, and plans for further enhancements are in various stages of development.

In summary, there has been some good progress made towards several of the main objectives, especially given the discrepancies between what the Strategy seeks to achieve and the mechanisms by which it can do so. Overall, it has been partially effective in achieving its aims and realising its Vision.

This First Periodic Review can provide a new baseline for future periodic reviews and inform means of improving the effectiveness of the On-Island Integrated Transport Strategy in the interim.