Gibraltar Sustainable Traffic, Transport and Parking Plan

Appendix A – Summary Data Analysis Report

(Based on results obtained in 2013 through traffic and transport surveys)

October 2016

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Issue and revision record

Revision	Date	Originator	Checker	Approver	Description
-	January 2016	Various	AB/MF	AJ	Working Draft
-	October 2016	Various	MF	MF	Final Draft

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1 Introduction

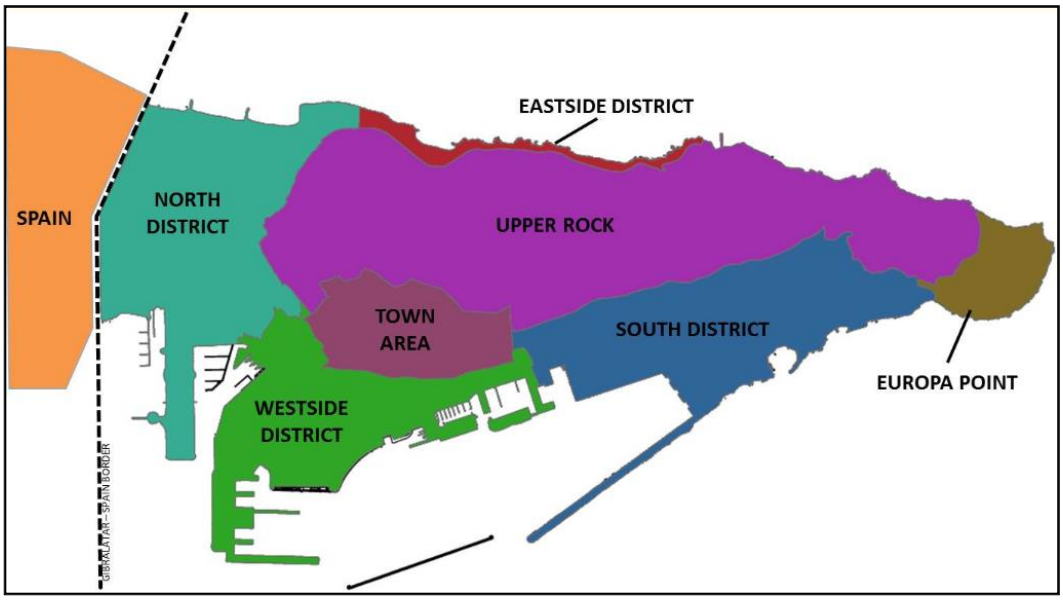
At the start of the development of the STTPP, detailed information on the current transport and travel characteristics of residents, commuters and visitors was obtained in order to determine the full picture of the issues, problems and challenges. The findings and analysis from these surveys were then used to support the development of the various policy initiatives and proposals.

A wide range of transport-related surveys were undertaken in spring 2013 including the following:

- Roadside Interviews (RSIs): surveys of drivers, pedestrians and cyclists on their trip;
- Household Surveys asking a range of social and transport related questions;
- Public Transport Surveys including bus passenger surveys and counts;
- Parking Surveys including beat surveys, interviews and entry/exit counts;
- Journey Time Surveys along the main routes throughout Gibraltar;
- Pedestrian Counts at the major junctions throughout the town area;
- Cruise Ship Surveys;
- School and business surveys; and
- General online surveys to obtain views on transport issues and solutions.

Gibraltar has been split into seven areas, Spain is shown as an additional zone. This is shown in the figure below.

Figure 1.0: Analysis Zones



This data analysis report details the following for each of the surveys: Methodology, Results and Key Themes and Issues. A summary of the headline issues and conclusions from each survey is set out in this report.

2 Roadside Interview Surveys

2.1 Methodology

This survey consisted of roadside interviews (RSIs) and classified counts at each site.
A total of seven sites were surveyed as shown in Figure 2.0.

Figure 2.0: Roadside Interview Locations

A sample of drivers flowing into and within the area were interviewed in one direction, on one particular day at each site.

The interviews were carried out on the following days:

- Waterport: 17/04/2013 07:30-19:30
- Queensway: 15/05/2013 08:30-18:30
- Devil's Tower Road 23/04/2013 07:30-17:30
- Winston Churchill Avenue: 21/05/2013 07:30-19:30
- Queensway Quay: 29/05/2013 07:30-19:30
- Prince Edwards Rd: 30/05/2013- 07:30-19:30
- Governor's Lane: 29/05/2013- 07:30-19:30

2.2 Results

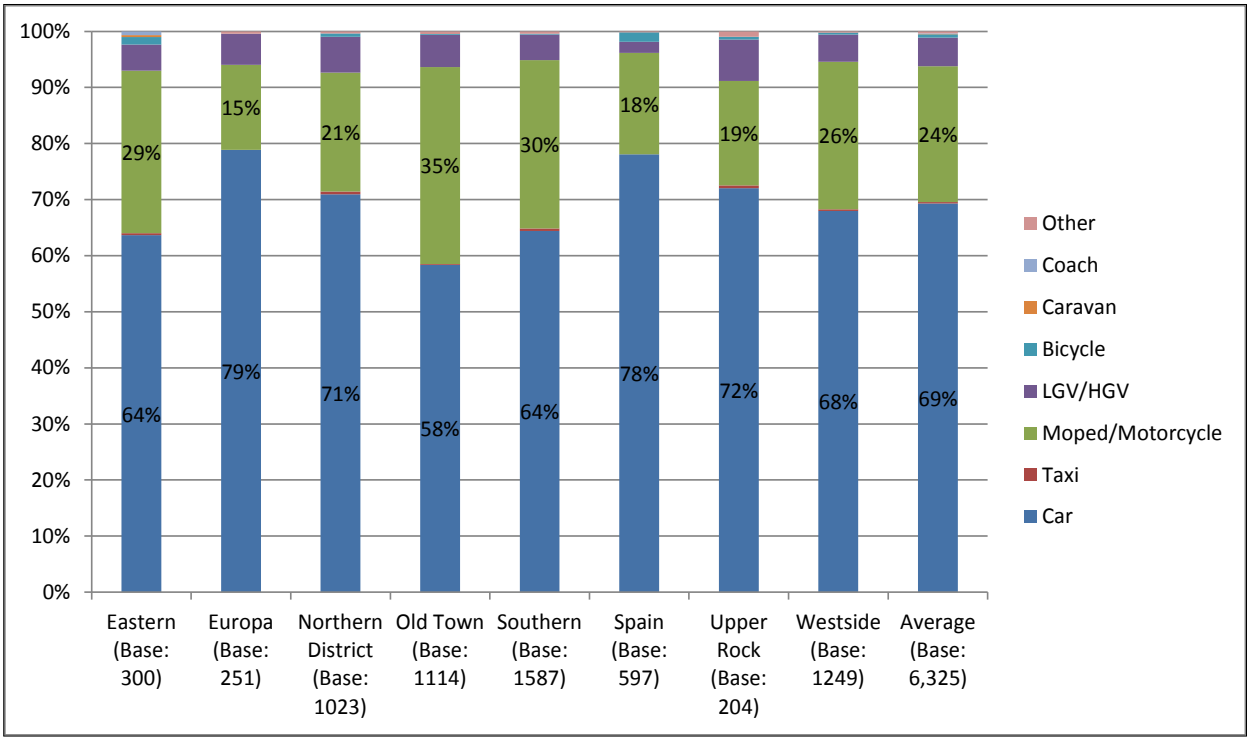
2.2.1 Vehicle type

Car use throughout all zones was an average of 69%, moped/motorcycle use was 24% and LGV/HGV use was 5%.

The Town area stands out as a zone of markedly lower car use than average (58%). It had a correspondingly higher moped/motorcycle use of 35%. Areas with above average car use include, Europa Point, Upper Rock and Spain (Figure 2.1).

The Town area had a below average car use (58%), it was however above average at the Devils Tower Road (79%) and Winston Churchill Avenue (79%) interview sites. Car use from the Upper Rock was somewhat below average at the Queensway Quay survey site (62%) and car use from Spain was above the average of 78% at Queensway (82%), Devils Tower Road (89%), Governor's Lane (95%) interview sites.

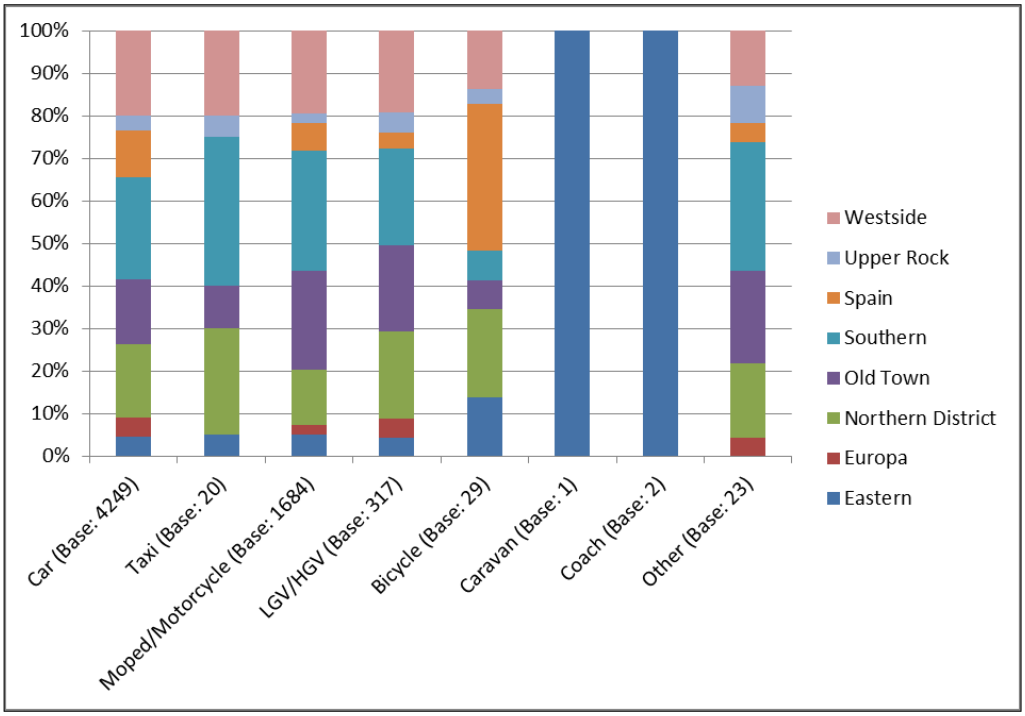
Figure 2.1: Vehicle type by zone



Source: Mott MacDonald
Base: 6,325

At 2% Spain also had the highest cycling user rate of all areas, with 34% of all cyclists being from Spain (Figure 2.2 below).

Figure 2.2: Zones by vehicle type



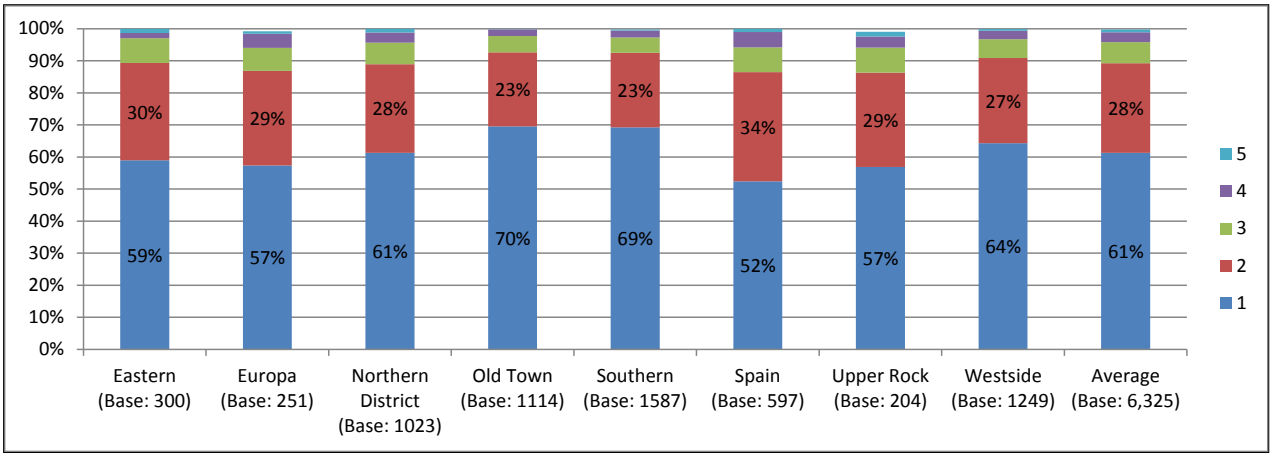
Source: Mott MacDonald
Base: 6,325

2.2.2 Vehicle occupancy

The majority of car journeys were single occupancy (61% on average) followed by an average of 24% of car journeys with two occupants.

Respondents from Spain had the lowest levels of single car occupancy (52%) and respondents from the Town area and South District had the highest levels of single occupancy car mode share – 70% and 69% respectively.

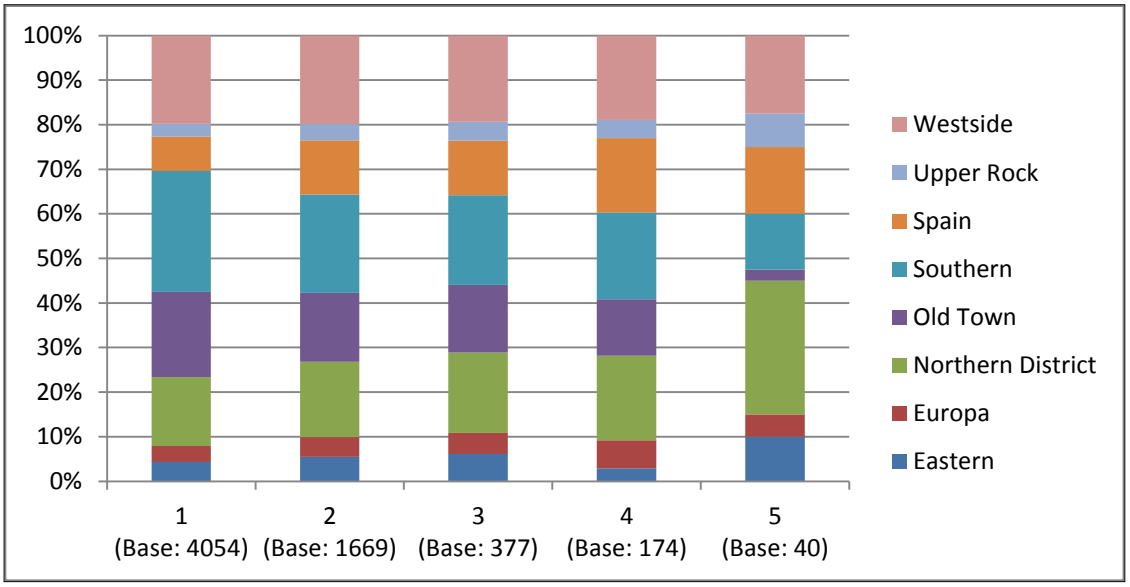
Figure 2.3: Vehicle occupancy by zone



Source: Mott MacDonald
Base: 6,325

The highest proportion of vehicles with five or more occupants originated from the Northern District (30%).

Figure 20.4: Zone by vehicle occupancy

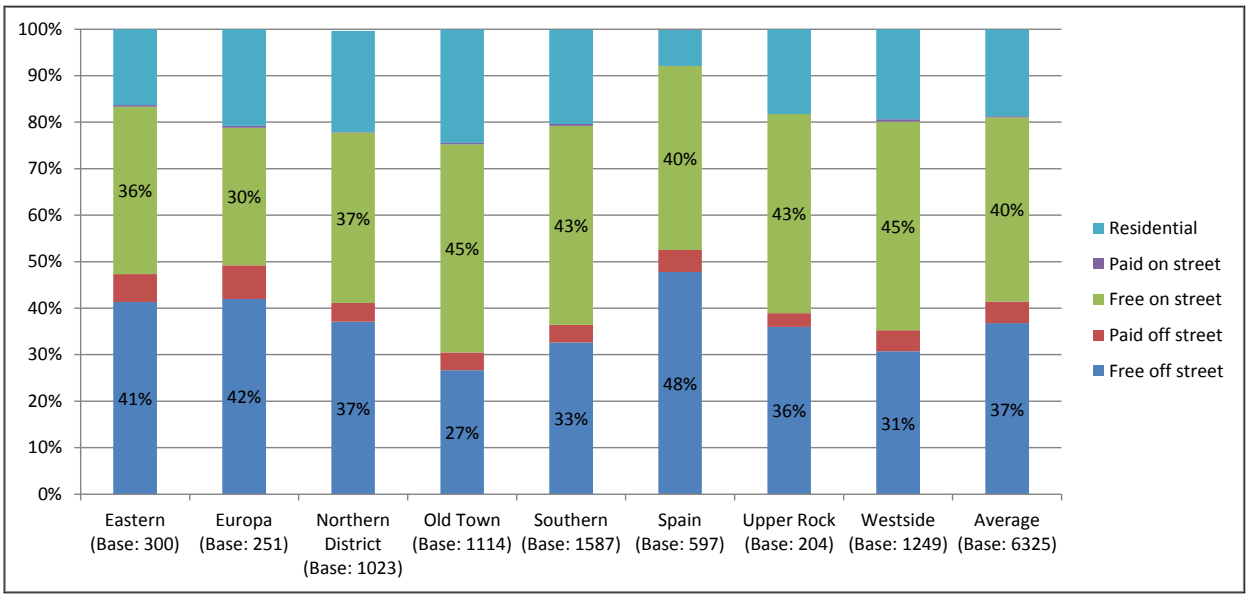


Source: Mott MacDonald
Base: 6,325

2.2.3 Parking

Roadside interviews included questions on parking behaviours. 40% of respondents used free off-street car parking and a further 37% used free on-street car parking. Only a small number (5%) used paid car parking. Around half of the respondents from Spain (48%) used free off-street car parking compared to only 27% of respondents from the Town zone (Figure 2.5).

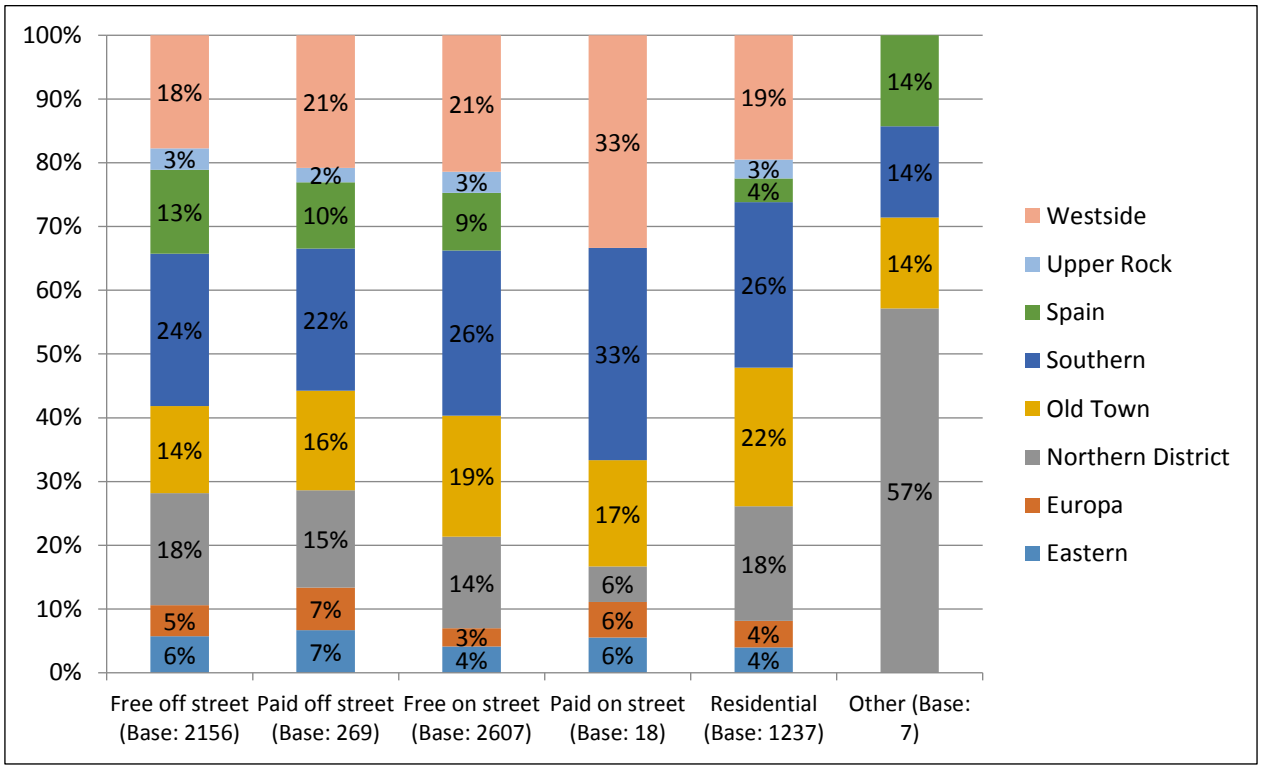
Figure 20.5: Parking type by zone



Source: Mott MacDonald
Base: 6,325

Out of all the respondents who used paid on street parking, 33% were from the Westside area and the South District (Figure 2.6).

Figure 2.6: Zone by parking type



Source: Mott MacDonald
Base: 6,294

This pattern varies between interview locations. Table 2.1 gives the highest percentage of parking type by interview location:

Table 2.1: Dominant parking type by interview location

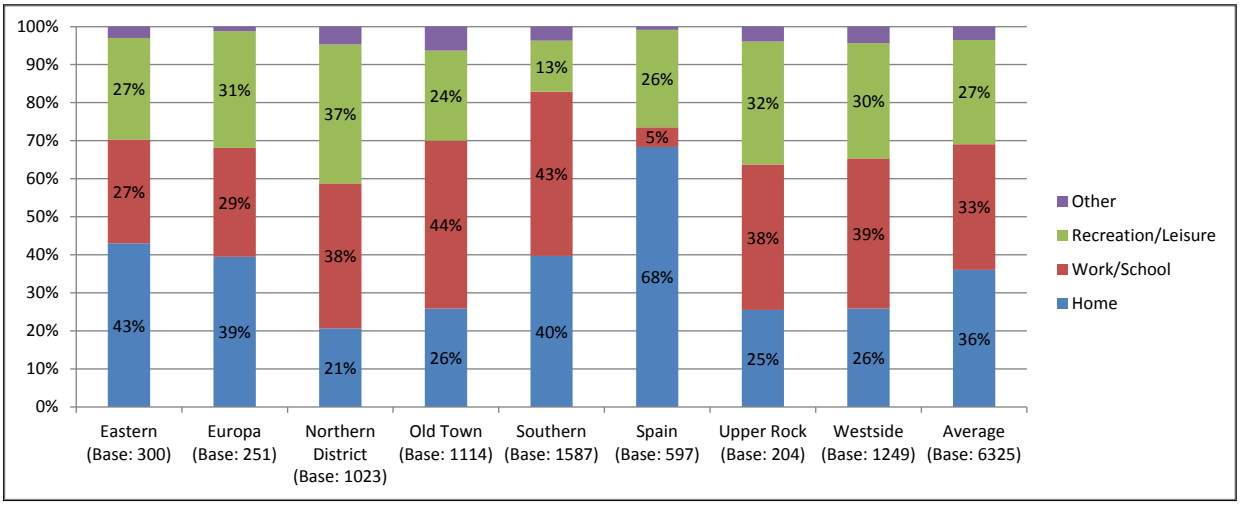
Interview location	Dominant parking mode
Waterport	47% free off-street
Queensway	42% free off-street
Devils Tower Road	45% free off-street
Winston Churchill Avenue	46% free on-street
Queensway Quay	30% free off-street 36% free on-street 31% residential
Prince Edwards Road	76% free on-street
Governor's Lane	49% free on-street

2.2.4 Trip purpose

Interview respondents were asked about purpose at both origin and destination. The data shows that the origin purpose is split almost evenly, with 36% of respondents having departed from home, 33% from work and 27% from recreation/leisure activities.

Spain stands out with 68% of respondents having departed from home and only 5% from work. Other zones worth noting are the Northern District, Town, Upper Rock and Westside. Here the percentage of respondents having departed from home is below average between 21% and 26% (Figure 2.7).

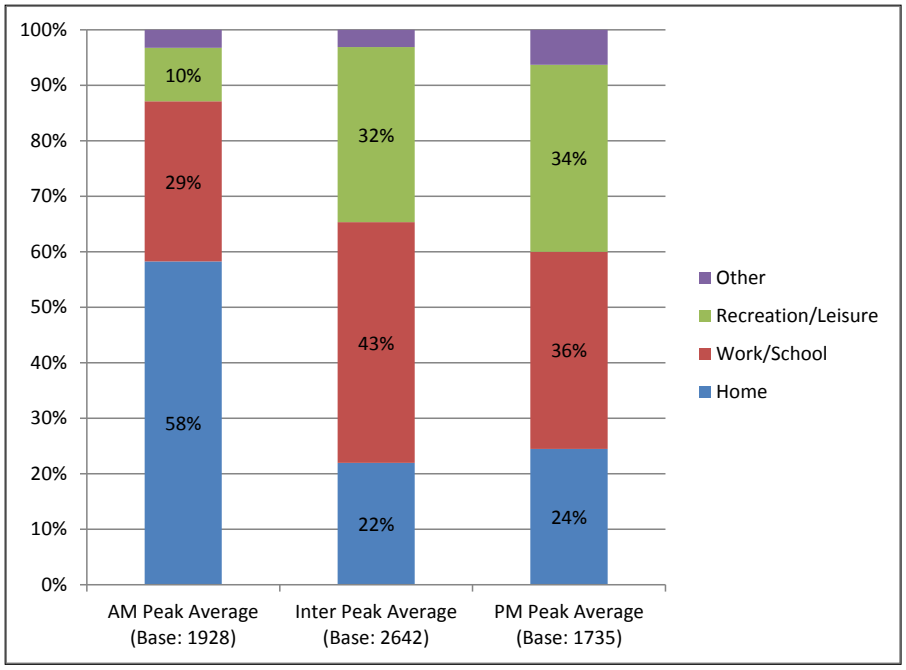
Figure 2.7: Purpose at origin



Source: Mott MacDonald
Base: 6.325

As would be expected, the dominant origin purpose during the AM peak is home (58%), compared to only 22% during the inter peak and 24% during the PM peak. There is little distinction between the inter peak average and the PM peak average (Figure 2.8).

Figure 2.8: Purpose at origin by time



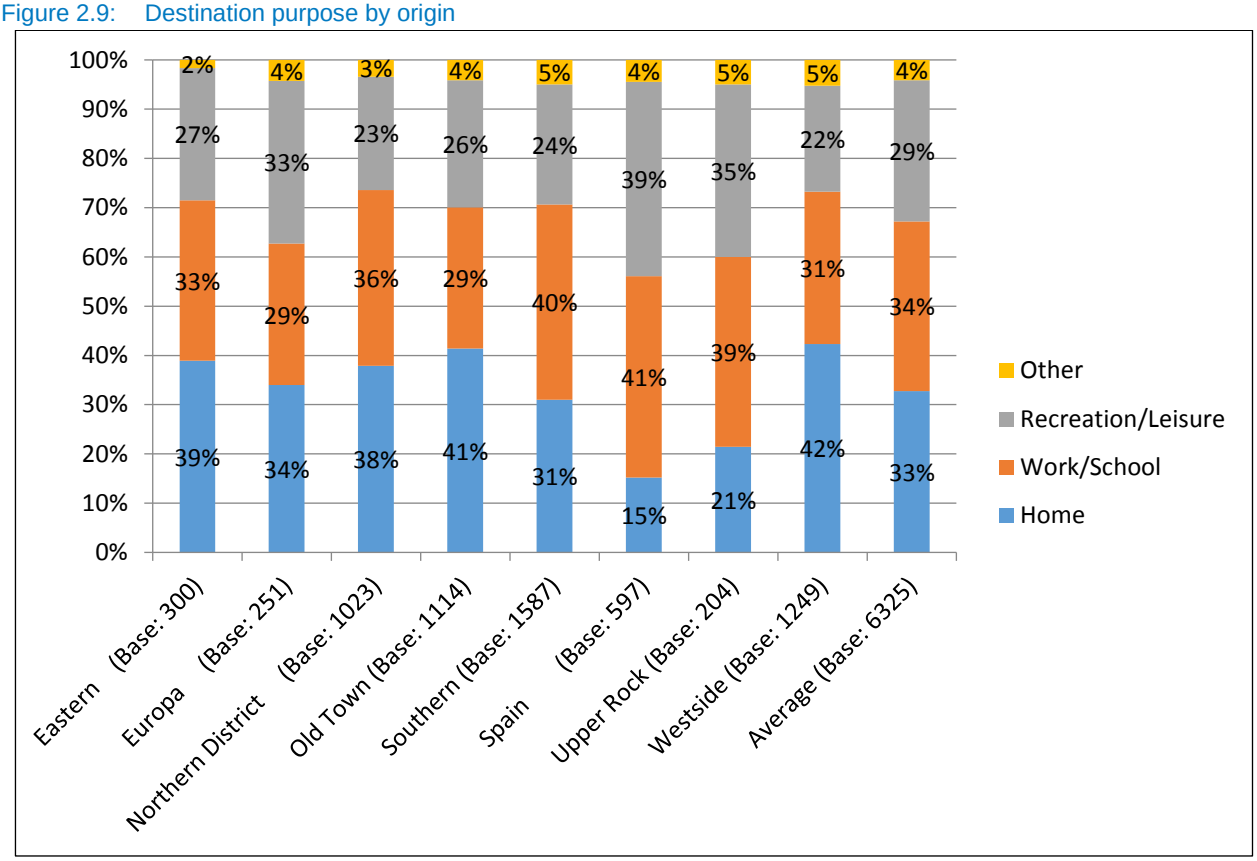
Source: Mott MacDonald
Base: 6,305

Trip purpose at the destination is evenly split between home (33%), work/school (34%) and recreation/leisure (29%). 4% indicated an "other" trip purpose.

Comparing trip purpose at the destination between origin zones and destination zones, the following key points emerge:

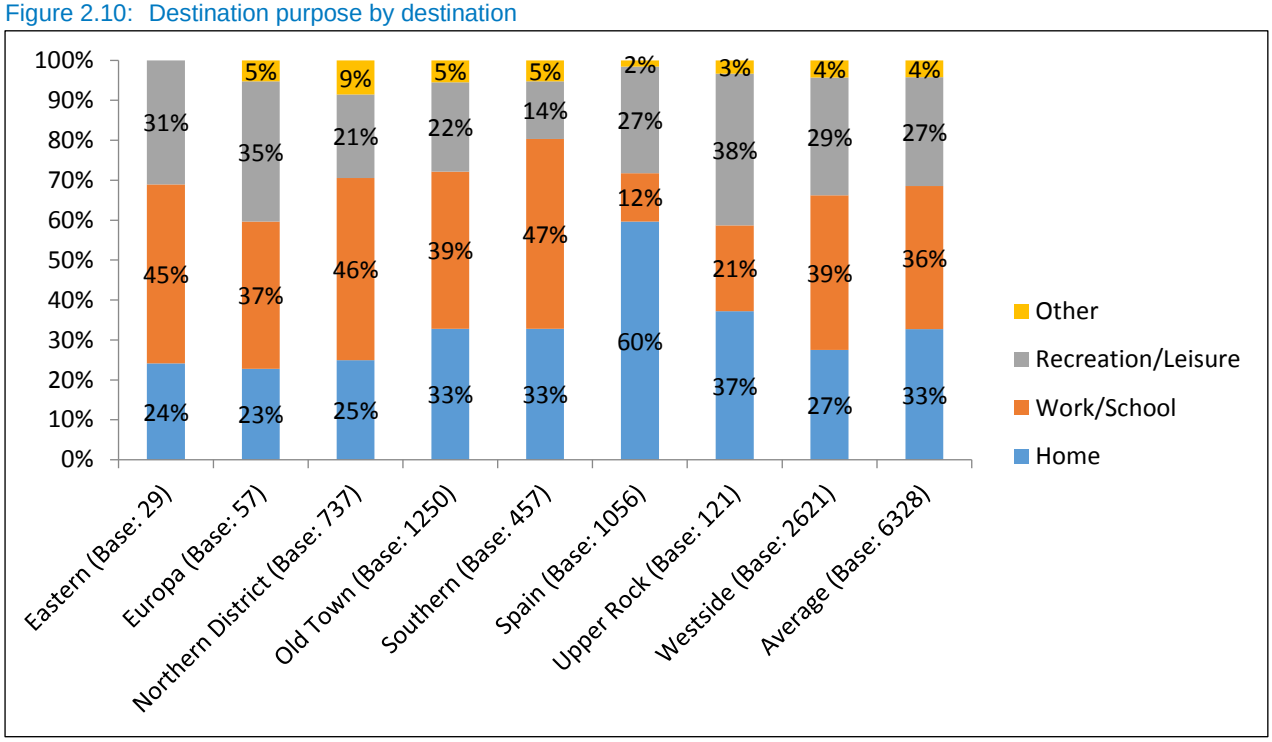
- A number of areas generate a smaller proportion of work/school trips than they attract:
  - Eastern District generates 33% and attracts 45%
  - Europa Point generates 29% and attracts 37%
  - Northern District generates 36% and attracts 46%
  - Town area generates 29% and attracts 39%
- Other areas generate a larger proportion of work/school trips than they attract:
  - Spain generates 41% and attracts 12%
  - Upper Rock generates 39% and attracts 21%
- Most areas tend to attract and generate a similar proportion of leisure/recreation trips but two areas stand out:
  - South District generates 24% and attracts 14%
  - Spain generates 39% and attracts 27%

Figure 2.9: Destination purpose by origin



Source: Mott MacDonald
Base: 6,325

Figure 2.10: Destination purpose by destination



Source: Mott MacDonald
Base: 6,328

A comparison of destination purpose by origin between different interview locations shows that:

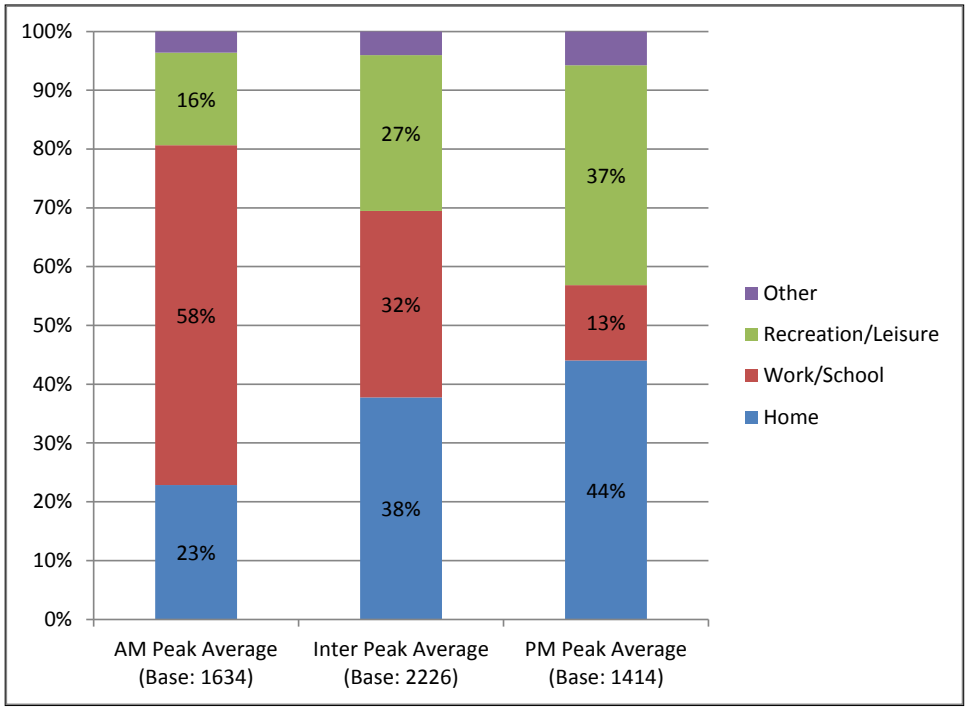
- At Queensway the proportion of work/school trips was substantially above average (48%) and home trips were below average (16%);
- At Winston Churchill Avenue the proportion of home trips was substantially above average (50%) and work/school trips were below average (16%); and
- At Prince Edwards Road the proportion of home trips was substantially above average (42%) and work/school trips were below average (22%).

Similarly, a comparison of destination purpose by destination between different interview locations shows that:

- At Winston Churchill Avenue the proportion of home and leisure/recreation trips were substantially below average (14% and 6% respectively) and work/school trips were above average (64%); and
- At Prince Edwards Road the proportion of work/school trips was substantially below average (23%).

Analysing destination purpose data by time shows that during the AM peak the majority of respondents travelled to work or school (58%). This figure reduced to 32% in the inter peak and 13% in the PM peak. Home and leisure/recreational trips show an inverse pattern of increasing from AM towards PM peak (Figure 2.11).

Figure 2.11: Purpose at destination by time



Source: Mott MacDonald
Base: 5,274

2.3 Key themes and issues

- Over half of car trips across Gibraltar are single occupancy which serves as a potential base from which to generate modal shift towards more sustainable forms of transport. This can be specifically targeted at areas of higher than average single occupancy car mode share such as the South District and Town area.
- Parking charges and low availability can act as a barrier to car travel. However, the availability of free on- and off-street parking across Gibraltar means there is currently no barrier to car travel in terms of parking.
- Leisure trips appear to be generated and attracted fairly evenly across Gibraltar. Home and work/school trips show a more distinct pattern. The Eastern District, Europa Point, Northern District and Town attract a larger proportion of work trips, suggesting an area of focus for employment. Similarly, Spain and Upper Rock attract a smaller proportion of work/school trips, suggesting an area of focus for residential purposes.

3 Roadside Interview Surveys (Pedestrians and Cyclists)

3.1 Methodology

Roadside interviews (RSIs) for pedestrians and cyclists were carried out at the border. Respondents were asked to provide an indication on the journeys to and from the border. A sample of pedestrians and cyclists were interviewed on 4 June 2013 between 7:30am and 7.30pm.

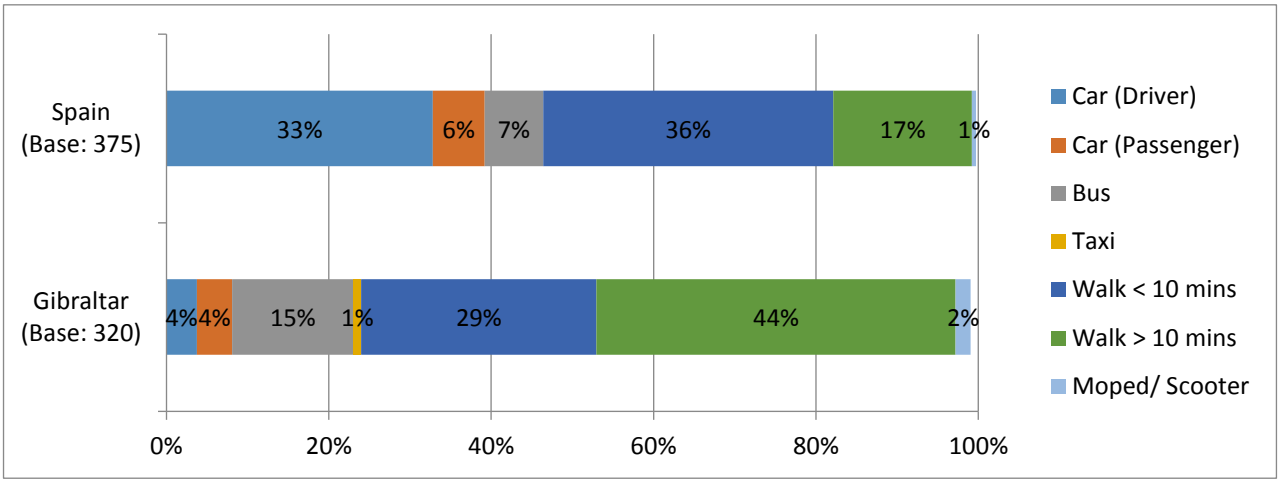
3.2 Results

The data is this section consists of roadside interviews with those who crossed the border on foot or by bicycle. It is important to note; this does not necessarily mean that they walked or cycled to the border. One example may be that they travelled to the border by bus, walked across and either walked or chose another mode for their onward journey.

3.2.1 Mode of transport

Data shows substantial differences between the mode of transport used to travel to the border between those travelling to the border from Spain and those from Gibraltar. 39% of trips from Spain are by car compared to only 8% of trips from Gibraltar. The proportion of those taking the bus to the border from Gibraltar is around double (15%) to that of trips from Spain (7%). The majority of trips to the border from Gibraltar are walking trips (73%) compared to 53% of trips from Spain.

Figure 3.1: Mode of travel to the border by country of trip origin

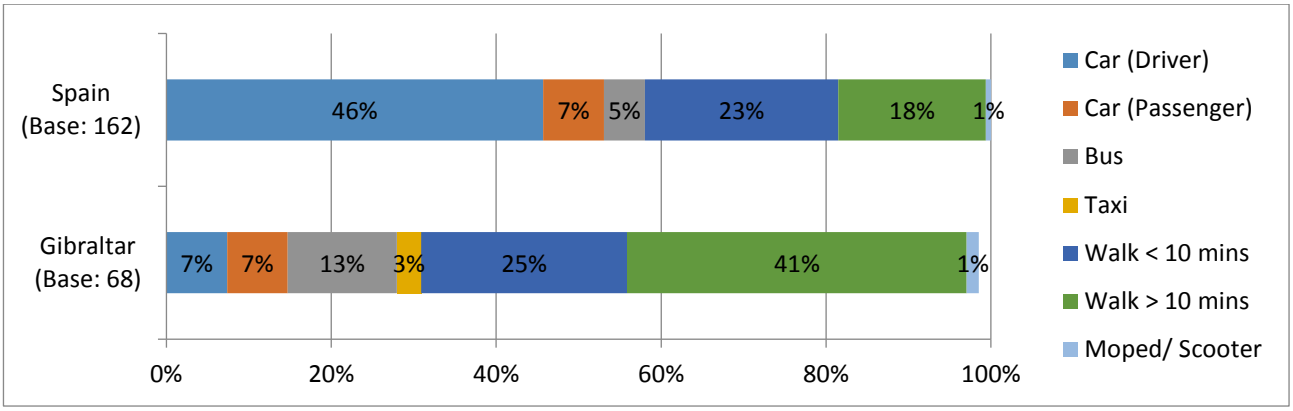


Source: Mott MacDonald Base: 695

Comparing mode split at different times of day shows that walking is generally the dominant mode of travel to the border from Gibraltar for all time periods. Travel to the border by bus from Gibraltar is highest in the PM peak (20%) and lowest in the Inter peak (8%).

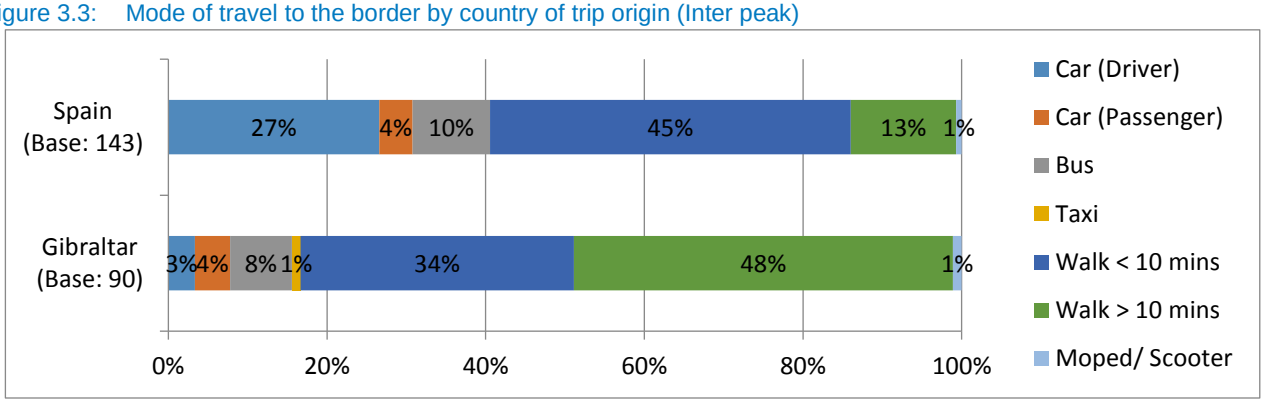
Mode split for travel to the border from Spain varies more substantially between different times of the day. In the AM peak car mode share is 53%. This declines to 31% in the Inter peak and 25% in the PM peak in favour of an increasing walking mode share.

Figure 3.2: Mode of travel to the border by country of trip origin (AM peak)



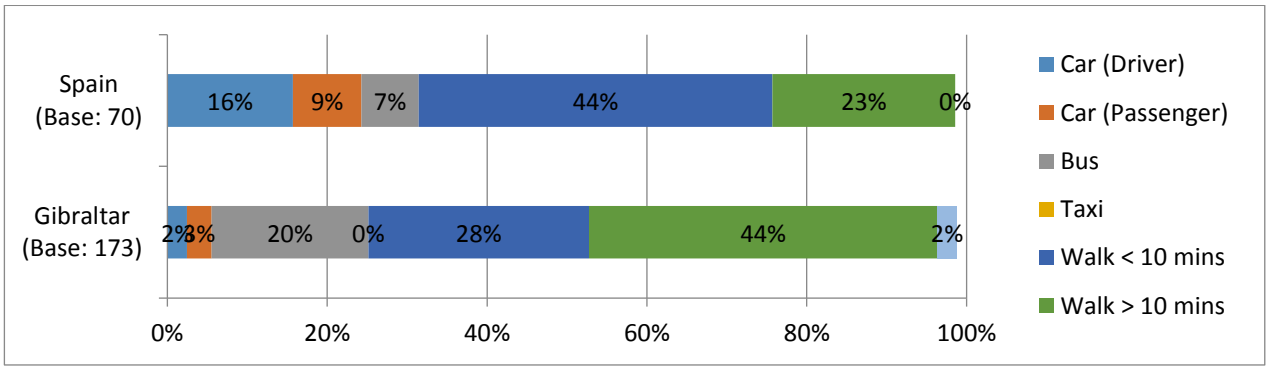
Source: Mott MacDonald
Base: 230

Figure 3.3: Mode of travel to the border by country of trip origin (Inter peak)



Source: Mott MacDonald
Base: 253

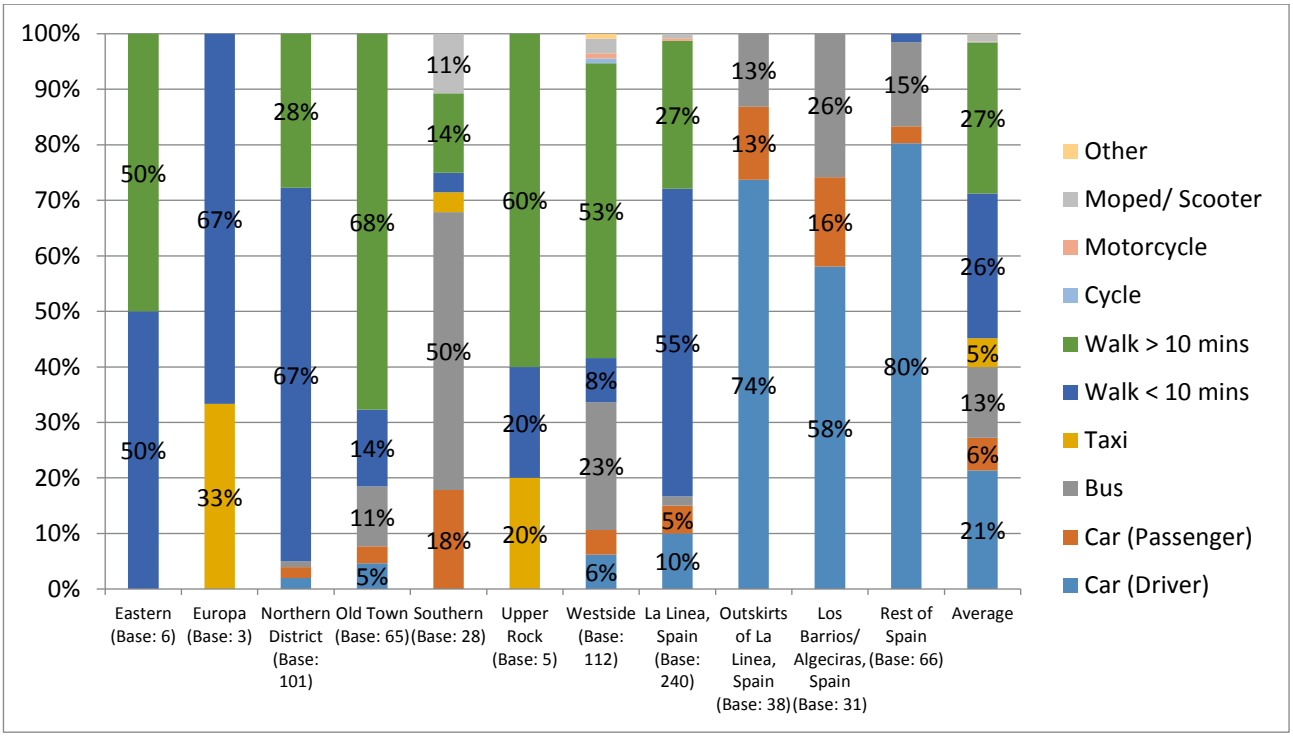
Figure 3.4: Mode of travel to the border by country of trip origin (PM peak)



Source: Mott MacDonald
Base: 243

There are considerable differences in the mode of transport used to travel to the border between different parts of Gibraltar and similarly between different parts of Spain. However these figures need to be treated with caution because of the low base of some of the zones.

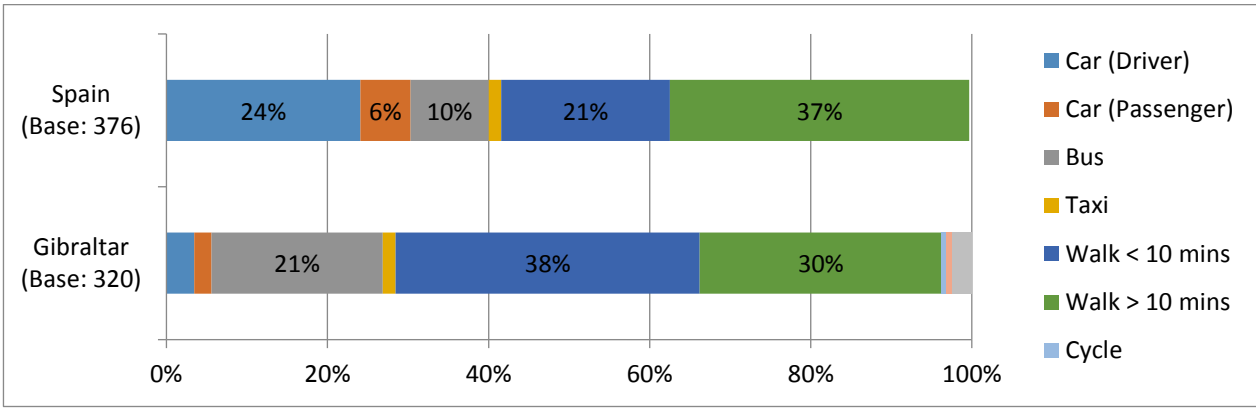
Figure 3.5: Mode of travel to the border by zone of trip origin



Source: Mott MacDonald
Base: 695

The mode split for travel to the destination shows that the majority of onward travel to locations in Gibraltar is on foot (68%). Walking mode share for onward journeys is similarly high in Spain (58%). Only few of those walking or cycling across the border from Spain make onward car journeys to reach their destination in Gibraltar (5%) whereas for destination in Spain this figure is 30%. Onward bus travel to destinations in Gibraltar is around double (21%) to that in Spain (10%).

Figure 3.6: Mode of travel to the destination by country of trip destination



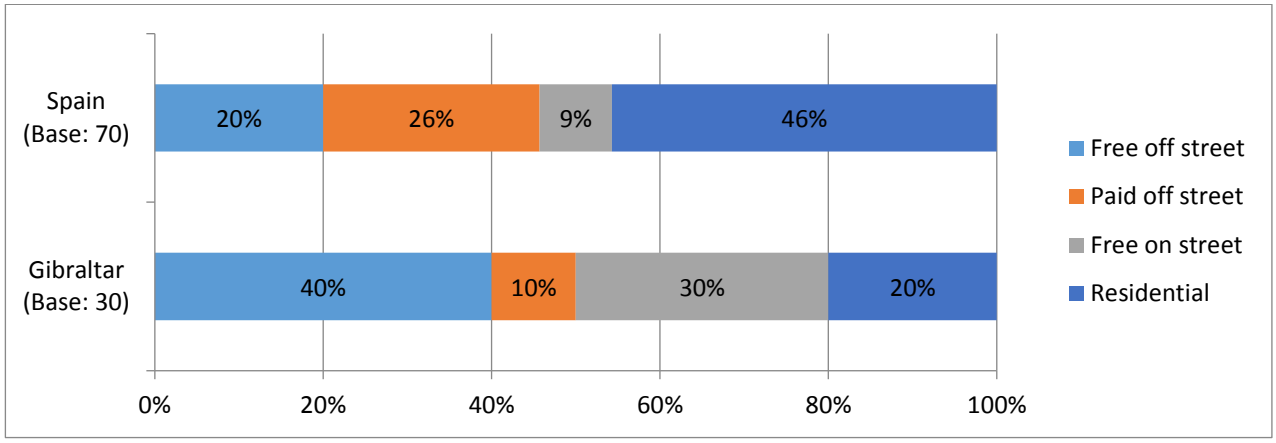
Source: Mott MacDonald
Base: 696

There is less variation in the mode split by trip destination between the AM, Inter and PM peak as for the mode split by trip origin.

3.2.2 Parking

Out of all car trips from the border to a destination in Gibraltar, 40% use free off street and 30% use free on street parking in Gibraltar.

Figure 3.7: Type of parking by destination country



Source: Mott MacDonald
Base: 100

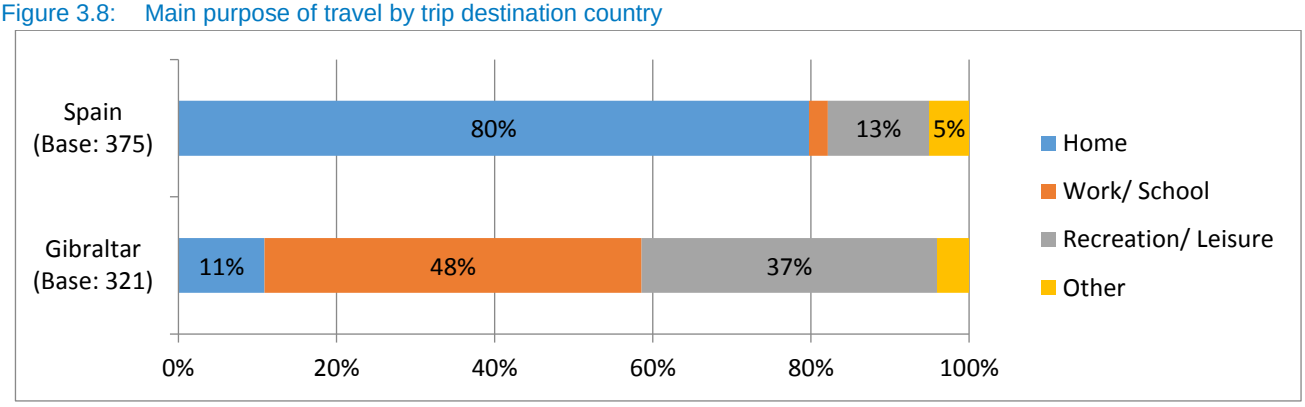
Due to the low base, comparison of parking type by time period does not yield meaningful results.

3.2.3 Purpose of trip

Around half (52%) of those travelling to Gibraltar travel for work/school. 34% travel to Gibraltar for leisure/recreation purposes and 7% travel home.

For those travelling to Spain, this is distinctly different. The vast majority (74%) travel home, 18% travel to Spain for leisure/recreation purposes and only 2% travel home.

Figure 3.8: Main purpose of travel by trip destination country

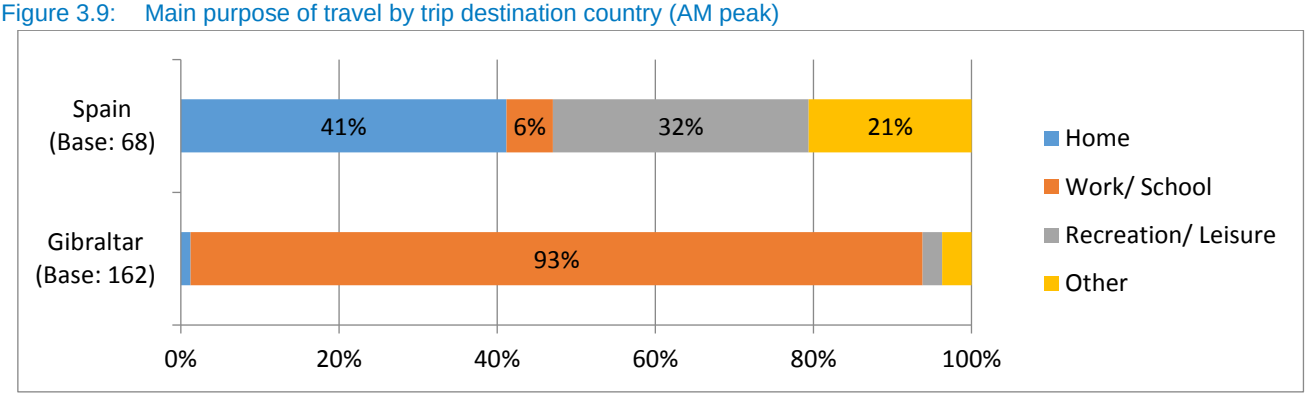


Source: Mott MacDonald
Base: 696

As would be expected, the trip purpose varies substantially throughout the day. 93% of trips to Gibraltar in the AM peak are work/school related. This decreases to 24% in the Inter peak and 14% in the PM peak. Conversely, leisure trips to Gibraltar start at only 2% in the AM peak and increase to 53% in the Inter peak and 67% in the PM peak.

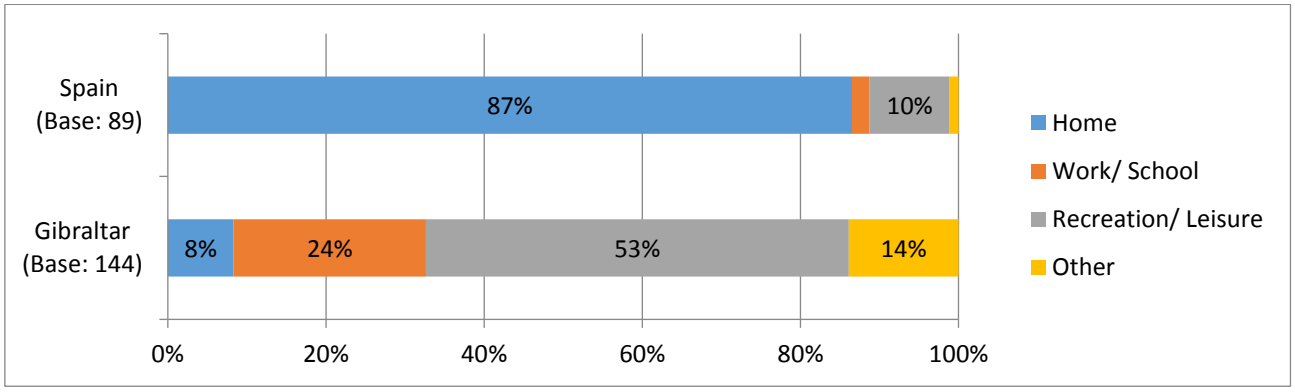
While Inter peak and PM peak travel to Spain are somewhat similar, they differ from the AM peak where for 41% of trips to Spain the trip purpose is “home”, compared to 87% in the Inter and 80% in the PM peak. Leisure/recreation and “other” trip purpose are higher during the AM peak.

Figure 3.9: Main purpose of travel by trip destination country (AM peak)



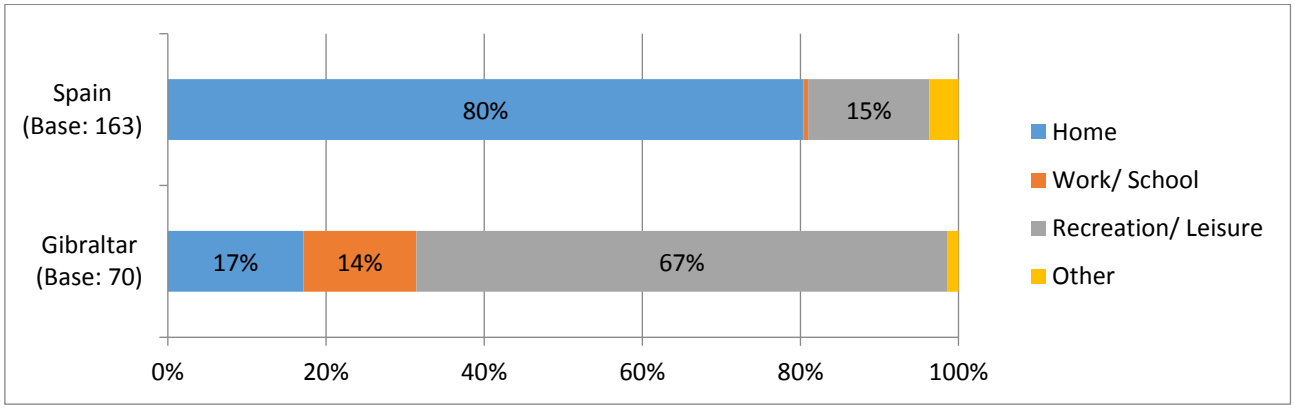
Source: Mott MacDonald
Base: 230

Figure 3.10: Main purpose of travel by trip destination country (Inter peak)



Source: Mott MacDonald
Base: 233

Figure 3.11: Main purpose of travel by trip destination country (PM peak)



Source: Mott MacDonald
Base: 233

3.3 Key themes and issues

The analysis of the roadside interviews for pedestrians and cyclists shows substantial differences between the mode of transport used to travel to the border from Spain and those from Gibraltar. Whilst walking trips are the most common type for both origins, in Gibraltar they account for 73% whereas in Spain it is only 53%. Car usage is also much more prevalent in Spain where 39% of trips are by car compared to only 8% of trips from Gibraltar.

There is a distinct commuter flow from Spain into Gibraltar, contributing to congestion at the border crossing into Gibraltar in the AM peak and into Spain in the PM peak. 93% of trips into Gibraltar in the AM peak are for work or school and 80% of trips into Spain in the PM Peak are for trips returning home.

4 Household Survey Interviews (HSIs)

4.1 Methodology

A total of 1,036 face-to-face Household survey interviews were conducted across Gibraltar. A team of interviewers were employed to conduct the interviews, approaching households on an individual basis. Interviewers were managed by two supervisors who coordinated the process and all interviewers undertook training to ensure the interview was conducted in a timely and consistent manner. Interviews were conducted on weekday evenings from 11 April 2013 to 10 June 2013.

To ensure an equal spread of responses, interviews were conducted on a proportional basis according to house dwelling density for each zone area. Each interview lasted up to 30 minutes and the quantity of detail received depended on the number of dwelling occupants and the amount of travel undertaken on the day of the interview.

Interviewers selected households to survey on a random basis. The interviewers were instructed to visit every 5th and 9th house on one side of the street and the 3rd and 6th on the opposite side. If there was no response then the interviewer approached the adjacent property. A refusal to participate in the interview was recognised as a non-response.

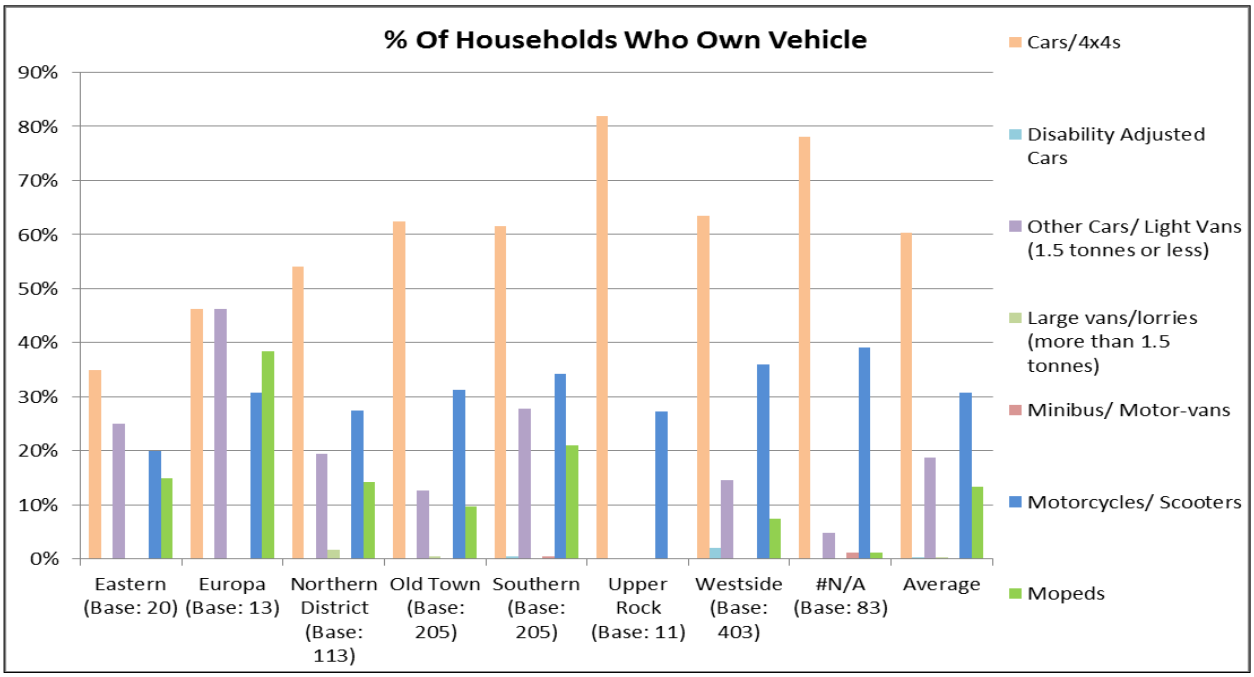
Responses were inputted electronically on a Portable Device (PDA) during the interview process to minimise the errors and time in data collection process. The responses were then downloaded from each device and collectively stored onto a central computer. The collective files were then cleaned to remove any errors or gaps in data collection.

4.2 Results

4.2.1 Vehicle Ownership

Across Gibraltar, 60% of households own a 4x4 car, 19% own other cars and 32% own a motorcycle, scooter or moped. Overall vehicle ownership is thus high. The Upper Rock has particularly high car ownership (82%) which can partly be explained by its location.

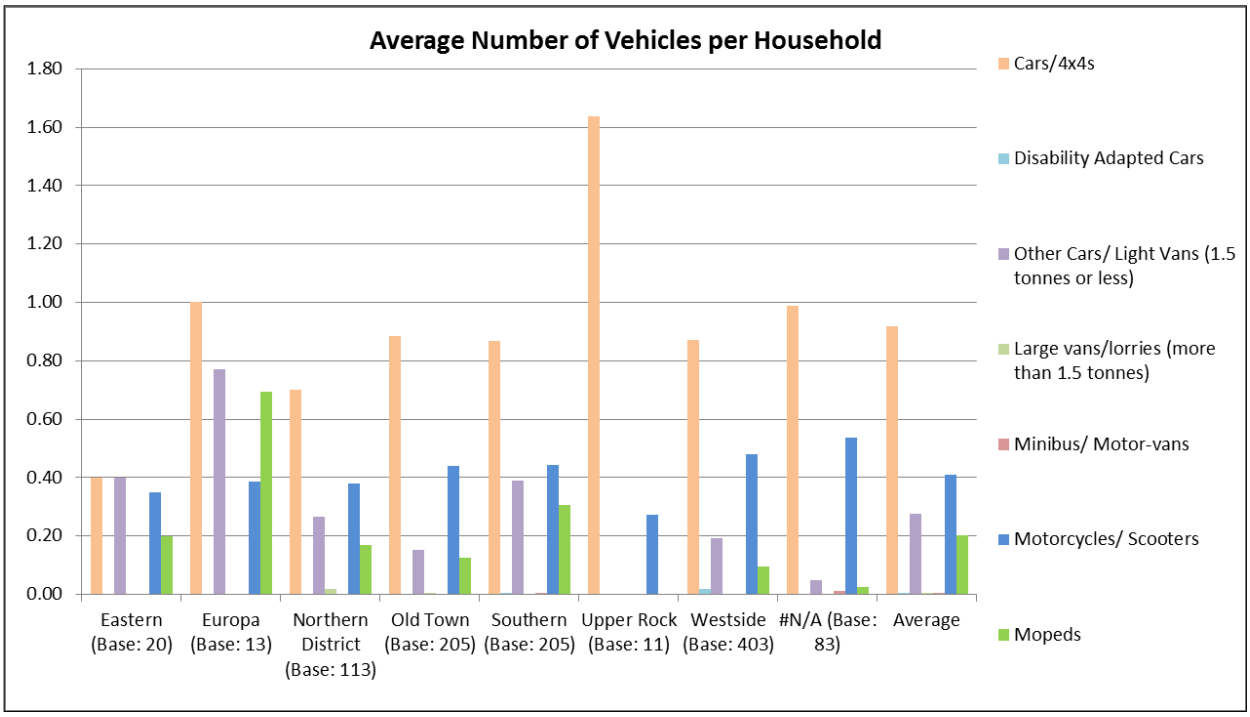
Figure 4.1: Household vehicle ownership



Source: Mott MacDonald
Base: 1,052

The average number of cars owned per household including 4x4s and light vans is 1.2. The average number of motorcycles, mopeds and scooters owned per household is 0.6. As might be explained by their locations Upper Rock and Europa have a higher than average number.

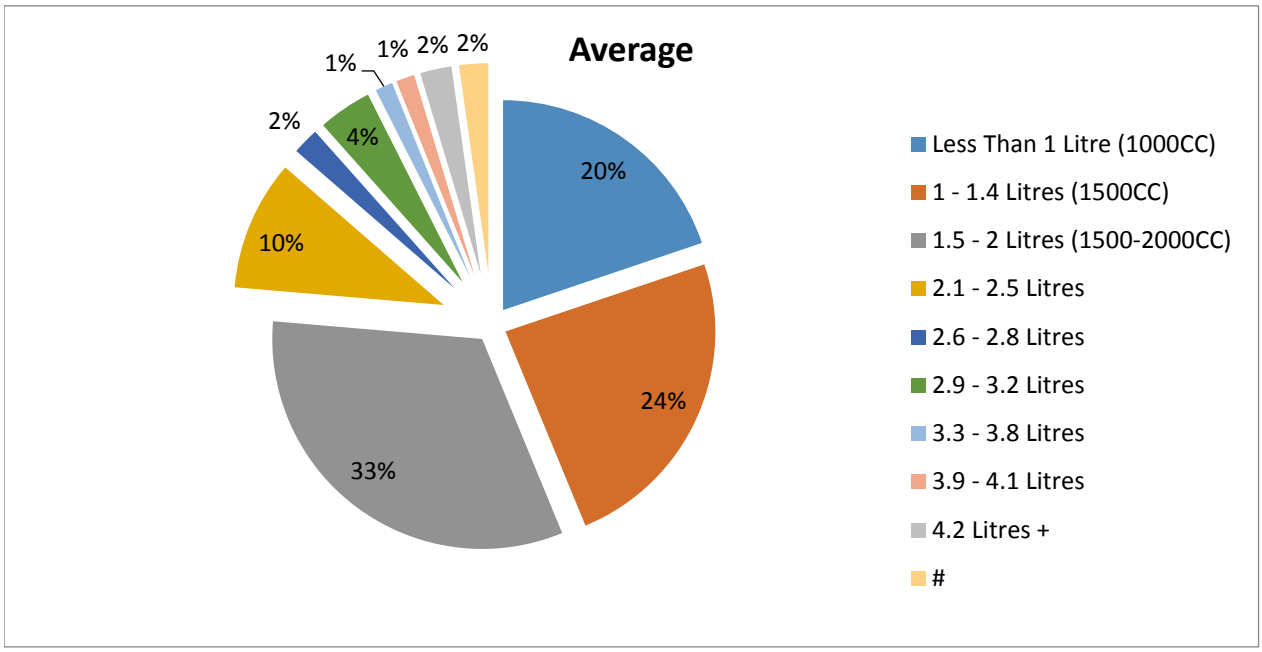
Figure 4.2: Average number of vehicles per household



Source: Mott MacDonald
Base: 1,052

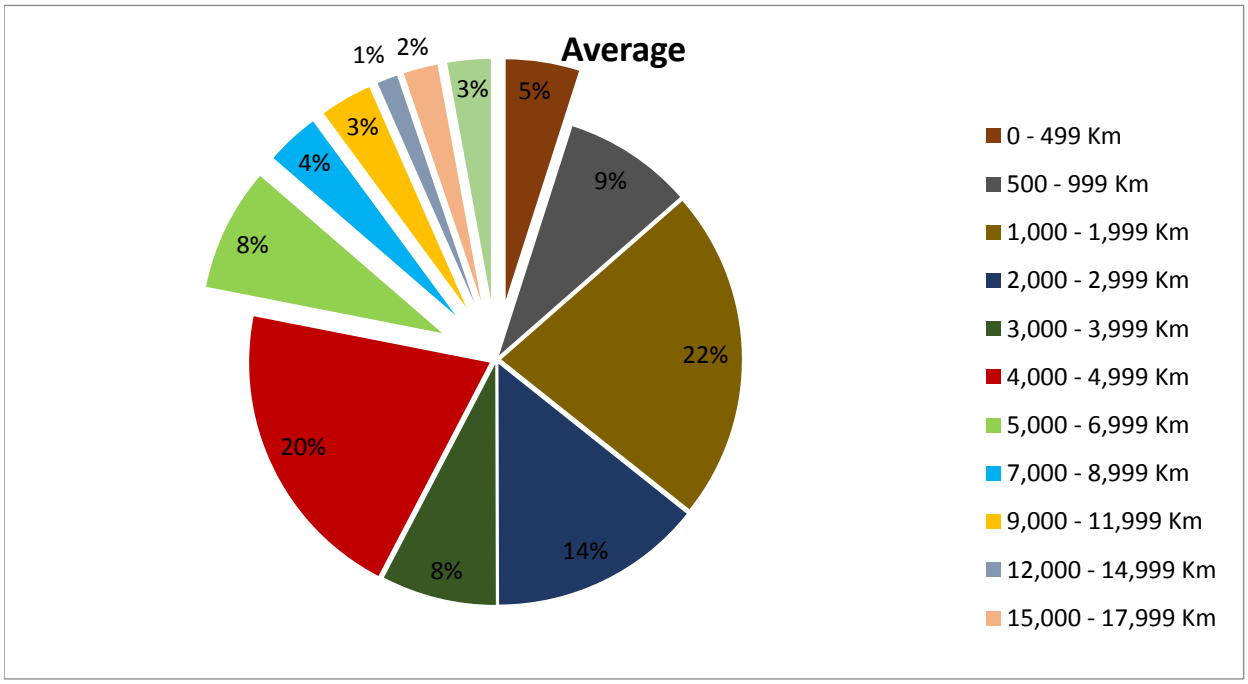
In terms of vehicle fuel type, across Gibraltar, 85% of vehicles are petrol powered, 14% diesel powered and 1% hybrid. Average engine size is shown in Figure 4.3 and the average annual trip distance in Figure 4.4.

Figure 4.3: Average engine size



Source: Mott MacDonald
Base: 1,780

Figure 4.4: Average annual trip distance



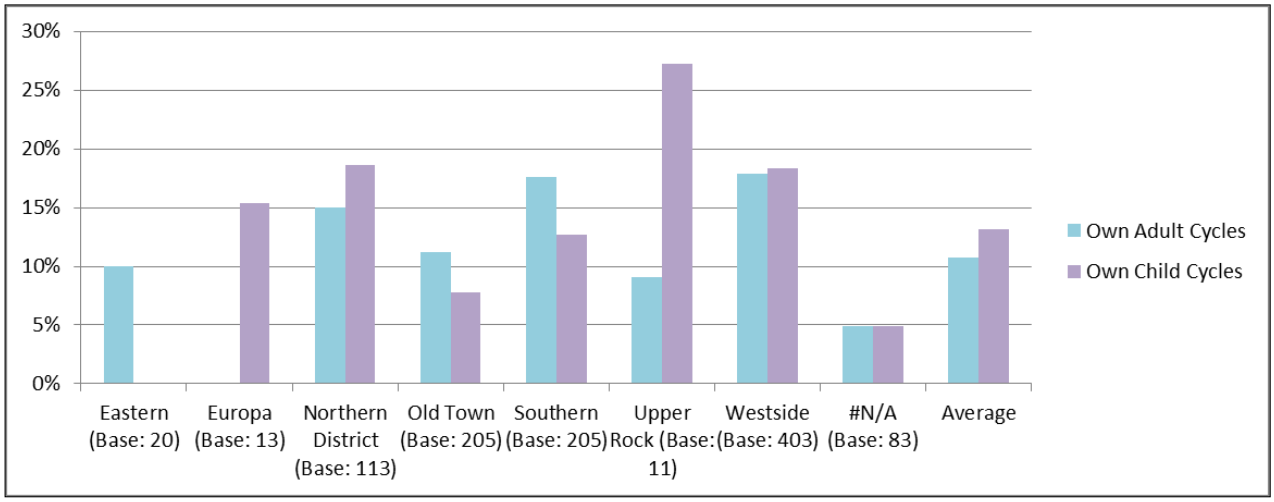
Source: Mott MacDonald
Base: 1,780

4.2.2 Walking and Cycling

On average across Gibraltar, only 11% of households own adult bicycles and 13% own child bicycles. Bicycle ownership in the North District and Westside area are above average. In the North District 15% of households own adult bicycles and 19% of households own child bicycles. In Westside 18% of households own both adult and child bicycles. In the Town area adult bicycle ownership is average and child bicycle ownership is below average.

Around 3% of respondents experienced difficulty walking. Responses from the SouthDistrict and Upper Rock were below average whereas those where no zone was recorded were above average.

Figure 4.5: Bicycle ownership by zone



Mott MacDonald
Base: 1,052

4.2.3 Trip Diary

Respondents were asked to complete a trip diary detailing each trip undertaken for each member of the household. This includes all trips made irrespective of type of mode in a 24 hour period.

Number of Trips

On average each household makes 6.74 trips per day. This is also a fairly representative figure across most zones. Aside from Europa which has a higher than average number of trips per household – 8.31 trips per household and the East zone which has a lower than average number of trips with just 4.50 per household.

The average number of trips per person is 2.69, again this is fairly representative across all zones.Europa slightly more and the Eastside slightly less.

Figure 4.6: Average Number of Trips per Household

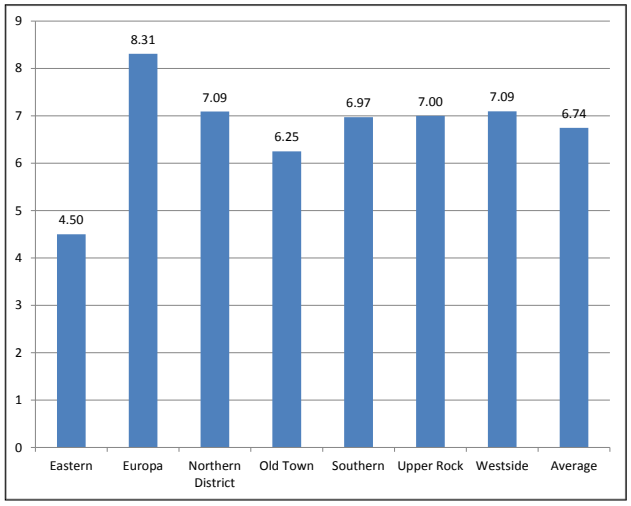
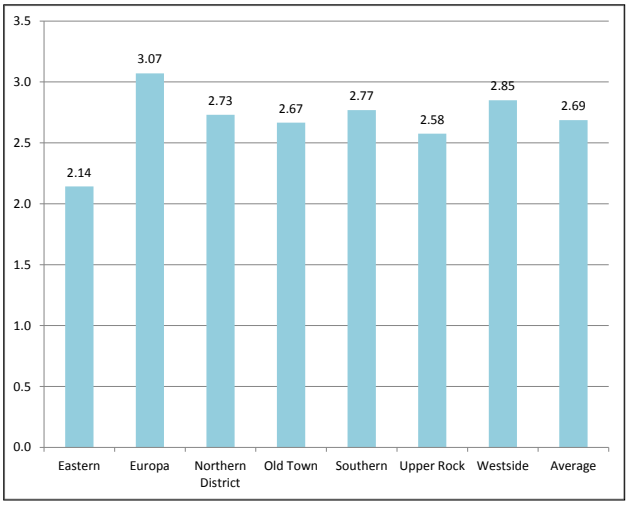


Figure 4.7: Average Number of Trips per Person

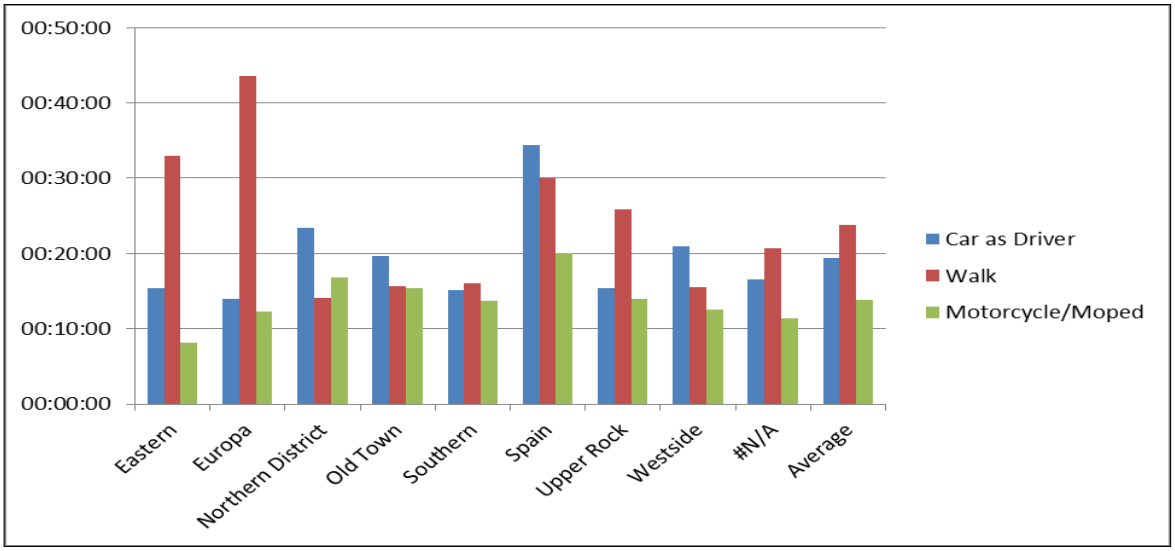


The average number of people per household who didn't make any trips was 0.3 (equating to 296 people). A large proportion of these were in the Westside area and Town (98 and 79 people respectively). The predominant reason for not making a trip was no reason to go out (69%) with 16% stating homework and 14% stating illness.

Journey Time

Average car journey time is just under 20 minutes. As would be expected the car journey time is highest for trips from Spain with an average of 34 minutes. The lowest journey time is for trips originating in Europa point with an average of only 14 minutes.

Figure 4.8: Average journey time by zone and mode



Mode

On average the majority of trips undertaken are walking trips (48%). As might be expected the number of walking trips from Europa is below average (6%). Northern District, Town and Westside display the highest number of walking trips with 54%, 58% and 58% respectively.

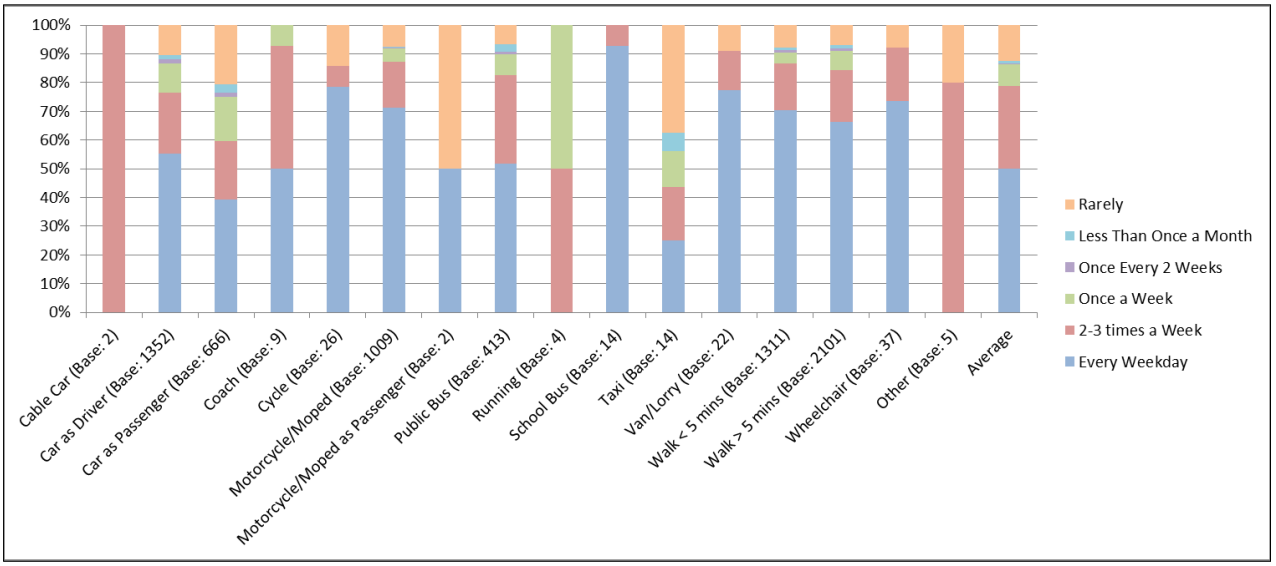
A fifth (20%) of all trips are car trips as the driver with an additional tenth (10%) as a car passenger. Conversely to walking trips, a greater proportion of trips by car are undertaken from Europa. 49% of all trips from the zone are by car as the driver with an additional 21% as a passenger. North District, Town and Westside have fewer car trips than average.

Motorcycle/Moped trips are the other predominant mode (15%) and is fairly similar across all zones.

Figure 4.9: Trip Mode

Overall, moped/motorcycle passenger, taxi and car passenger trips occurred the most rarely. 76% of car drivers made a trip at least two to three times per week. This suggests a regular habit with the car as a default mode of transport. On the positive side, Figure 4.9 shows that the majority cyclists, pedestrians and public transport users also made regular trips more than twice per week.

Figure 4.10: Frequency of travel by mode of transport

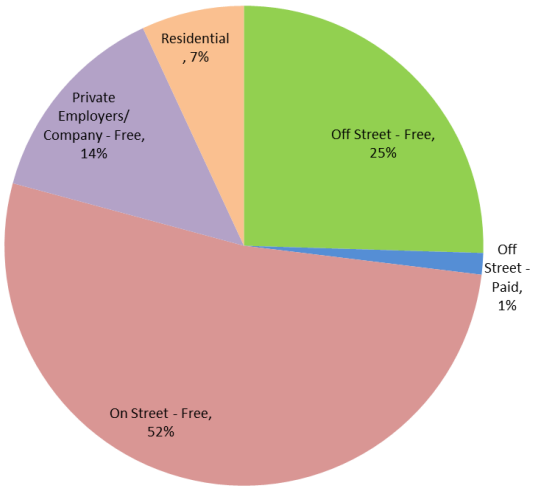


Source: Mott MacDonald Base: 7,211

Parking

The majority of parking across Gibraltar is free of charge, which is reflected by the survey results showing 99% of respondents parked for free in a range of locations. This presents a different picture from the results of the Road-Side Interviews which showed 40% of respondents used free off-street and only 37% of respondents used free on-street parking (Figure 2.5).

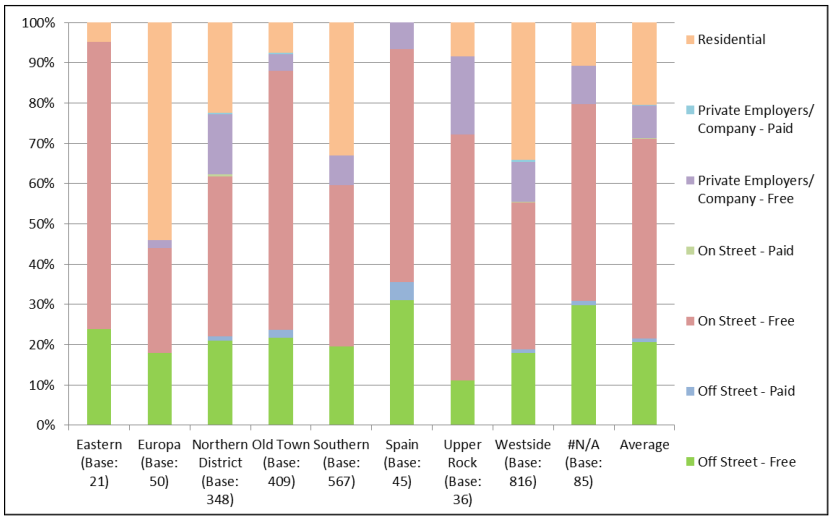
Figure 4.11: Type of parking used



Source: Mott Macdonald
Base: 2,376

Broken down by zone, the data shows that free on-street and off-street parking in the East District and the Town exceeds the average. Residential parking in Europa Point, North District, South District, and Westside is substantially above average, whereas in the East District, Town and Upper Rock it is considerably below average (Figure 4.11).

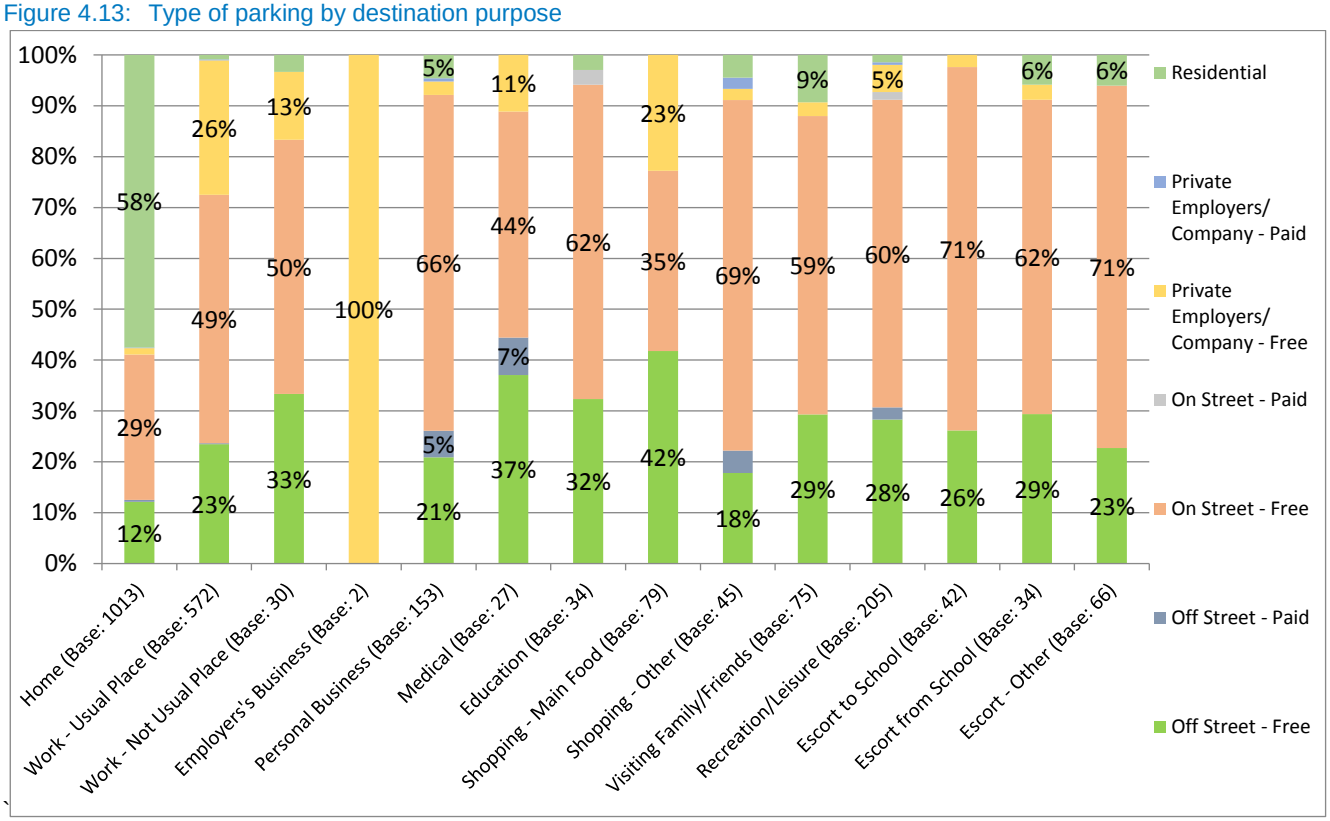
Figure 4.12: Type of parking by destination zone



Source: Mott Macdonald
Base: 2,376

Analysis of household parking data by destination purpose shows, that the vast majority of trips and related parking were between home and work. Home made up 43% of destinations and work (usual place) constituted 24% of destinations. It is worth noting that of those travelling to work, only 26% parked in employer-owned (free) car parks. Across all other destination purposes a greater percentage used free on-street parking compared to free off-street parking. Due to the low base, employer's business is excluded from this analysis.

Figure 4.13: Type of parking by destination purpose



Further results from dedicated parking surveys are outlined in greater detail in the Parking Section 6.

4.3 Key themes and issues

- Vehicle ownership in Gibraltar is relatively high across Gibraltar, 60% of households own a car or 4x4, 19% own other cars and 32% own a motorcycle, scooter or moped. The Upper Rock has a particularly high car ownership (82%) which can partly be explained by its location.
- Cycle ownership in the North District and Westside are above average which presents an opportunity for encouraging cycling in these areas. In the Town area adult bicycle ownership is average and child bicycle ownership is below average which could present a barrier for encouraging further uptake.
- Overall mobility problems do not appear to present a substantial barrier to the uptake of walking and cycling as 96% of households reported no mobility problems. However, the mobility needs of different groups need to be considered when implementing new schemes.
- There is substantial vehicle ownership in the North District,Town and Westside which may act as a barrier to encouraging walking and cycling if a car or moped/scooter is readily accessible.
- Encouragingly nearly half of all trips are walking trips. However nearly a third of all trips are car trips. The average car journey time is less than 20 minutes indicating that many trips are of a short

distance and hence there is potential for some of these car trips to be undertaken by walking or cycling.

- Parking data shows that a substantial proportion of household trips are commuting trips. Employer/company car parking only makes up a small percentage of parking locations, suggesting that a reduction in company car parking is unlikely to encourage a shift to more sustainable modes as free on- and off-street car parking is readily available.

5 Public Transport

5.1 Methodology

Public transport data obtained includes bus journey times and boarding & alighting counts, together with information from household surveys and operators.

Data on a route by route basis has been obtained, from which particular features of each have been identified. This includes the locations where most people board and alight services, the loading profiles and observed journey times. Detailed profiles of the data are presented in Appendix B.

5.2 Results

5.2.1 Bus Passenger Counts

Route 1 Upper Town Route Willis's Road to Market Place

This route has boarding taking place at Willis's Road and Arengo's Place with alighting throughout. Loadings are lighter than those from the town area with up to 13 passengers. The opposite direction illustrates the role of Market Place as the key boarding location, supplemented by St Bernard's Hospital. Passengers leave the service towards the end of the route, notably Moorish Castle Estate and Willis's Road. Loadings in this direction are typically up to 22 passengers.

Route 2 Market Place to Europa Point

This route shows the role of Market Place for boarding although other town origins are used. Passengers leave the service throughout the route and loadings are high, particularly on the 07:30 morning service with up to 60 passengers observed (although the bus capacity is 49). More typically, loadings were in the region of 20 to 30. In the opposite direction, boarding takes place along the route with the predominant alighting points in the town area including Convent Place, NatWest, Market Steps and Market Place. The average observed journey time was 18-20 minutes, with weekday services operating from 06:40 to 21:00 with a 15-minute frequency.

Route 3 Upper South District Circular South Pavilion Steps to Glacis Kiosk

This route has the most boardings towards the start of the route and most alightings around the hospital, Waterport and Glacis Kiosk. Loadings are typically between 25 and 35. For journeys in the opposite direction, boarding takes place mainly at Referendum House and nearby locations with South Pavilion Steps being the most popular alighting point. The average observed journey time was 20 minutes from Referendum House or 29 minutes from South Pavilion Steps. Weekday services operate from 06:30 to 21:00 with a 15-minute frequency.

Route 4 Lower South District/Rosia to East Side/Both Worlds

This route has boarding passengers between Rosia and Market Place with passengers alighting in the town area and beyond. Loadings vary but appear to be highest around Market Place but dwindle at the Both Worlds end of the route. In the opposite direction, passengers board throughout with the main destinations being the hospital, Cathedral Square and other town locations including Rosia. However, loadings in this direction are lower than those towards Both Worlds. The average observed journey time was 42 - 44 minutes, with weekday services operate from 08:45 to 21:00 with a 20-minute frequency.

Route 5 Frontier to Reclamation Road

This route serves a substantial demand at the Frontier with the predominant alighting point being Market Place, supplemented by the hospital and Reclamation Road. Observed loadings were typically 35 to 50 and this is the only route on which larger buses can be operated with vehicles having a capacity of up to 70. Demand appears to be less in the opposite direction although observed boarding at Market Place appears to be less than might be expected. Most passengers alight at Frontier Customs. Typical loadings are up to 25 passengers. Journey times are subject to traffic conditions with traffic from the

Frontier being variable from light to very heavy, the latter impeding the reliable working of buses. The average observed journey time was 16 minutes inbound and 19 minutes to the Frontier with a 10 minute frequency at peak times.

Route 7 Mount Alvernia Circular

This route has very few passengers with typical loadings of less than three passengers. The service appears to contribute little to the passenger transport offer but is aimed at the home for elderly people (Mount Alvernia). The average observed journey time was 16 minutes, with weekday services operating from 11:00 to 14:30 and 16:00 to 19:00 with a 30-minute frequency overall.

Route 8 Black Strap Cove/Both Worlds to Reclamation Road

This route has boarding passengers throughout, particularly at the Caleta Hotel, St Theresa's Church and Market Place. The main alighting points along the route are at Reclamation Road, the hospital and Market Place. In the opposite direction, town stops are the most popular boarding locations with St Theresa's Church and Williams Way being the most popular alighting locations. Loadings are light at the Both Worlds end of the route. The average observed journey time was 19 minutes in each direction with a 30 minute frequency overall.

5.2.2 Bus Origin-Destination Survey

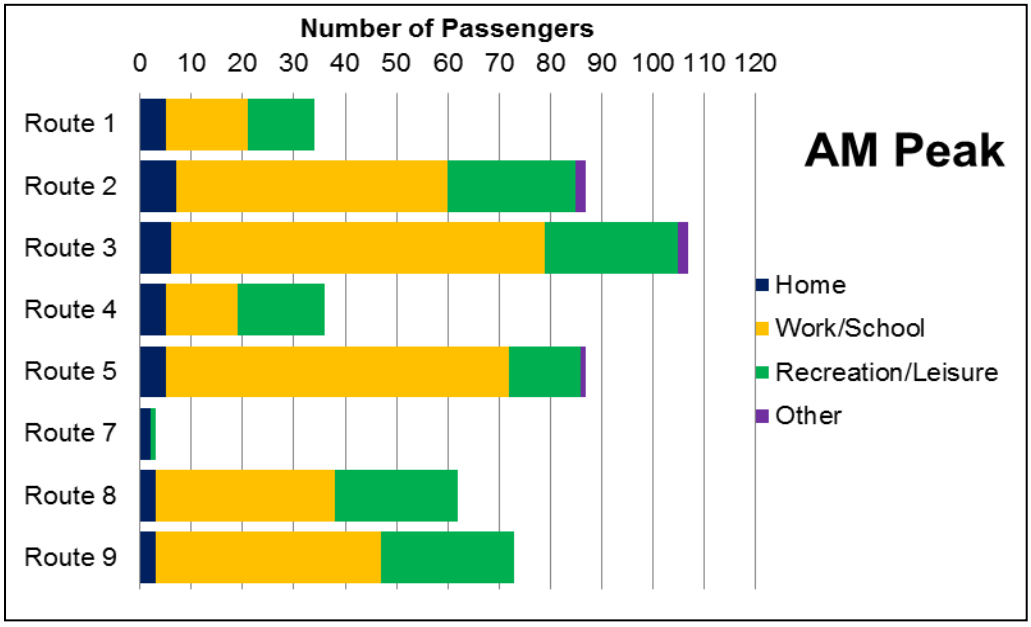
The purpose of the bus survey was to obtain information about the origin and destination of passengers travelling on different bus services in Gibraltar.

The surveys were carried out by interviewing passengers on board the bus. The interviewers asked the respondent the question and recorded the response on the survey sheet. All surveys were conducted on a Tuesday, Wednesday or Thursday between the survey time periods of 07:30 to 10:00 (AM Peak), 11:00 to 15:00 (InterPeak), and 15:30 to 19:00 (PM Peak).

Each of the eight bus routes were surveyed on a different day. The interviewer was expected to ask as many passengers as possible on board the service. Persons under the age of 16 were not interviewed. Passengers were not inclined to answer all questions and the respondent was allowed to stop the interview if the bus was approaching the alighting stop. Partially completed surveys were not used in the data analysis section.

Passengers on individual routes were asked about the destination of their journey during each survey period. Figure 5.1shows the AM peak journey purposes, on 7 of the 9 routes the work/school journey purpose was the most common reason for travel, suggesting that many of the AM Peak passengers travel for commuter purposes. Only routes 4 and 7 had higher alternative reasons for travel, with 47% of passengers on route 4 traveling for recreational purposes. In contrast 67% of passengers on route 7 were traveling home.

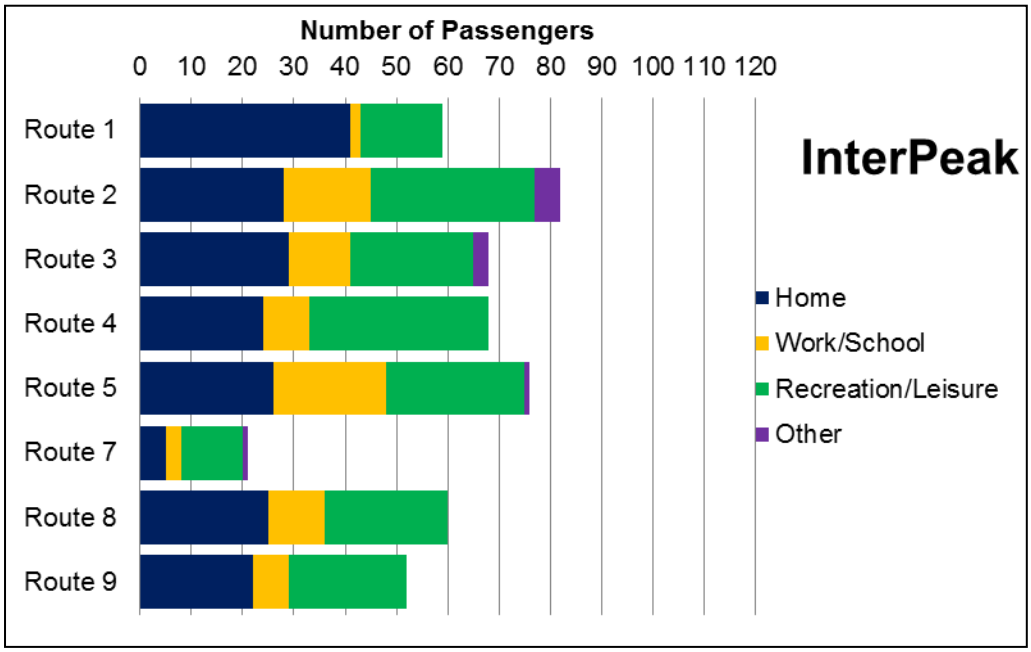
Figure 5.1: Destination of passengers traveling on each route during AM peak



Source: Mott MacDonald

Figure 5.2 shows passengers who travelled on the Gibraltar bus network during the Inter Peak hours of 11:00 to 15:00. In contrast to the AM peak journey purposes, many of the Inter Peak passengers were using the bus service either for recreational purposes, or as a means to get home.

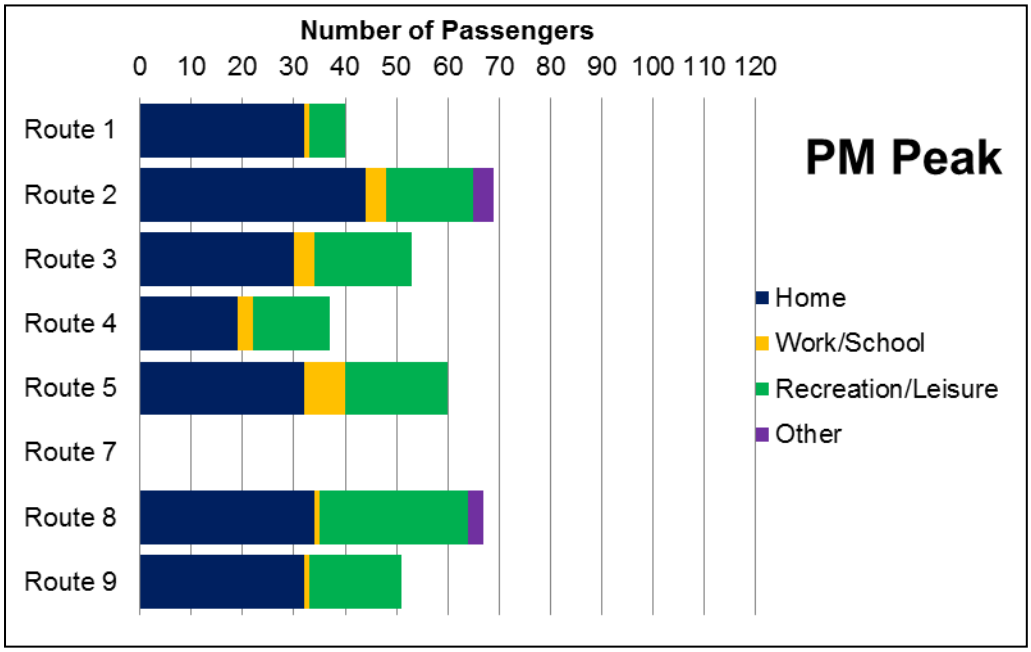
Figure 5.2: Destination of passengers traveling on each route during the Inter Peak



Source: Mott MacDonald

Figure 5.3 shows passengers who travelled on the Gibraltar bus network during the PM Peak hours of 15:30 to 19:00. During this travel period, there is a role reversal from the AM Peak journey purposes, with the majority of users now traveling home. This suggests that there is a large commuter ridership on the buses during these hours. There was also a large uptake of passengers traveling to a destination for recreational purposes.

Figure 5.3: Destination of passengers traveling on each route during the PM peak



Source: Mott MacDonald

5.3 Key Themes and Issues

Research undertaken on public transport in Gibraltar reveals the following key issues:

- There is a daily influx of people across the border with Spain which generates significant demand for bus/taxi travel at the Frontier into the town centre;
- Elongated north-south distribution of developed areas but a lack of direct bus routes extending from Europa Point to the Frontier/Airport;
- It is widely agreed that facilities for bus users at Market Place are restrictive and all require passengers to cross the carriageway. Entry and exit is difficult for buses resulting in delays and journey unreliability.
- Difficult topography and road alignments to access out-lying areas provide problems in terms of bus accessibility and the type of vehicles that can be used to serve these areas;
- Despite free services (except Service 5) demand not as high as could be; and
- There are peak period capacity issues across the network but during other times of the data reveals that bus service demand is low.

6 Parking Surveys

6.1 Methodology

A series of parking surveys were undertaken to provide an indication of the existing parking situation at off-street and on-street car parks. The surveys included:

- Beat surveys (On-Street and Off-Street);
- Entry and exit counts (Off-Street); and
- Interviews (Off-Street).

Other data relevant to parking was also collected as part of the broader modelling surveys. The locations where the surveys were completed are shown in Table 6.1.

Table 6.1: Location of Car Park Surveys

On-Street Survey Locations	Off-Street Survey Locations
Line Wall Road	Air Terminal
Prince Edward's Road	Devil's Tower Road
Reclamation Road	Fish Market Road (this includes parking spaces on Fish Market Road)
Rosia Road	Grand Parade
Town Range	ICC shopping centre
Waterport Road	Landport Ditch (separately identifying free and charged spaces)
Line Wall Road (four in total)	Naval Ground 1
	Naval Ground 2
	Queensway
	Air Terminal

Source: Mott MacDonald

6.1.1 Parking Beat Surveys

An inventory of the parking areas to be surveyed was initially completed to establish the precise numbers of parking spaces in each location. Each space was then given a unique location number that would be used to record activity and associated registration number of the parked vehicle. For each visit or 'beat' the numerator would record the parked vehicle's registration number for a specific space for that time or 'beat' period. Over the course of the day a profile of demand and duration of stay for each space would be realised that when aggregated, provided an overall demand against capacity for each surveyed location. The 'beats' were undertaken at hourly intervals between 07:30 and 19:30. The purpose of these 'beat' surveys was to establish two key parking behavioural characteristics and outcomes, namely:

- The duration of stay – the time a vehicle was parked in a specific space; and
- Overall parking demand – and hourly and total demand for parking against capacity for each location.

6.1.2 Entry and Exit Counts

To support the car park beat surveys, the number of vehicles entering and leaving the car park, throughout the survey period, were recorded. This helps determine the peak times for vehicles entering and exiting the car park and provides an indication of the number of 'roaming' vehicles when the car park is at full capacity. These were undertaken between 07:45 and 19:15.

6.1.3 Interviews

Interviews were completed at the off-street car parks to ascertain a number of relevant issues including the purpose of journeys undertaken, trip destinations, vehicle occupancies and expected frequency of trips.

6.2 Results

6.2.1 Beat Surveys

The results of the beat surveys presented as averages are shown in Table 6.5. These illustrate some key characteristics. Parking demand is high with nearly all car parking locations surveyed operating close to or at capacity[1]. Notable exceptions are the car parks where some form of control to limit stay is in place and these include 44 spaces in Landport Ditch, the privately operated ICC car park, Devil's Tower Road and the Air Terminal.

The average length of stay for parking reflects the dominant type of parking demand being long stay, and that these are likely to be commuter trips (also, refer to car park interview surveys in Paragraph 6.2.1.2). The average duration of stay is 6.8 hours for on-street locations and 5.3 hours for off-street car parks. However, a significant proportion of parking activities are for at least nine hours, particularly for on-street locations, suggesting that residential demand is taking place.

Although the numbers are greater for on-street locations it is clear that a significant proportion of car parking capacity is being utilised for non-essential demand[2]. As a result, the opportunities for visitors to park in these core areas, particularly on-street and closer to retail attractors, is reduced which can be detrimental in a number of ways.

Table 6.2: Summary of Results for On and Off-Street Car Parking Beat Surveys

On-Street	Capacity (No. of spaces)	Total No. of Vehicles	Average Overall Demand	Average Length of Stay (hours)	Stayed all day (No. of vehicles)	Stayed all day: 9hrs. (% of spaces)	Stayed all day (% of vehicles)
Line Wall Road	50	66	89%	7.6	36	72%	55%
Prince Edward's Road	72	106	80%	7.1	42	58%	40%
Reclamation Road	73	135	98%	6.7	50	68%	37%
Rosia Road	65	127	97%	6.5	45	69%	35%
Town Range	45	62	77%	7.1	27	60%	44%
Waterport Road	69	135	94%	5.8	48	70%	36%
Average On-Street	62	105	89%	6.8	41	66%	41%
Off-Street	**Capacity (No. of spaces)**	**Total No. of Vehicles**	**Average Overall Demand**	**Average Length of Stay (hours)**	**Stayed all day (No. of vehicles)**	**Stayed all day: 9hrs. (% of spaces)**	**Stayed all day (% of vehicles)**
Air Terminal	167	244	50%	4.5	50	30%	20%
Devil's Tower Road	154	75	47%	4.3	12	8%	16%
Fish Market Road Area[3]	75	189	100%	5.2	55	73%	29%

[1] Car parking that operates close to or in excess of 90% is considered to be at capacity, providing very little scope to absorb additional demand.

[2] Non-essential demand is defined as parking activity that restricts the efficient use of parking space. An example might be all day parking in locations better suited to short stay for access to retail centres.

[3] The Fishmarket Road area includes the uncontrolled parking areas on-street and the off-street parking immediately adjacent to the carriageway

On-Street	Capacity (No. of spaces)	Total No. of Vehicles	Average Overall Demand	Average Length of Stay (hours)	Stayed all day (No. of vehicles)	Stayed all day: 9hrs. (% of spaces)	Stayed all day (% of vehicles)
Grand Parade	403	803	85%	11.4	259	64%	32%
ICC	345	525	47%	3.5	53	15%	10%
Landport Ditch - Free	85	312	90%	4.1	50	59%	16%
Landport Ditch - P&D	44	123	36%	1.7	0	0%	0%
Naval Ground 1	75	207	91%	4.2	38	51%	18%
Naval Ground 2	288	442	95%	8.0	202	70%	46%
Queensway	365	699	83%	5.9	236	65%	34%
Average Off-Street	200	362	72%	5.3	96	43%	22%

Table 6.3: Summary of Results for On and Off-street Motorcycle Parking Beat Surveys

On-Street	Capacity (No. of spaces)	Total No. of Vehicles	Average Overall Demand	Average Length of Stay (hours)	Stayed all day (No. of vehicles)	Stayed all day: 9 hrs. (% of spaces)	Stayed all day (% of vehicles)
Line Wall Road	173	326	89%	5	107	62%	33%
Prince Edwards Road	7	15	66%	4	0	0%	0%
Reclamation Road	83	194	76%	4	26	31%	13%
Rosia Road	16	45	75%	3	4	25%	9%
Town Range	35	49	91%	8	28	80%	57%
Waterport Road	-	-	-	-	-	-	-
Average On-Street	63		79%	5	33	40%	22%
Off-Street	**Capacity (No. of spaces)**	**Total No. of Vehicles**	**Average Overall Demand**	**Average Length of Stay (hours)**	**Stayed all day (No. of vehicles)**	**Stayed all day (% of spaces)**	**Stayed all day (% of vehicles)**
Air Terminal	-	-	-	-	-	-	-
Devil's Tower Road	-	-	-	-	-	-	-
Fish Market Road Area	47	129	91%	4	19	40%	15%
Grand Parade	75	160	94%	8	24	32%	15%
ICC	10	10	40%	2	0	0%	0%
Landport Ditch	19	52	69%	3	1	5%	2%
Naval Ground 1	-	-	-	-	-	-	-
Naval Ground 2	24	36	77%	7	9	38%	25%
Queensway	32	43	84%	8	21	66%	49%
Average Off-Street	35	72	76%	5	12	30%	18%

There will be an increase in circuitous traffic movements as motorists look for convenient locations to park. This is likely to contribute to an increase in traffic congestion at certain times, which can disrupt the reliability of public transport services. Unlimited stay parking, particularly on-street and close to the core retail areas also impedes access to convenient shopping related demand. Shopper parking provision should ideally be restricted to a maximum of four hours on-street. Opportunities for shorter (1 and 2 hour parking) should also be catered for and this is supported by demand profiles shown below. Although the statistics are not as robust for motor cycle/moped parking due to the nature of the multiple parking activities taking place in a demarcated area, a similar approach was adopted for these surveys yielding similar demand characteristics.

It is clear from the sample of parking surveys undertaken that parking capacity does exist and that this can be utilised with appropriate management and control mechanisms in place.

To assist in the possible designation of parking areas, the off-street parking survey data has been further analysed to consider in greater detail the percentage of spaces being utilised at specific survey periods throughout the day and moreover, where and how much capacity exists.

For every car park surveyed the total demand has been calculated for each survey period and compared to the car park's capacity and presented as a 'thermal grid' of demand intensity. This supports the conclusions discussed above that demand is lowest where parking control mechanisms are in place. In addition, it also confirms the intensity of demand throughout the day at the more attractive parking locations.

Table 6.4: Proportion of Daytime Utilisation of Off-street Car Parking Spaces

Off-Street	07:30	08:30	09:30	10:30	11:30	12:30	13:30	14:30	15:30	16:30	17:30	18:30	19:30
Air Terminal (Total Spaces: 167)	8%	49%	47%	57%	69%	44%	44%	44%	44%	46%	59%	68%	71%
Devil's Tower Road (Total Spaces: 154)	10%	10%	12%	10%	13%	14%	14%	30%	29%	19%	18%	18%	18%
Fish Market Road (Total Spaces: 75)	99%	99%	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
Grand Parade (Total Spaces: 403)	34%	84%	86%	86%	86%	86%	88%	89%	90%	94%	96%	98%	
ICC (Total Spaces: 345)	18%	18%	51%	62%	58%	60%	62%	63%	66%		34%	30%	
Landport Ditch - P&D AREA (Total Spaces: 44)	7%	9%	24%	40%	58%	56%	51%	51%	51%	44%	47%	16%	13%
Landport Ditch - FREE AREA (Total Spaces: 85)	99%	98%	100 %	100 %	100 %	100 %	98%	99%	95%	99%	89%	88%	93%
Naval Ground 1 (Total Spaces: 75)	28%	99%	99%	99%	100 %	100 %	100 %	99%	95%	97%	100 %	88%	83%
Naval Ground 2 (Total Spaces: 288)	93%	98%	99%	98%	99%	98%	98%	95%	94%	93%	94%	91%	91%
Queensway (Total Spaces: 365)	62%	82%	92%	92%	95%	94%	93%	93%	88%	87%	76%	64%	60%

Referencing these demand percentages against the individual car park capacities enables the production of Table 6.5. This table clearly shows where there is available car parking capacity and most importantly, provides us with an indication of how much, and where car parking is currently available in the central area of Gibraltar. The total available space calculation in Table 6.5 suggests that even at the busiest period of the day (16:30 and 17:30) there are at least 337 parking spaces available.

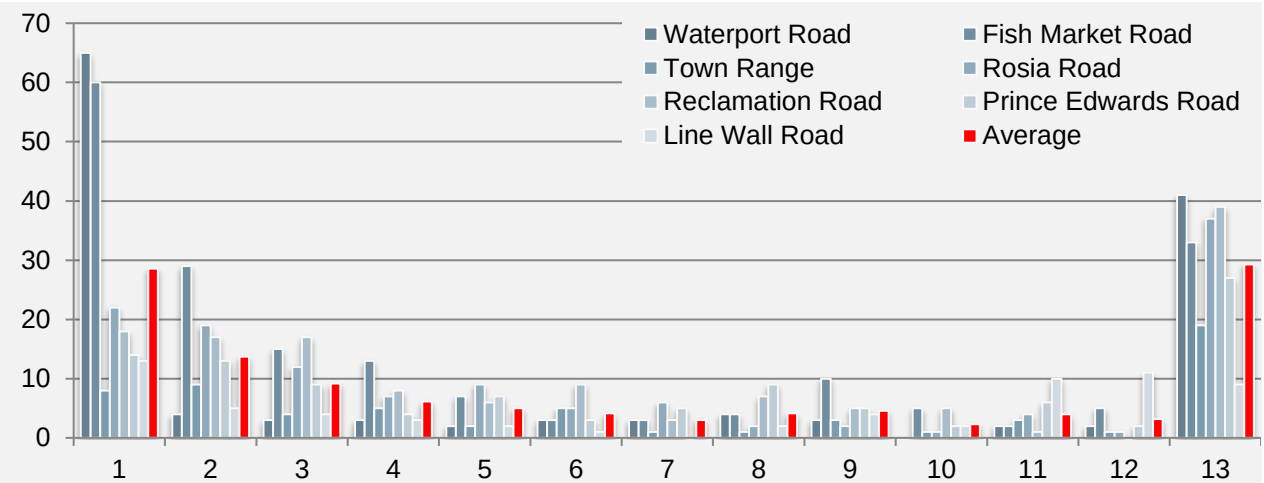
Table 6.5: Total Number of Off-street Parking Spaces Available by Time Period

Off-Street	07:30	08:30	09:30	10:30	11:30	12:30	13:30	14:30	15:30	16:30	17:30	18:30	19:30
Air Terminal (Total Spaces: 167)	154	85	88	71	52	93	94	94	94	91	68	53	48
Devil's Tower Road (Total Spaces: 154)	139	139	136	139	134	132	132	108	109	125	126	126	127
Fish Market Road (Total Spaces: 75)	1	1	0	0	0	0	0	0	0	0	0	0	0
Grand Parade (Total Spaces: 403)	265	64	58	58	56	56	48	46	40	26	18	10	
ICC (Total Spaces: 345)	283	283	169	130	145	138	130	126	119		229	243	
Landport Ditch - P&D AREA (Total Spaces: 44)	41	40	33	26	19	20	22	22	22	24	23	37	38
Landport Ditch - FREE AREA (Total Spaces: 85)	1	2	0	0	0	0	2	1	4	1	9	10	6
Naval Ground 1 (Total Spaces: 75)	54	1	1	1	0	0	0	1	4	2	0	9	13
Naval Ground 2 (Total Spaces: 288)	19	7	3	6	3	6	7	13	16	20	18	27	27
Queensway (Total Spaces: 365)	138	66	30	30	19	21	26	27	42	48	87	131	146
TOTAL SPACES AVAILABLE	**1095**	**688**	**519**	**461**	**428**	**466**	**460**	**438**	**450**	**337**	**578**	**646**	**405**

Referring specifically to the on-street parking locations surveyed and considering overall capacity, the total number of vehicles parking and the duration of stay suggests that there is a strong demand for shorter stay parking demand. Waterport Road and Fish Market in particular clearly accommodate significant parking demand for up to 1 hour.

Conversely, and reflecting the location of the road being further away from the attractions to the North, Town Range can be seen to have a lower short term demand and is likely to provide valuable parking capacity for residential parking. Figure 6.1 illustrates this demand confirming that at the surveyed locations there is a strong demand for short stay parking (up to 1 hour). Furthermore, considering parking durations of up to 3 hours supports the consideration for restricting some parking areas to a maximum of between 2 and 4 hours.

Figure 6.1: The Duration of Stay by Total Number of Vehicles and On-street Location



6.3 Entry and Exit Counts

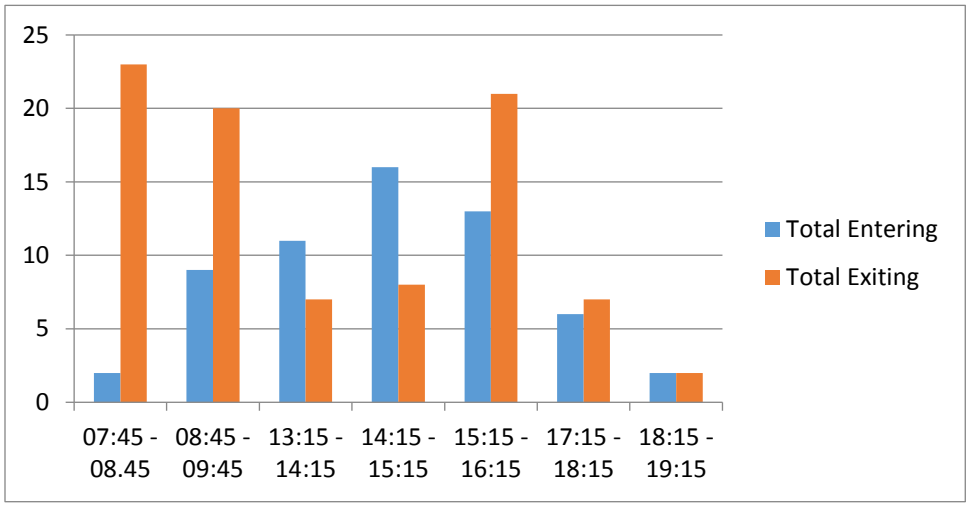
Considering the car park entry and exit counts, three examples have been presented that best illustrates the demand characteristics of the car parks depending on their location and perceived convenience.

As can be seen from the graphs typical entry and exit demands experienced are dictated by the location and therefore, service that the car parking facility provides. Devil's Tower Road car park is currently underutilised but does provide car parking for residents' permit holders from the local area on the upper levels. Figure 6.2 shows that there is a predominant egress from the car park in the morning with a steady increase of entering activity towards the middle of the day. These vehicles appear to exit later in the day suggesting some shorter term parking activity.

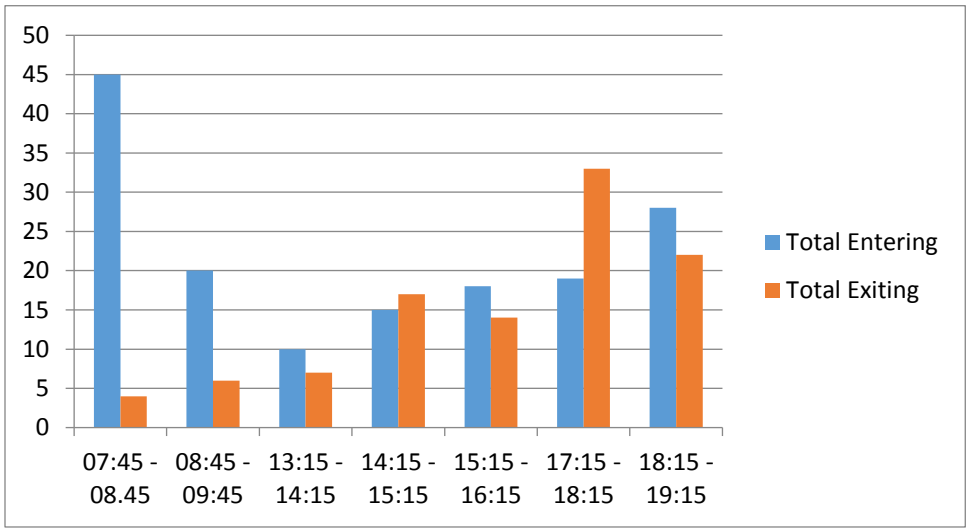
However, Naval Ground 1 (and similarly Naval Ground 2) demonstrates a sharp influx of parking in the morning followed by steady increase in exits throughout the day, suggesting commuter demand. Fish Market car park that incorporates the on-street parking in this area shows high levels of movement throughout the day. This is supported by other data sets that shows the car park to be at capacity for most of the day.

Figure 6.2: Entry and Exit Data

Devil's Tower Road



Naval Ground 1



Naval Ground 2

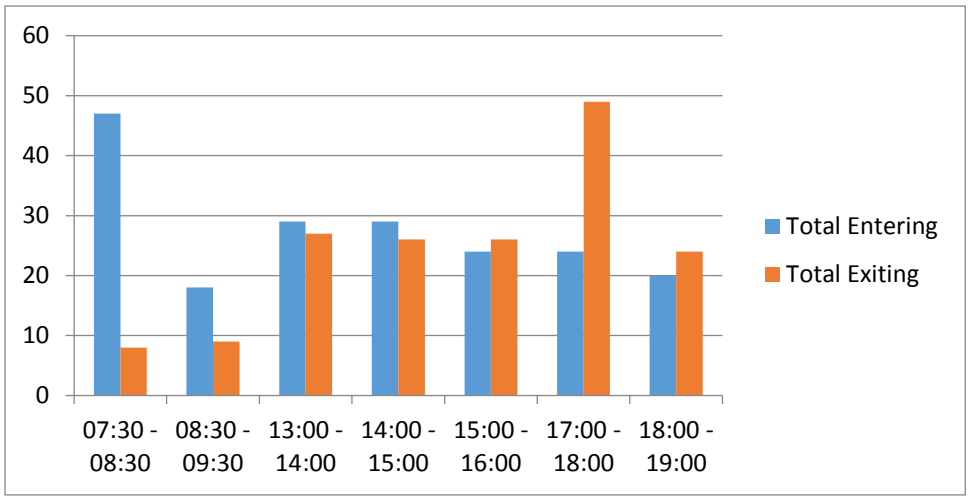
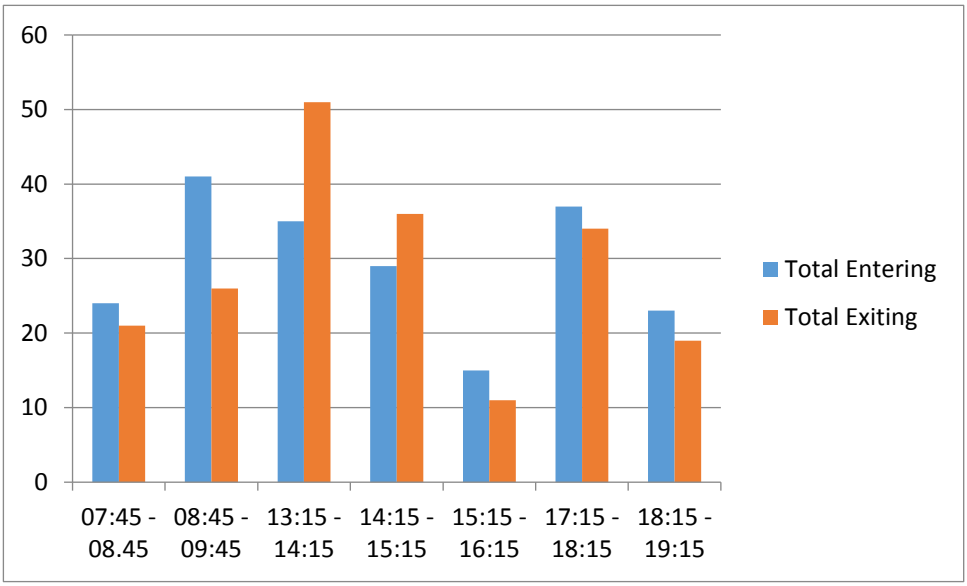


Figure 6.3: Entry and Exit Data

Fish Market Road & Car Park (on & off-street parking)



Interviews

For the entry and exit interviews at car parks, not surprisingly for the locations surveyed the majority of trip modes were regularly the private motor car. However where facilities for motor cycles are provided, such as in Fish Market, parking demand from this mode was significant. Also noted was the number of occupants for these parking activities. On average 1,533 (64%) of cars included just a driver and 2,153 (90%) of all parking activities were by cars with just a driver and one passenger.

Origins of parking trips were predominantly from home with 1,197 (54%), with 500 (20%) from the work place, suggesting either inward or outward commuting trips providing the significant proportion of parking demand which was evenly spread across all car parks surveyed. This was supported by the destinations after parking with work being the principal answer (596, 32%). However many also stated that home (615, 32%) was their destination after parking suggesting that on average, many car parks are used as longer term residential parking areas; this was not prevalent for the ICC and Fish Market car parks.

The frequency of these trips was high with 706 (39%) stating that the trips were undertaken every weekday and 612 (20%) stating the trips were completed at least 2-3 times a week. The duration of stay of these parking activities supports the beat survey data suggesting that longer term parking takes place; 722 (40%) parking between 4 and 12 hours. Interestingly, 35% stated that they intended to park for one hour or less. The duration of stay was also dictated by car park location and control for example, shorter stays were seen in Landport Ditch where P&D operates in 44 spaces to limit waiting times.

Not surprisingly location and convenience was cited as the main reason for choice of car parking location with 2,191 (80%) providing this as their reason for parking at that location.

6.4 Key themes and issues

Research undertaken on parking in Gibraltar reveals the following key issues:

- Demand for parking space in Gibraltar is very high and expected to increase in future with new development and regeneration opportunities being realised but it is believed that there is sufficient capacity in the current total supply to cater for existing demand;
- The need for effective enforcement is essential to control existing parking regulations and residents parking zones as well as manage car parks;

- It is important to tackle the non-essential demand for parking spaces, particularly where there is alternative travel options (i.e. walking, cycling or use of the bus);
- Of the total number of trips being made in Gibraltar that were surveyed, 64% of responses came from single occupancy vehicles and 90% with one passenger; and
- The surveys also revealed that 54% of car parking trips start from home and 80% of household respondents stated their primary reason for parking as being location.

7 Vehicle Journey Times

7.1 Methodology

Journey Time surveys were undertaken on 7 defined routes through Gibraltar. Each route had several timing points along its length. To get an average journey time each route was run multiple times as shown in the table 7.1.

Table 7.1: Journey Time: Number of Runs

Route	AM Peak	Inter Peak	PM Peak
1	9	18	9
2	9	15	10
3	9	18	10
4	9	18	10
5	9	18	9
6	8	17	10
7	9	15	12

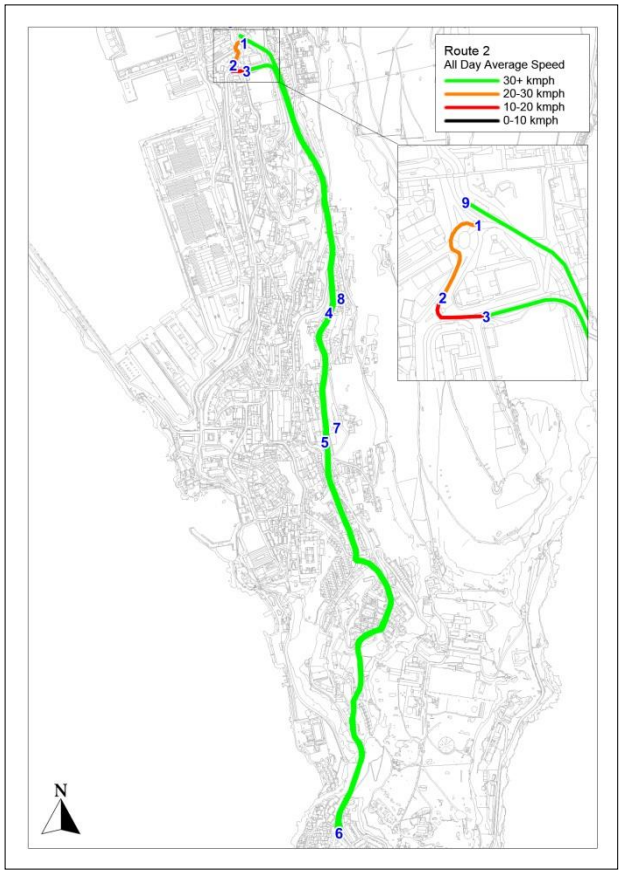
Source: Mott MacDonald

7.2 Results

The following figures display the average journey times for all time runs of each route:

Figure 7.1: Route 1

Figure 7.2: Route 2



Route 1

Average speed of 23km/h across all time period. Traffic is slowest during the PM Peak but there is no significant change. On the route, traffic is slowest between points 8 and 9 around St Joseph's School.

Route 2

Average speed of 33km/h with traffic free flowing at more than 31 km/h for the main body of each journey. Traffic reaches a peak speed of 56km/h during the Inter Peak.

Figure 7.3: Route 3

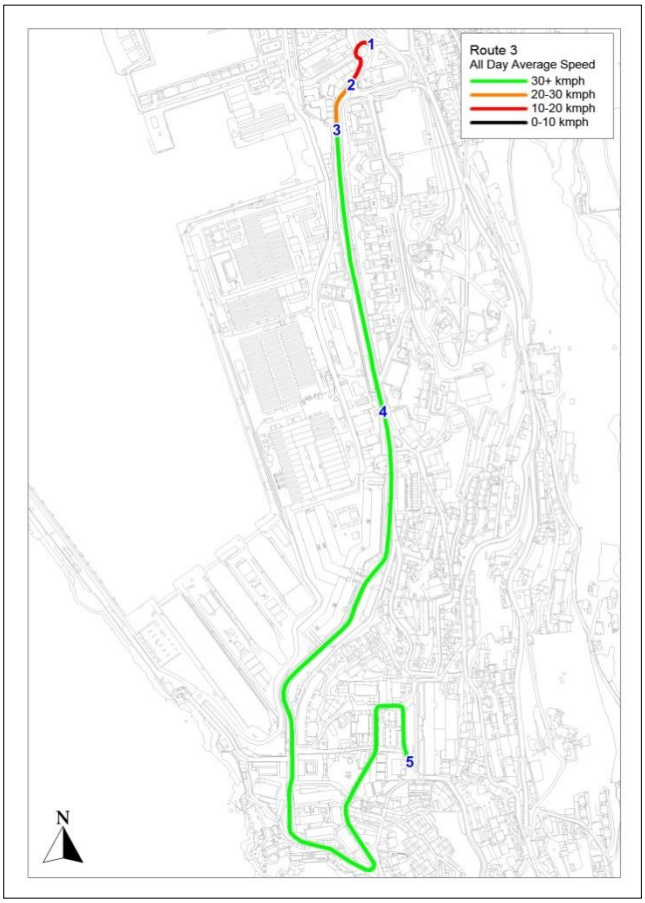
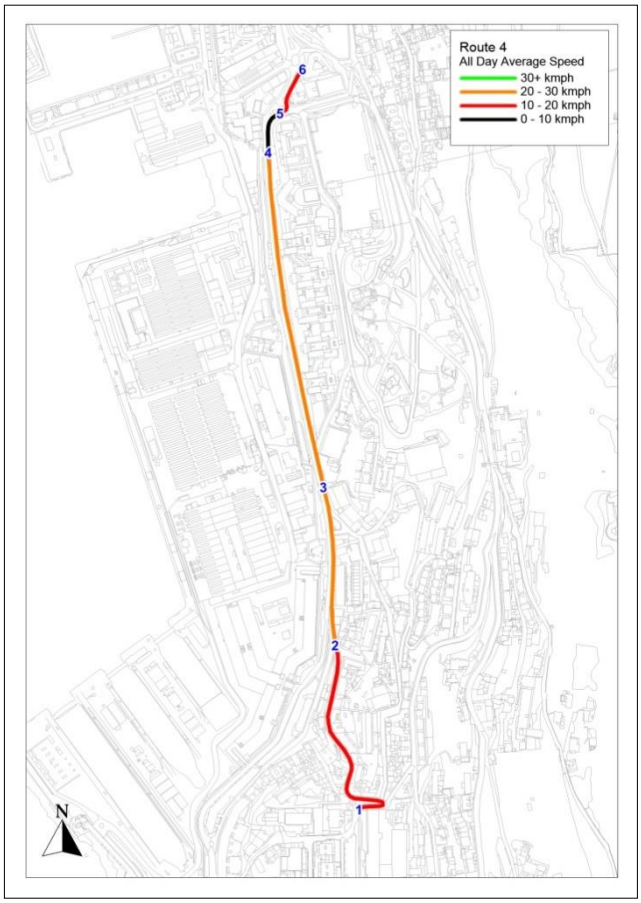


Figure 7.4: Route 4



Route 3

Average speed of 31km/h. It is notably slower during the AM and PM Peak particularly between Jumpers and St Joseph's School.

Route 4

Average speed of just 19km/h across all time periods. Traffic is slowest during the AM Peak (13km/h) and increases throughout the day to 24km/h in the PM Peak. Traffic is consistently slow in the Piccadilly area.

Figure 7.5: Route 5

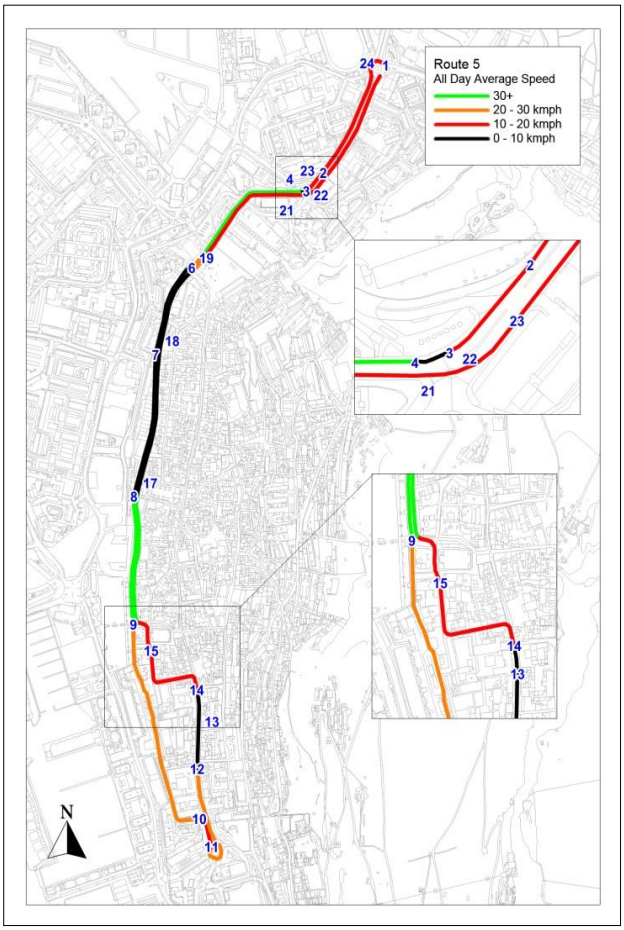
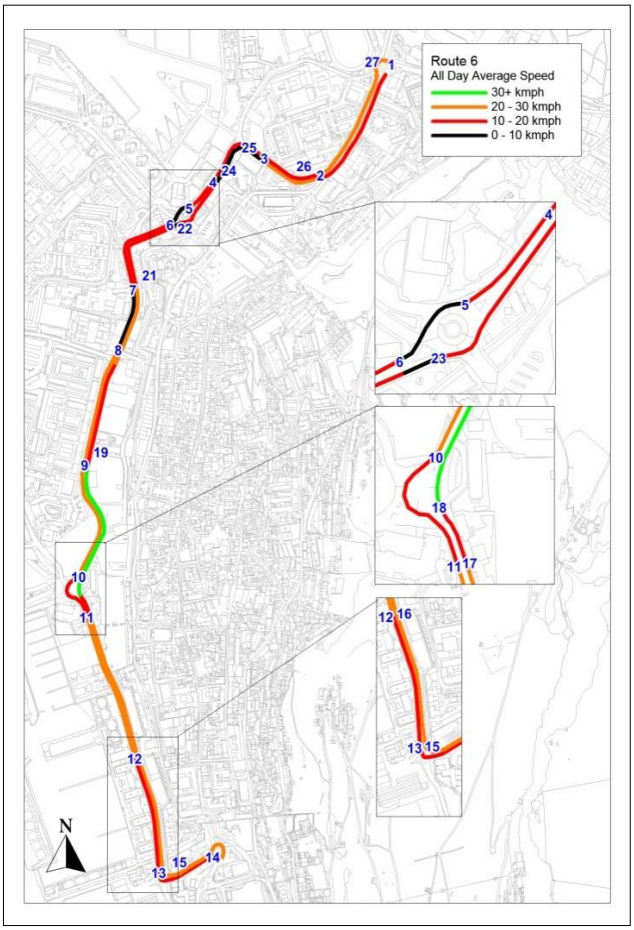


Figure 7.6: Route 6



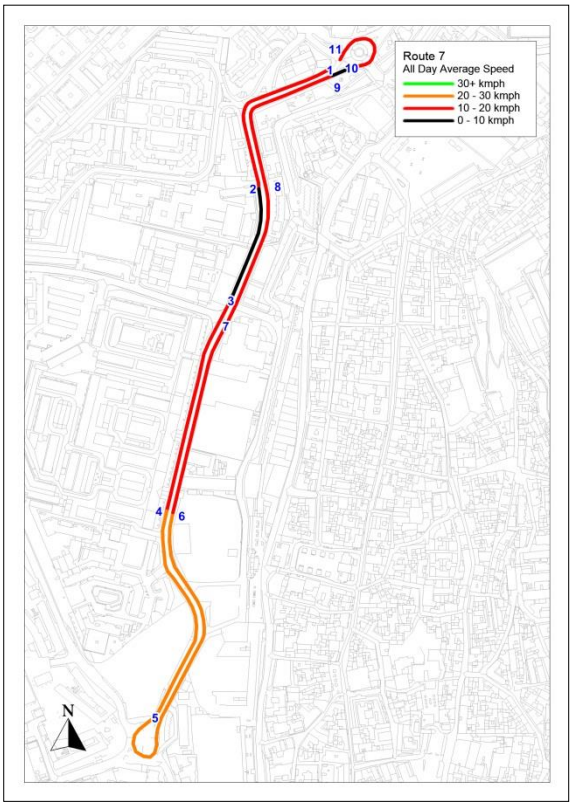
Route 5

Average speed of 20km/h with the fastest runs during the PM Peak.

Route 6

Average speed of just 19km/h. Traffic is fastest travelling northbound between Trafalgar Interchange and Edinburgh Estate (points 14 -19) and slowest southbound between Portland and Queensway (points 4-8).

Figure 7.7: Route 7



Route 7

Average speed of 17km/h across all time periods. Traffic is fastest during the middle of the journey and slower at the start and end around Waterport Roundabout.

7.2 Key themes and issues

- These journey time surveys highlight particular areas where traffic speeds are slow and hence where interventions should be thought out. Route 2 is the fastest route on average, with Routes 7 recording the slowest average speeds.
- The road network around Ragged Staff Entrance and Trafalgar Roundabout is consistently congested. Similarly, Line Wall Road experience significant delays with average travelling speeds for some sections (between 6-8 and 17-19) are recorded at less than 10 kmph.

8 Pedestrian Counts

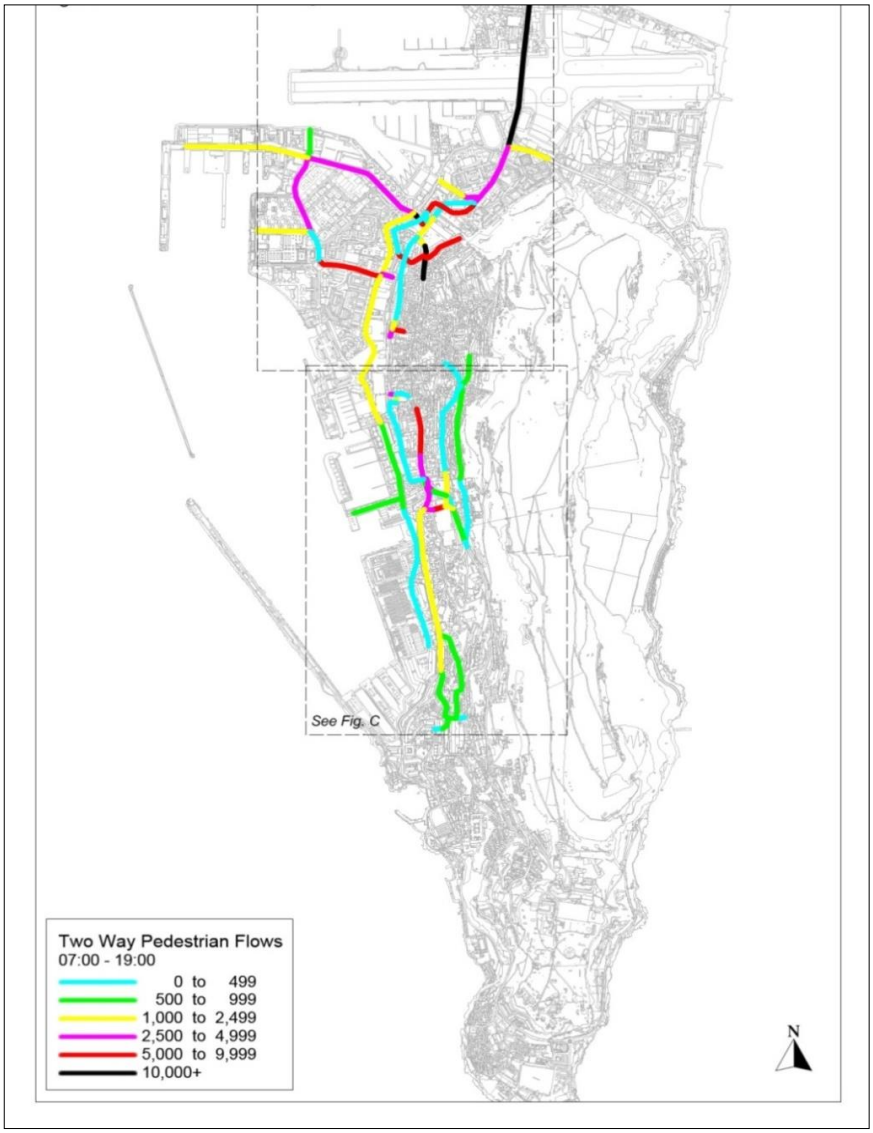
8.1 Methodology

Pedestrian counts were undertaken at 30 sites across Gibraltar to get understanding of the busiest pedestrian routes. Counts were undertaken from 7am through to 7pm at quarterly intervals. The number of arms to the junction and the possible direction of pedestrian flows dictated the number of counts at each site. Details on the outputs for each site is contained in the Appendix D.

8.2 Results

Figure 8.1 shows the combined pedestrian flows for all the pedestrian count surveys (30 sites). Stick diagrams for the individual sites are included in Appendix D. The graph indicates that Winston Churchill Avenue experiences a high level of pedestrian activity along with Main Street. The figure indicates that pedestrian activity dissipates outwards from these two roads.

Figure 8.1: Two-Way Pedestrian Flows



Source: Mott MacDonald

8.3 Key themes and issues

The highest flows of pedestrians are on Main Street and Winston Churchill Avenue between the frontier/airport to the junction with Bayside Road. There is also a large amount of pedestrian activity around Casements Square, the Coach Park and along Main Street towards Grand Parade and the Cable Car.

9 Cruise Ships

9.1 Methodology

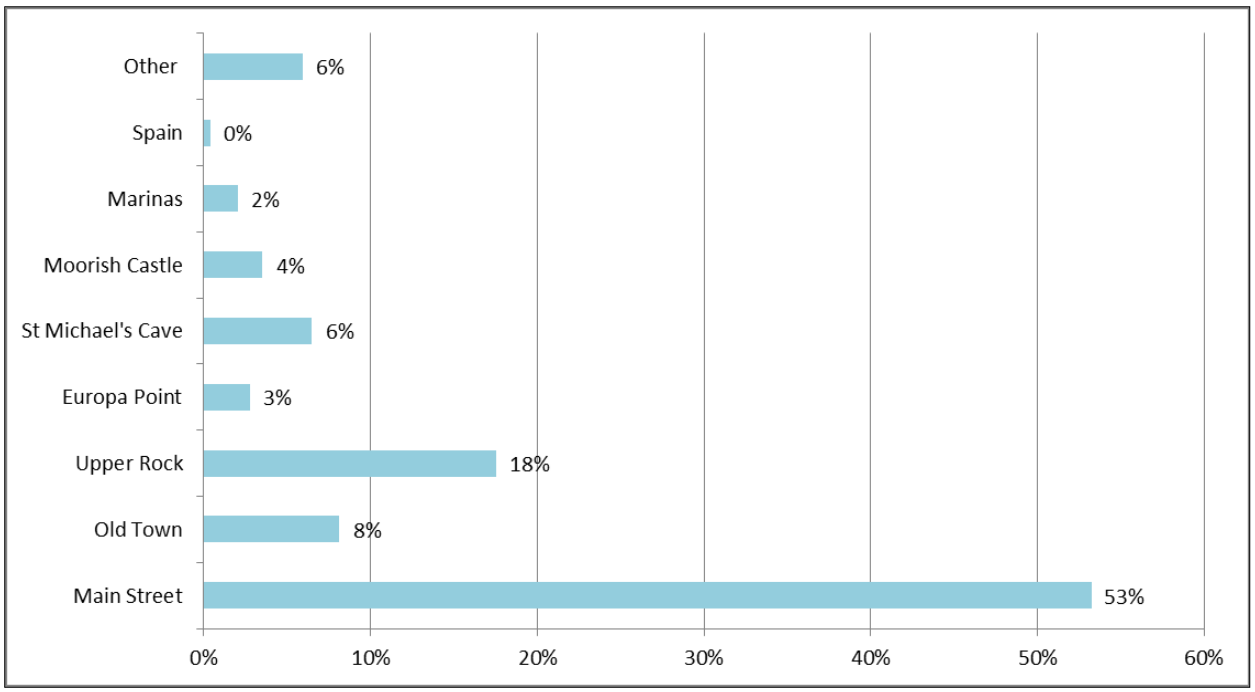
Surveys of cruise ship passengers were undertaken to gain an understanding of the travel behaviour of visitors coming to Gibraltar. These surveys were undertaken on 8 April and 23 April 2013 to coincide with four cruise ships docking.

9.2 Results

9.2.1 Current travel behaviour

A total of 93% of respondents to the cruise ship survey were British. Of those arriving in Gibraltar by cruise ship, 53% visited Main Street and a further 18% visited Upper Rock. All other destinations were visited by less than 10% of cruise ship passengers, suggesting that there is a concentration around Main Street and the Upper Rock.

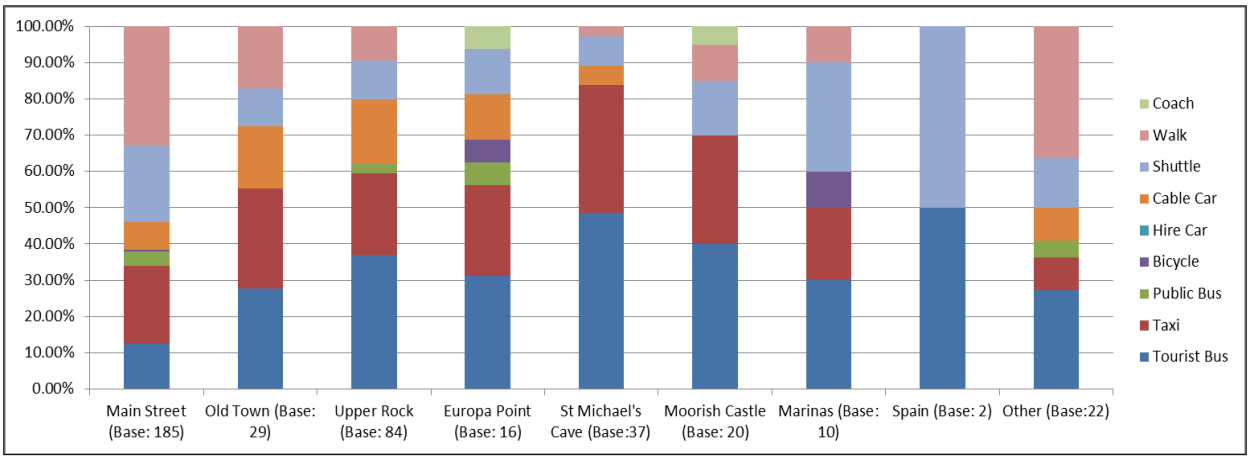
Figure 9.1: Locations visited since arriving in Gibraltar



Source: Mott MacDonald Base: 541

Travel to these two destinations is already largely carried out by sustainable modes, particularly in the case of Main Street, this is facilitated by its proximity to the cruise terminal. 33% of cruise passengers walked to Main Street and 37% travelled to the Upper Rock by tourist bus.

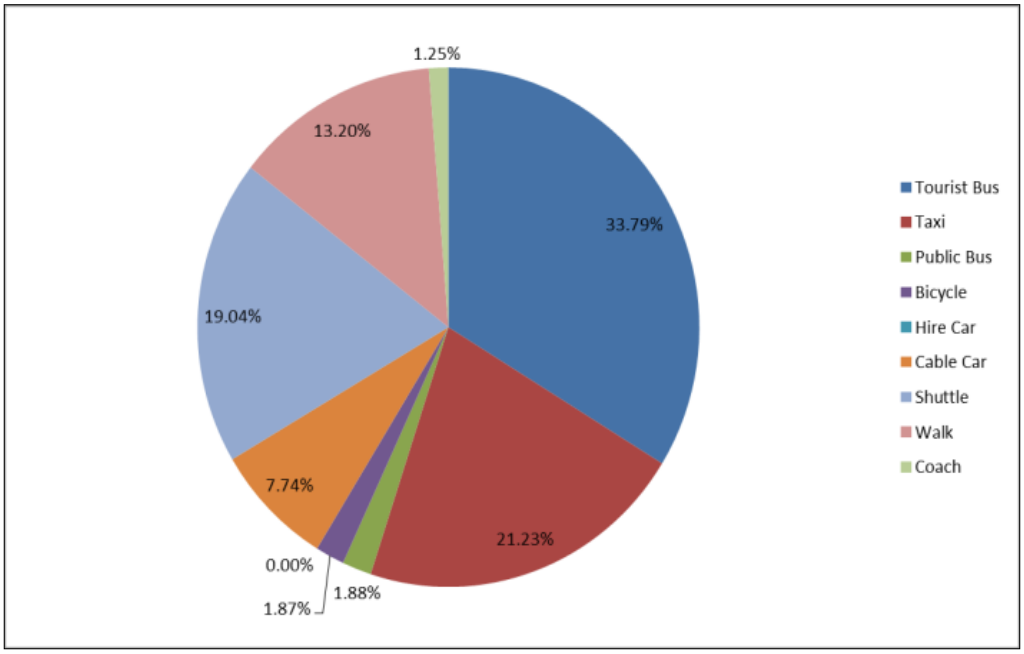
Figure 9.2: Mode of travel to main destination (by destination)



Source: Mott MacDonald Base: 405

Overall, the most popular sustainable modes for travelling to their main destinations were tourist bus, shuttle and walking. Cycling and public bus were less popular (Figure 9.3).

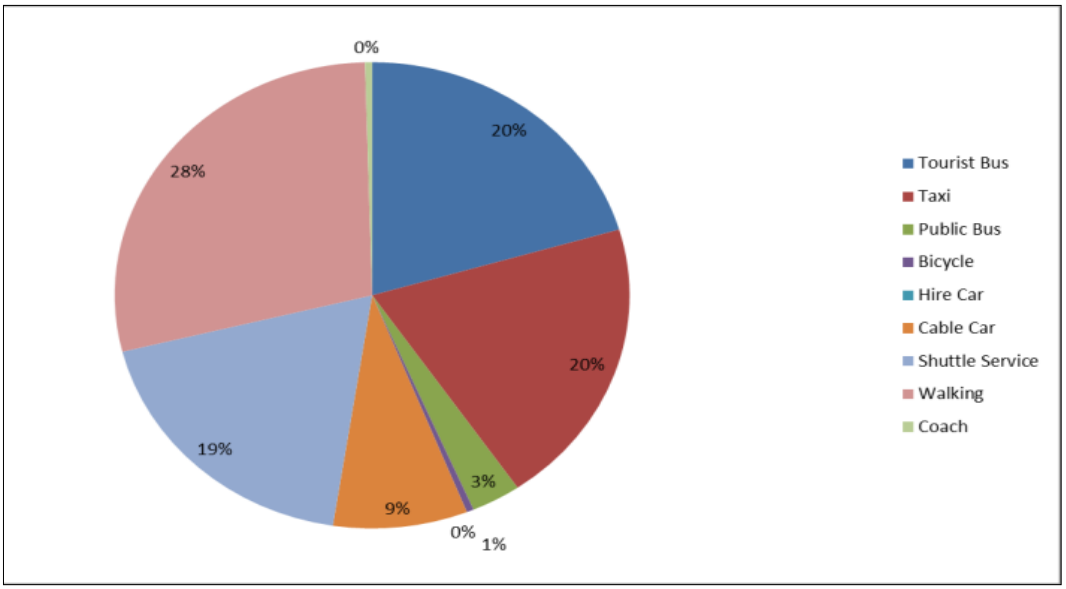
Figure 9.3: Mode of travel to main destination



Source: Mott MacDonald
Base: 405

The mode split for all travel while in Gibraltar was similar (Figure 9.4). However there was a smaller percentage of trips by tourist bus (20%) in favour of walking trips (28%).

Figure 9.4: All modes used when in Gibraltar

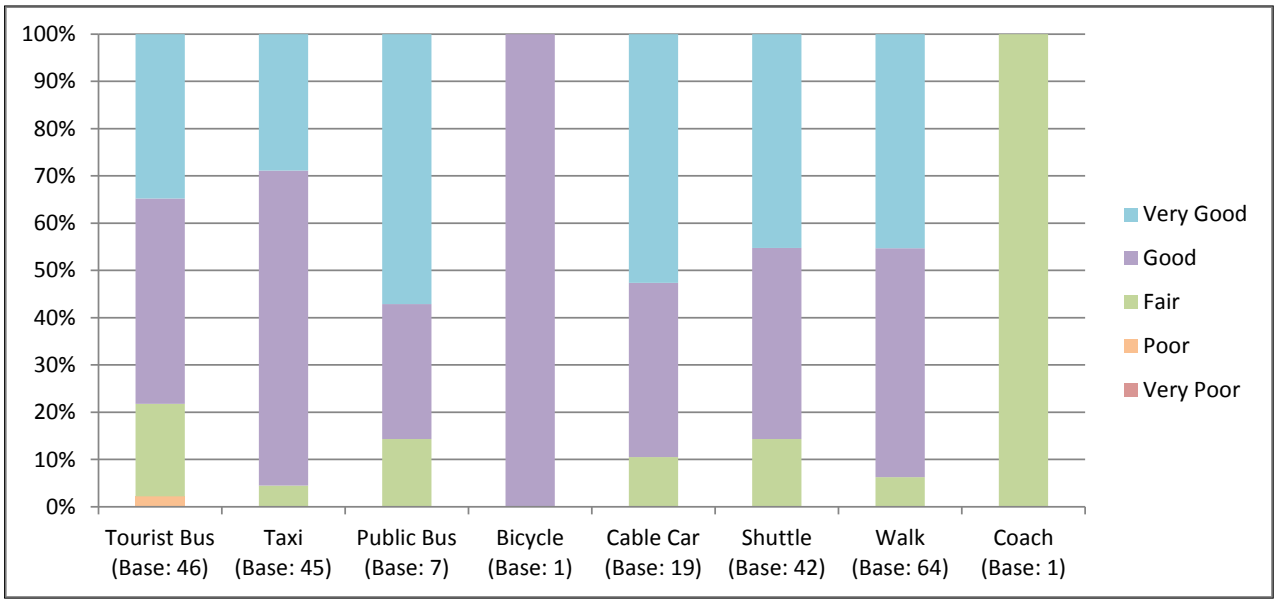


Source: Mott MacDonald
Base: 225

Generally travel in Gibraltar is well perceived. 48% of respondents perceived travel as good and a further 40% perceived travel in Gibraltar as very good. 11% perceived travel as fair and only one respondent – using a tourist bus – perceived it as poor.

When looking at this by mode, it emerges that the tourist bus was most negatively perceived; 22% rated is as fair or poor. This was followed by public bus and shuttle which were both rated fair by 14% each. The cable car was rated fair by 11%.

Figure 9.5: Opinion of travelling in Gibraltar by mode

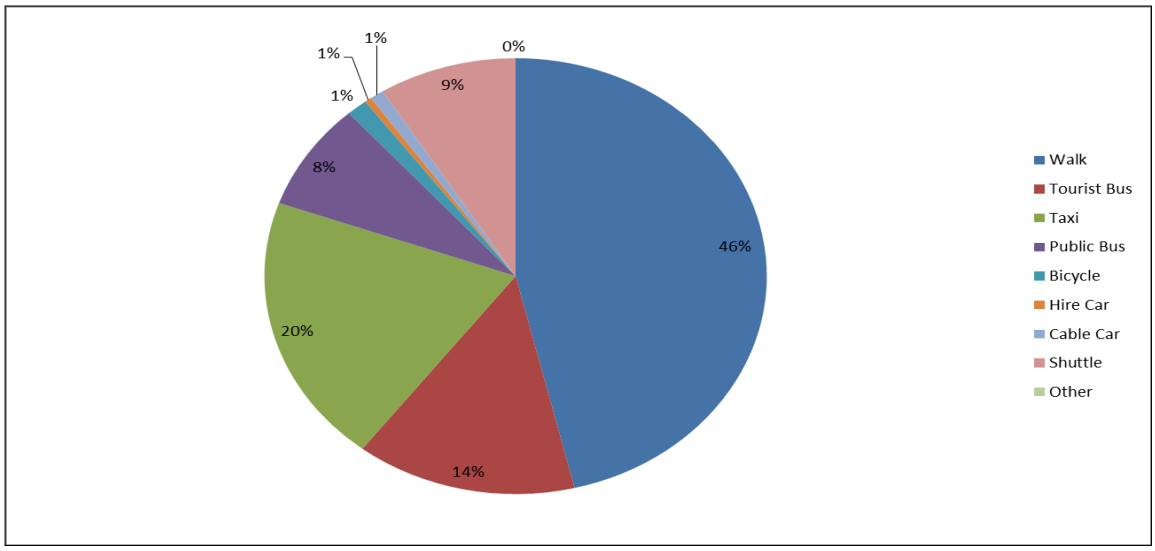


Source: Mott MacDonald
Base: 225

9.2.2 Future travel behaviour

The most popular mode of transport considered for future trips in Gibraltar was walking (46%), followed by taxi (20%) and tourist bus (14%).

Figure 9.6: Stated future mode



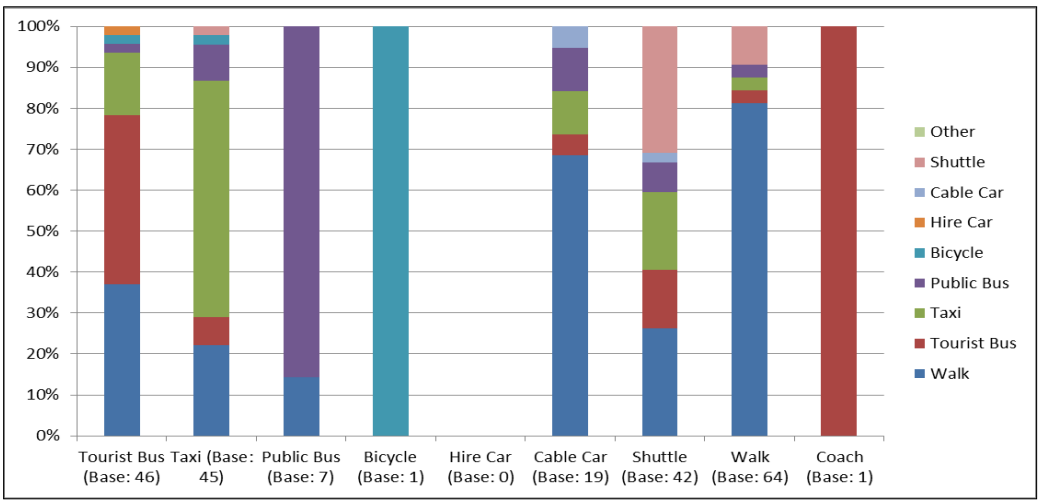
Source: Mott MacDonald
Base: 225

Breaking this down by current mode shows that a considerable number of respondents would continue to use the same mode as they are using at present. A number of results to highlight are:

- Of those currently travelling by tourist bus, 37% considered walking and 15% taxi as an alternative
- 58% of taxi users would continue to use a taxi
- 65% of cable car users would consider walking, and 11% would take a taxi or public bus as a future mode of travel
- 19% of shuttle users would use a taxi as an alternative mode

The majority (81%) of those who currently walk, would continue to do so.

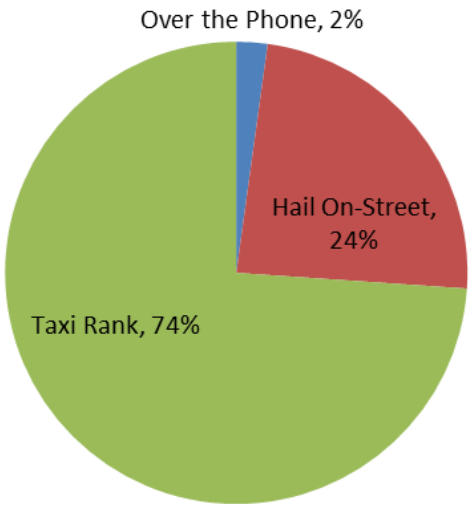
Figure 9.7: Potential future travel modes by current modes



Source: Mott MacDonald
Base: 225

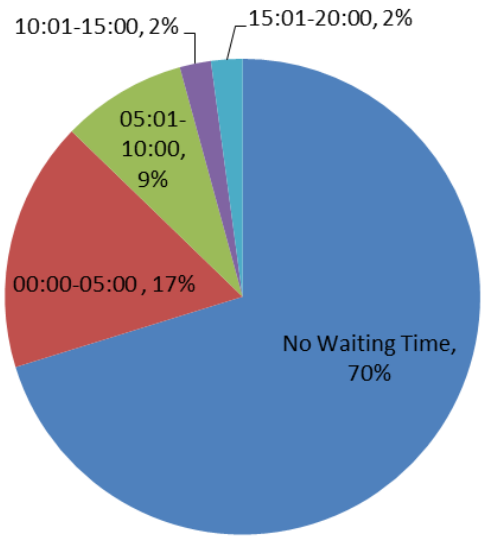
Overall taxi emerges as a popular alternative to current modes and the majority of current taxi users would continue to travel by taxi in future. Findings on taxi use specifically, show that it is a comparatively easy mode to use. The vast majority of taxis were picked-up at a taxi rank or hailed on-street and for 70% there was no waiting time with a further 17% waiting less than 5 minutes.

Figure 9.8: Taxi booking method



Source: Mott MacDonald
Base: 46

Figure 9.9: Taxi waiting time



Source: Mott MacDonald
Base: 47

9.3 Key themes and issues

- Walking to a number of key destinations such as Main Street and the Town is already popular. There is however, potential for increasing these figures largely due to their relative proximity to the cruise terminal.
- Travel in Gibraltar is generally well perceived. The greatest room for improvement is for tourist bus, public bus, shuttle and cable car services.
- Whilst it is positive that almost half of the respondents consider walking as a future mode, the uptake of future unsustainable modes such as taxi should be discouraged. As the taxi is an 'easy to use' mode of transport which is readily available and has no to short wait times, discouraging its future uptake needs to be directly targeted at:
  - Current tourist bus and shuttle users by improving the quality of tourist bus services;
  - Cable car users by providing better alternatives in form of walking and public bus facilities; and
  - Encouraging taxi users to switch to alternative modes.

10 School Travel

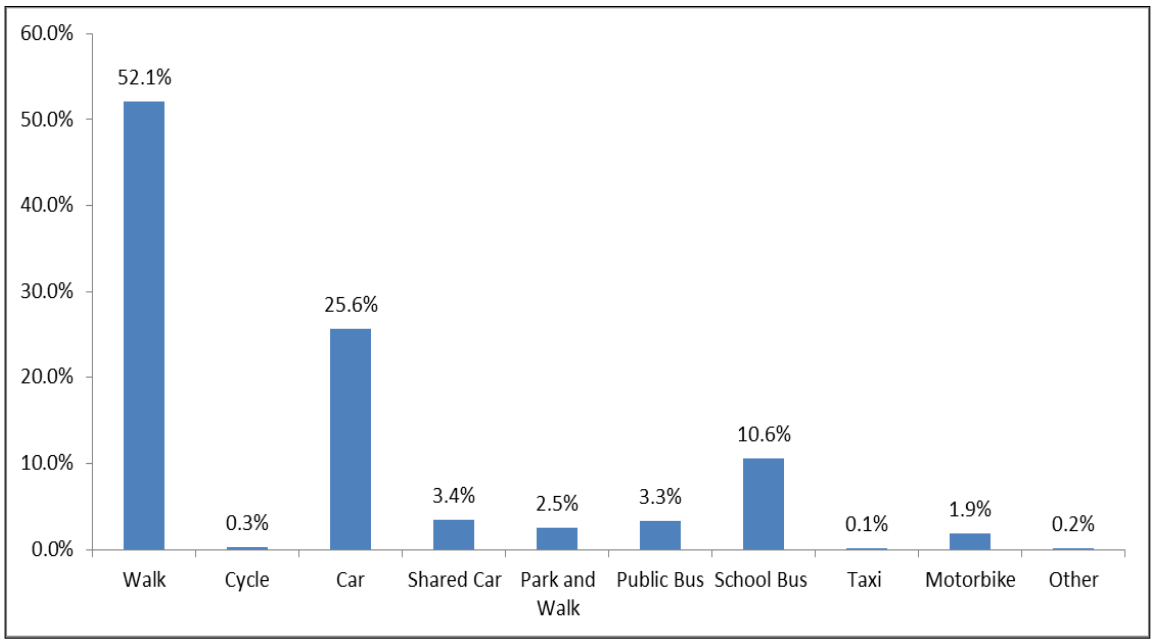
10.1 Methodology – Primary Schools

Each class in all schools was asked to complete a short hands-up survey in each class.

10.2 Results

The travel mode split across Gibraltar to school shows that around half of the children walk and a quarter travel by car. The next popular mode is school bus (10.6%). When interrogating this data further there are a number of schools that have a car mode share which is substantially higher than average.

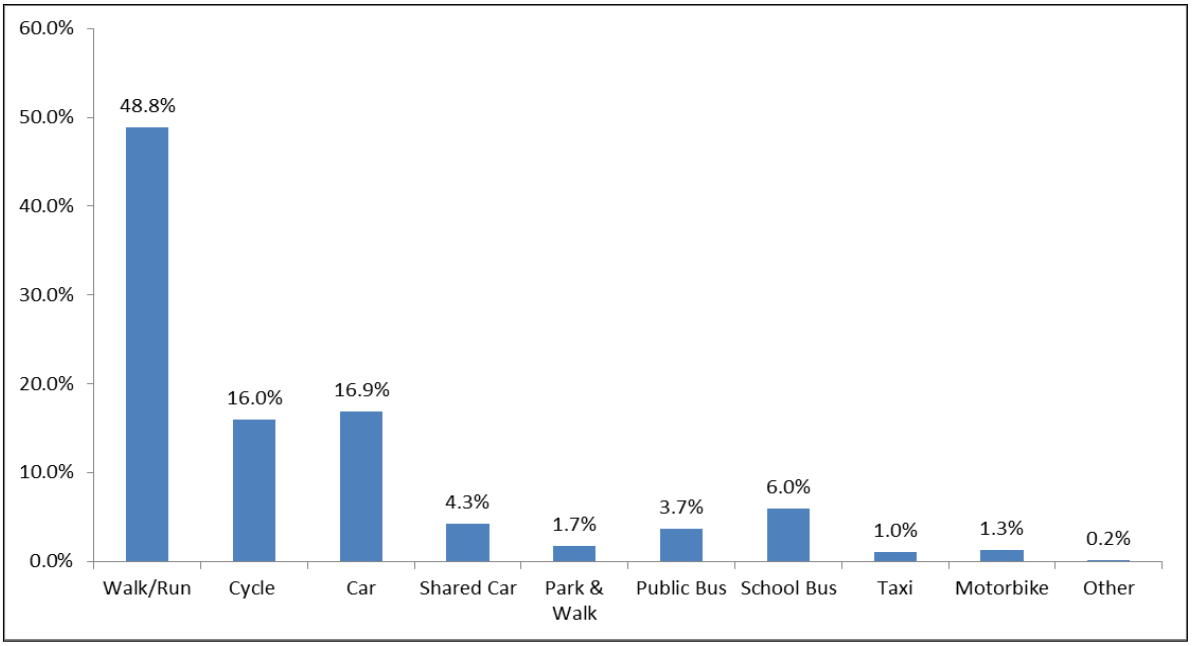
Figure 10.1: Travel to school mode share (school average)



Source: Mott MacDonald
Base: 1,981

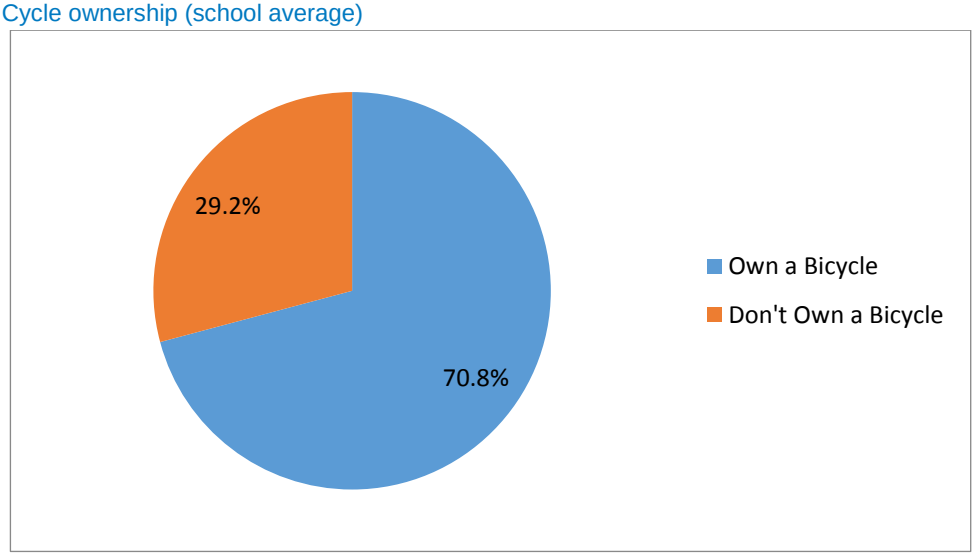
Pupils were also asked how they would like to travel to school. The results largely reflect the current actual mode split with the key difference that at present on 0.3% cycle to school whereas 16% indicated that they would like to cycle to school. Only 17% stated they would like to travel to school by car, compared to the 26% who currently do so.

Figure 10.2: Preferred travel to school mode share (school average)



71% of pupils stated that they currently own a bicycle suggesting that bicycle ownership is not a barrier to the uptake of cycling for travelling to school.

Figure 10.3: Cycle ownership (school average)



Source: Mott MacDonald
Base: 1,530

10.3 Key themes and issues

A considerable number of pupils already walk to school which is positive. However there is still an opportunity for increasing travel to school by sustainable modes even further by working directly with schools with an above average car mode share and exploring and addressing the barriers to the uptake of cycling as a mode of travelling to school.

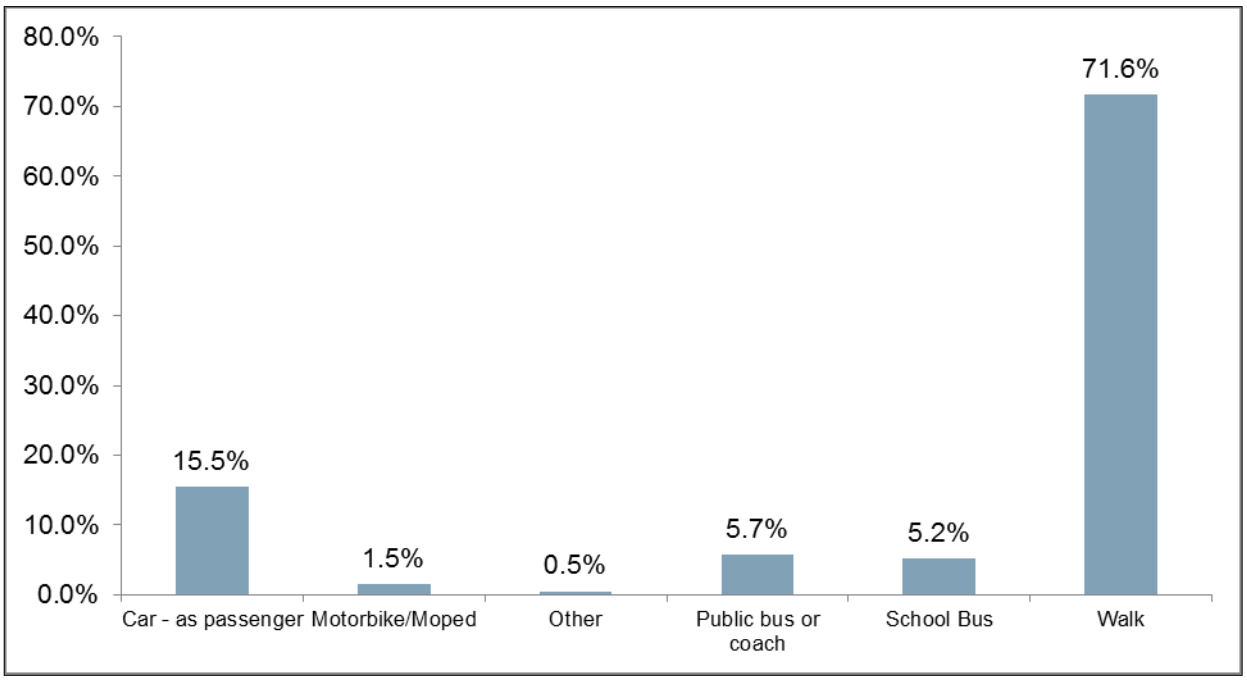
10.4 Methodology - Secondary Schools

Secondary school pupils were asked to complete the travel survey online – 194 responses were received from two schools (Figure 10.4).

10.5 Results

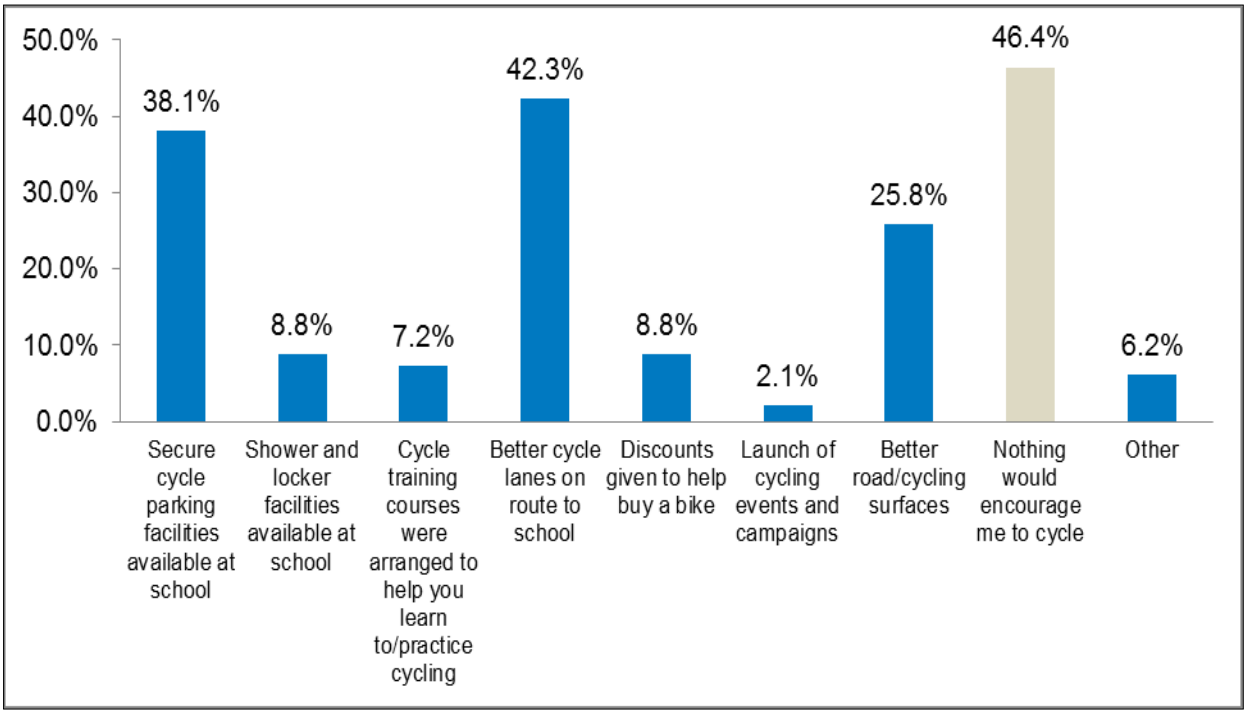
Encouragingly already over 70% of pupils walk to school. No pupils stated that they currently cycle to school with nearly a fifth (17%) of pupils using a motorised vehicle (car, motorbike or moped) to travel to school. Over 10% of pupils travel to schools by public bus or school bus service.

Figure 10.4: Mode Share



Source: Mott MacDonald
Base: 194

Figure 10.5: Encouraging Cycling

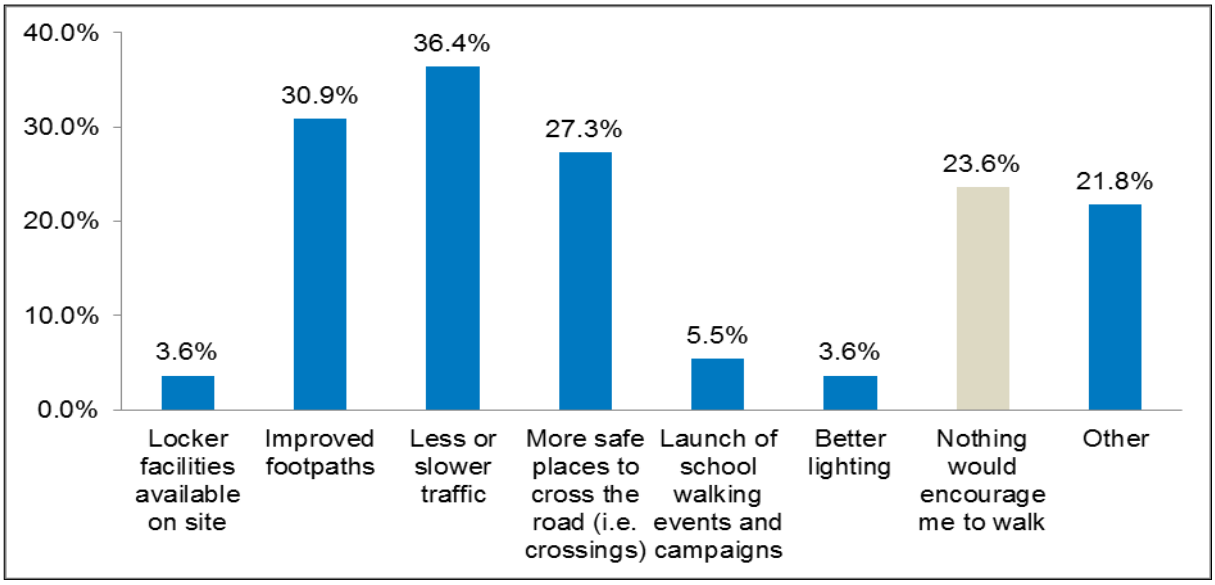


Source: Mott MacDonald
Base: 194

Improving cycle lanes and providing secure cycle parking at school would be the most effective methods of encouraging pupils to cycle (42% and 38% respectively).Over a quarter would consider cycling if there were better road/cycling surfaces. However, although 46% stated that no improvements would encourage them to cycle to school, this is important as it means that over half of pupils would be interested in cycling, of which none currently do so.

Based on the travel to school modal share, walking is by far most popular method of transport. Reducing or slowing traffic and improving footpaths would be the most effective ways to further encourage walking (36% and 31% respectively). Over a quarter would consider walking if there were more safe places to cross. However, over a fifth who don't currently walk to school, state that nothing could be done to alter their behaviour.

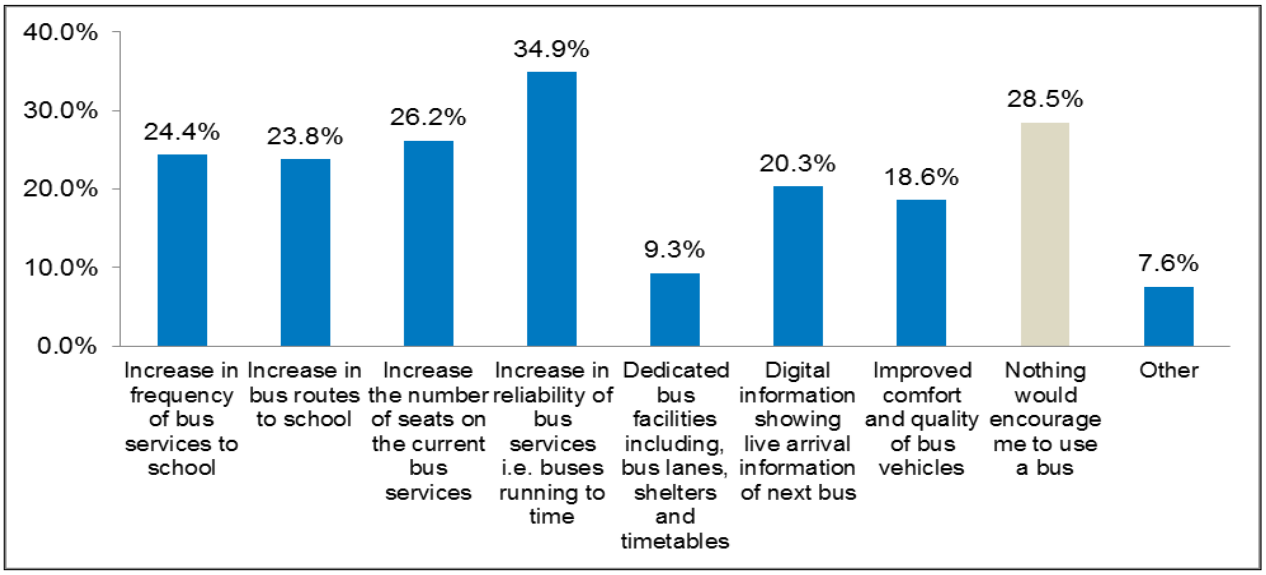
Figure 10.6: Encouraging Walking



Mott MacDonald
Base: 55

An increase in the reliability of services would be the most effective method to encourage the use of public transport (35%). An increase in the number of seats, bus routes and frequency were also popular improvement options (26%, 24% and 24% respectively.) 29% of pupils stated nothing would encourage them to use the bus. Proving dedicated bus facilities are not seen to be a significant factor to promote and encourage bus use for school pupils (9%).

Figure 10.7: Encouraging Bus Usage



Source: Mott MacDonald
Base: 172

10.6 Key themes and issues

Encouragingly already over 70% of pupils walk to school. However no pupils stated that they cycle and nearly a fifth us a motorised vehicle hence there is an opportunity to increase the use of sustainable modes even further.

10.7 Methodology - School Staff

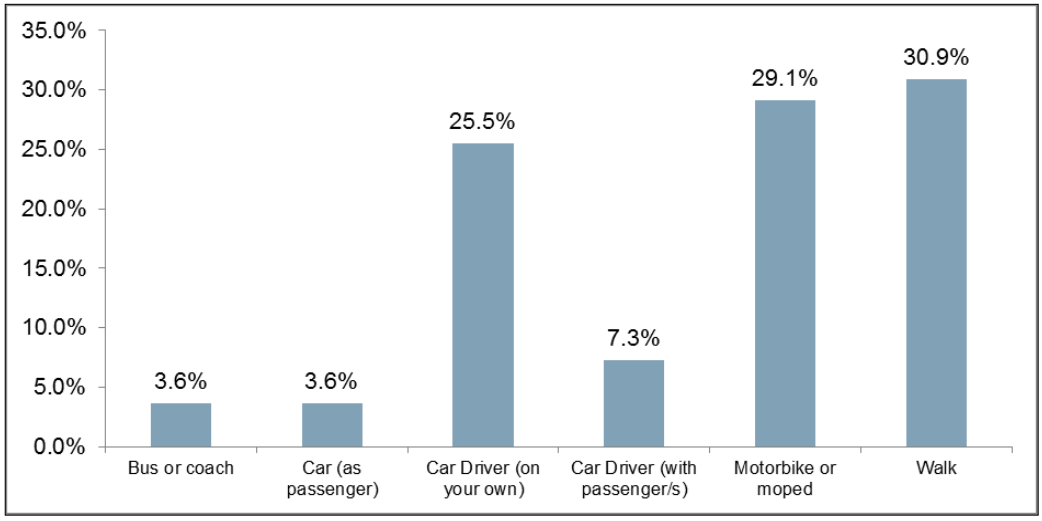
School staff were also asked to complete an online travel survey – 55 responses were received from 10 schools.

10.8 Results

Whilst 30% of staff walked to school, over a third of the staff used the car (36%) either as a lone driver or with passengers and 29% used a moped or motorbike.

Based on the responses, nearly half (46%) of the school staff commuted to work by sustainable modes of transport (bus, cycle, walk or car-share – as driver or with passenger).

Figure 10.8: Mode Share

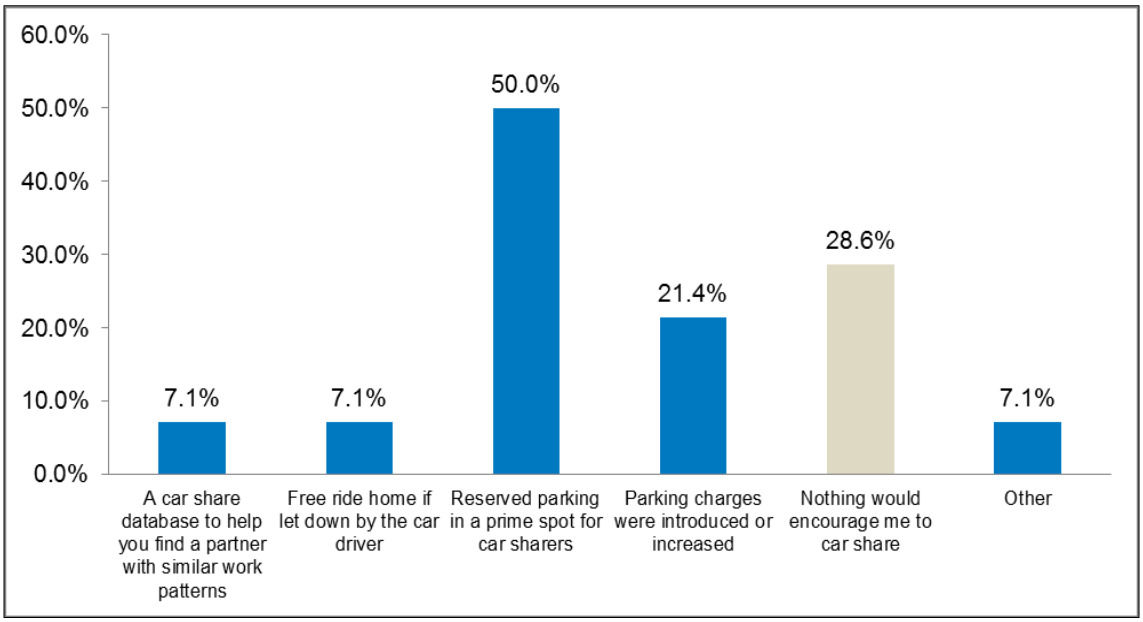


Source: Mott MacDonald
Base: 55

To determine what is required to support the school staff to commute more sustainably, respondents were asked to state what would encourage them to travel to work by certain modes. Half of the respondents saw a reserved parking space in a prime location as the most effective method to encourage car sharing. Over a fifth would consider car-sharing if parking charges were introduced or increased.

Encouragingly, less than 30% stated that nothing would encourage them to car-share. It is worth noting that only those who currently travel by car and taxi (including other) were asked to respond to this question, accounting for 14 school staff.

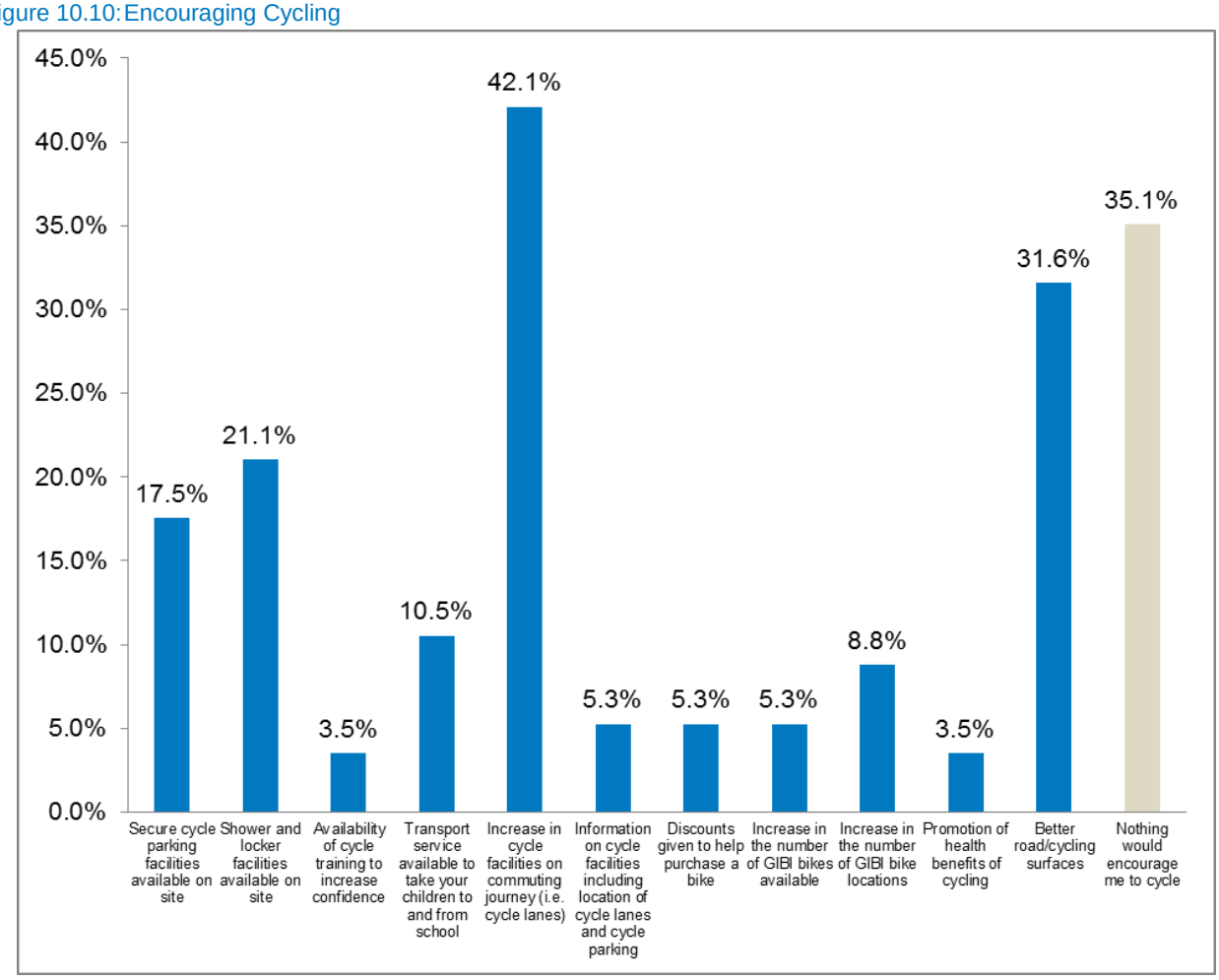
Figure 10.9: Encouraging Car-Sharing



Source; Mott MacDonald
Base: 14

Increasing the number and quality of cycle facilities on commuting journeys, including better surfaces and cycle lanes, are the main methods that would encourage more school staff members to cycle to work (42% and 31% respectively). Over a fifth would cycle if shower and locker facilities were available and if secure cycle parking facilities were available 17.5% would cycle. However, over a third of school staff (35%) would choose not to cycle regardless of improvements being made.

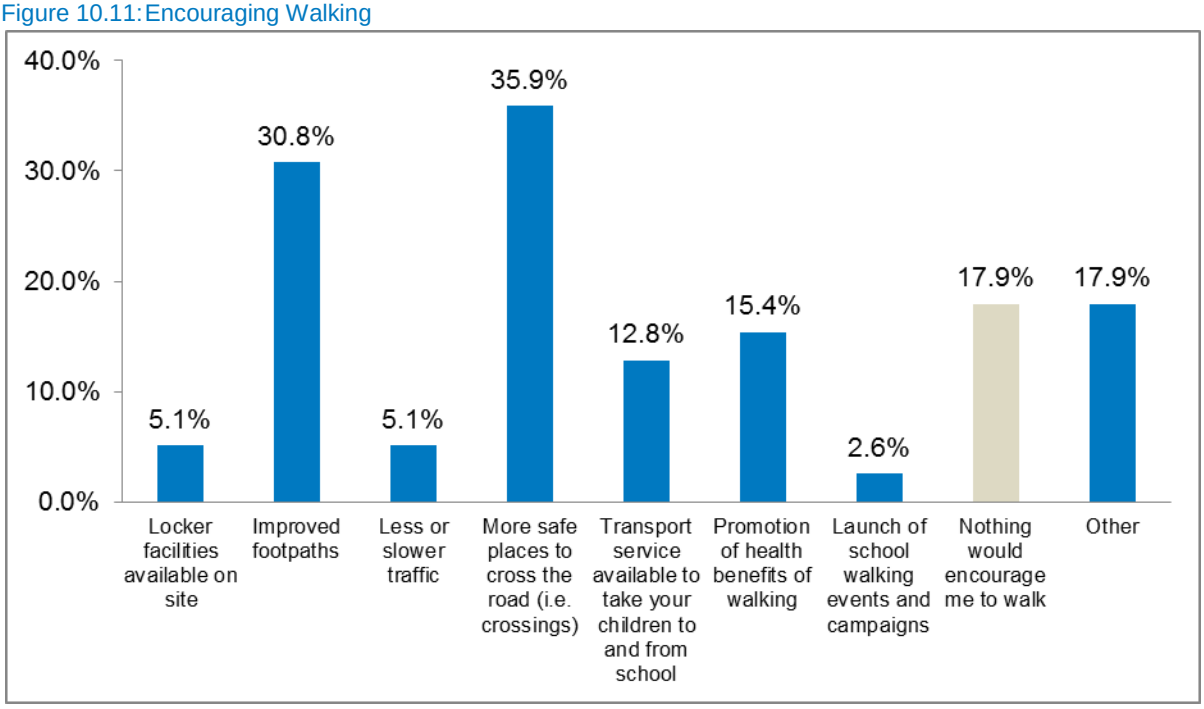
Figure 10.10: Encouraging Cycling



Source: Mott MacDonald
Base: 57

Walking is already the most popular method of transport for school staff. To further encourage walking, providing safer crossing points and improving footpath conditions would be the most effective (36% and 31% respectively). Less than a fifth (18%) of respondents stated nothing would encourage them to walk.

Figure 10.11: Encouraging Walking

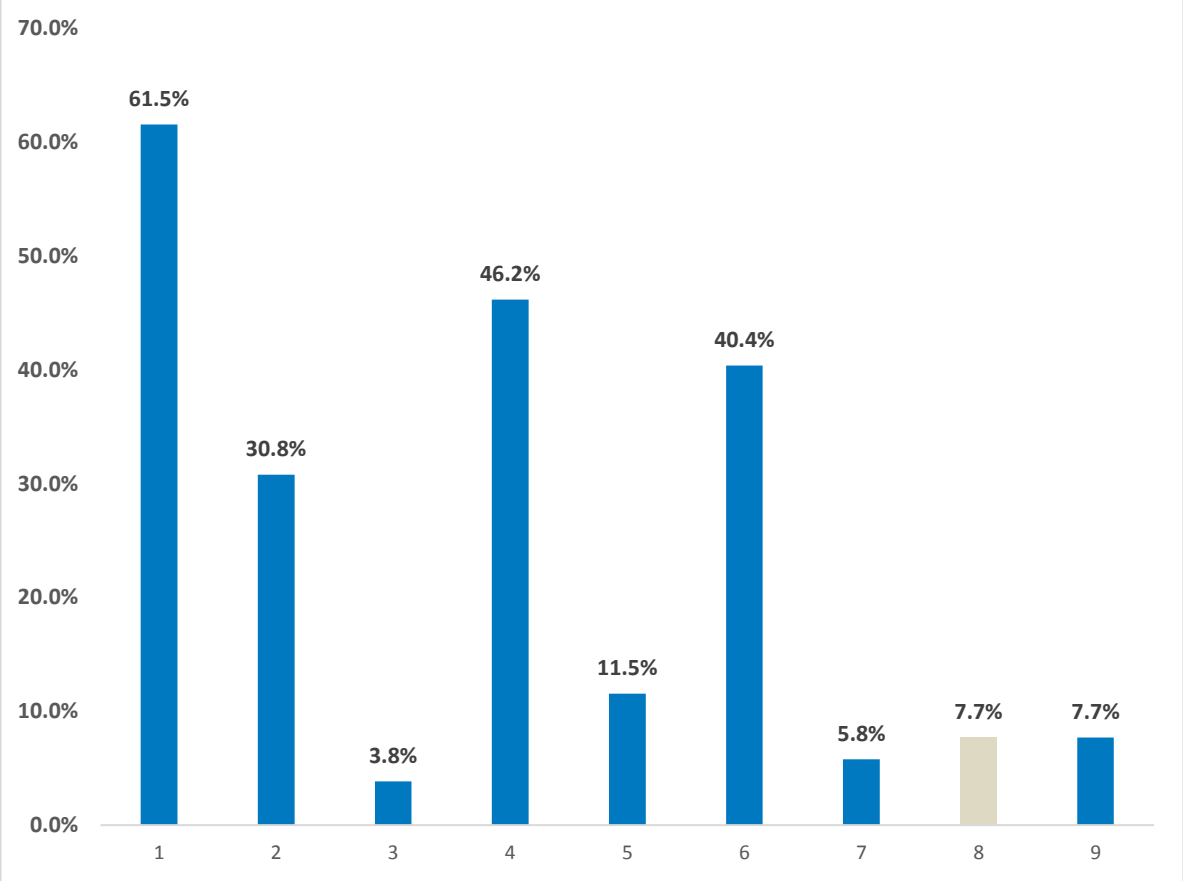


Source: Mott MacDonald
Base: 39

Only 4% of school staff currently commutes by bus. Nearly two-thirds of school staff (61.5%) stated they are more likely to commute by bus if the frequency of buses serving their school were increased. Encouragingly, 46% of staff would consider bus travel if there was an increase in reliability. In addition, 40% may consider using the bus if live arrival information was available at bus stops.

Interestingly, the majority of staff would be more likely to consider commuting by bus if improvements were made than by walking or cycling. Only 8% stated that nothing would encourage them to travel by bus.

Figure 10.12: Encouraging Bus Usage



Source: Mott MacDonald
Base: 52

10.8 Key themes and issues

Encouragingly nearly half (46%) of school staff commute by a sustainable mode of transport (bus, cycle, walk or car share). However a quarter drive on their own as a lone driver hence there is an opportunity here to change travel behaviours to a more sustainable mode.

11 Workplace Travel Survey

11.1 Methodology

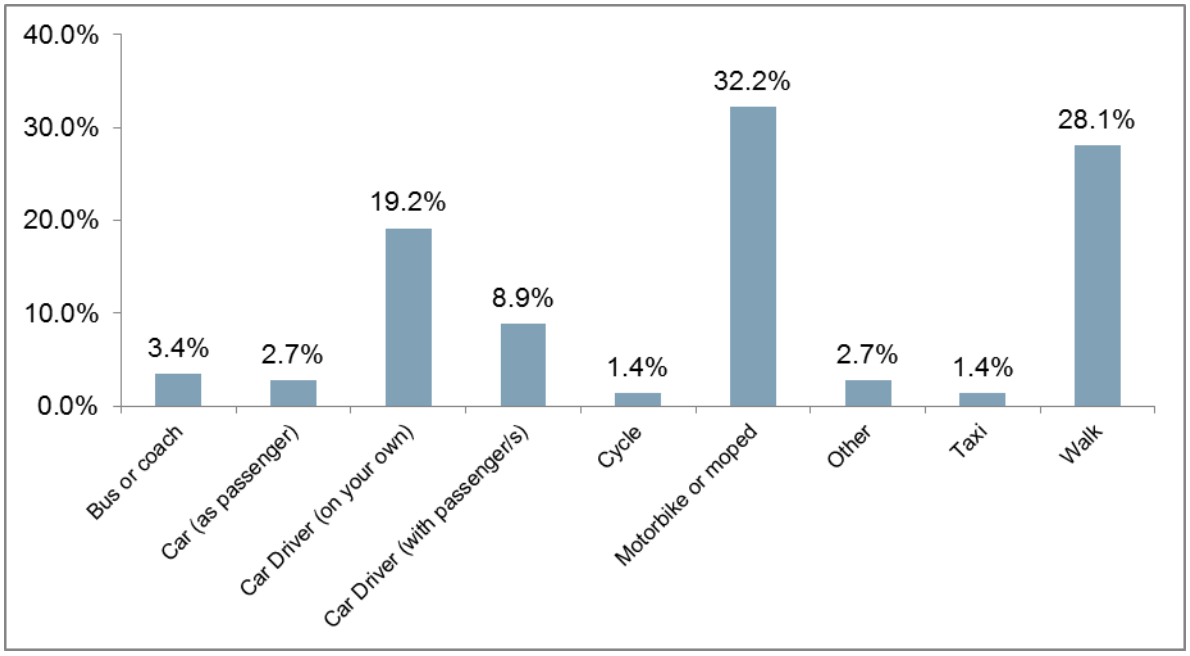
The workplace travel survey was an online survey sent to businesses in Gibraltar. 11 organisations participated in the survey returning 146 responses.

11.2 Results

The largest proportion of the Gibraltarian workforce commute to work by moped or motorbike (32%). Under a third of the workforce (28%) walk to work with a similar number (31%) of people commuting to work by car, whether that is as a lone driver or with passengers.

Based on the responses, only 45% of Gibraltar's workforce commute to work by sustainable modes of transport (bus, cycle, walk or car-share –as passenger or with passenger).

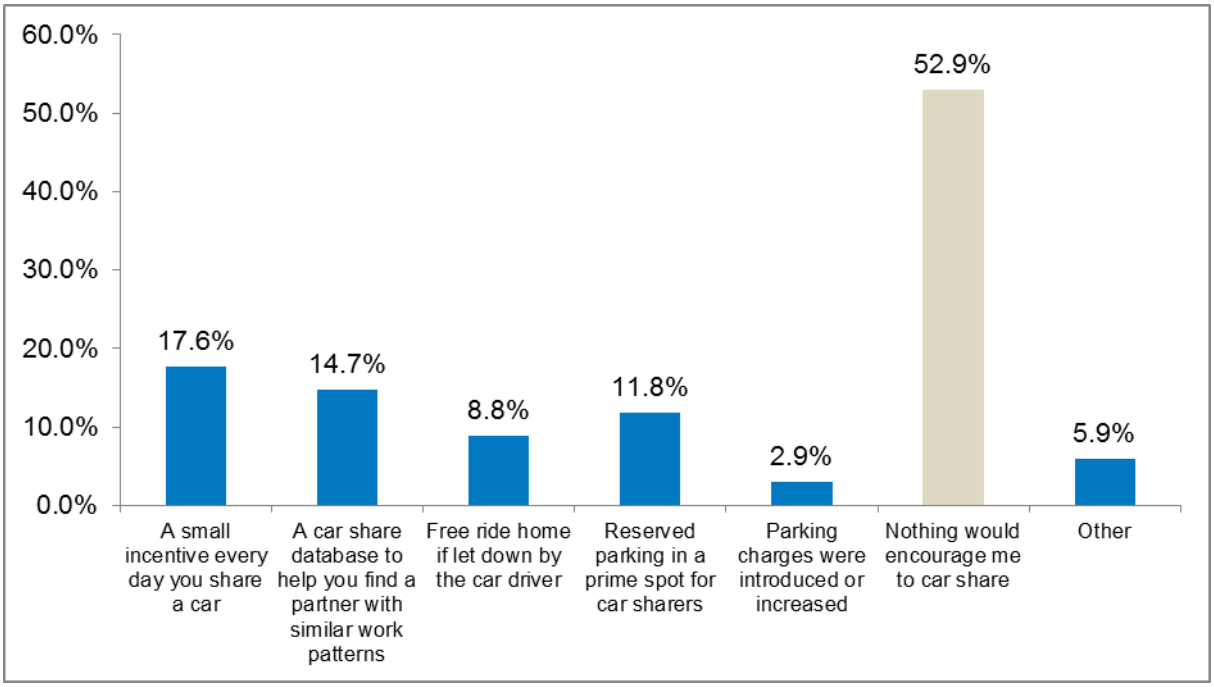
Figure 11.1: Mode Share



Source: Mott MacDonald
Base: 146

To determine what is required to support the workforce to commute more sustainably, respondents were asked to state what would encourage them to travel to work by certain modes. For car-sharing, providing an incentive (18%) is seen to be the most effective method of encouragement. Nearly 15% of the workforce would consider car sharing if a car-share database was setup and over a tenth stated that reserved parking would be important. However, over half of respondents stated that nothing would encourage them to car-share. It is worth noting that only those who currently travel by car and taxi (including other) were asked to respond to this question.

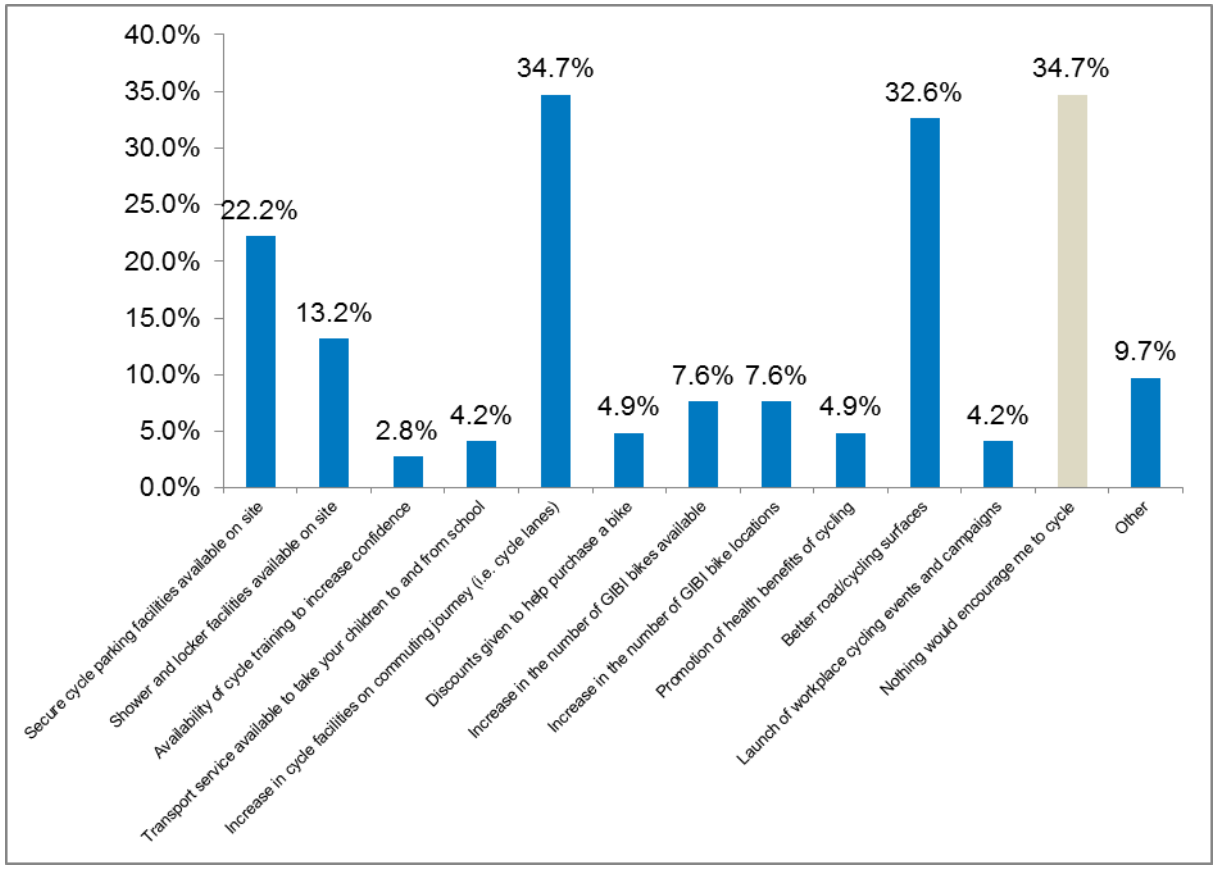
Figure 11.2: Encouraging Car-Sharing



Source; Mott MacDonald
Base: 34

Increasing the quality and number of cycle facilities on commuting journeys, including better surfaces and cycle lanes, are the main methods that would encourage more of the workforce to cycle to work (32% and 35% respectively). Over a fifth of the workforce would also cycle if secure cycle parking was available at their workplace. Increasing the number of rental bikes would also have a positive effect. However, a third of the Gibraltarian workforce (35%) would continue not to cycle even if improvements were made.

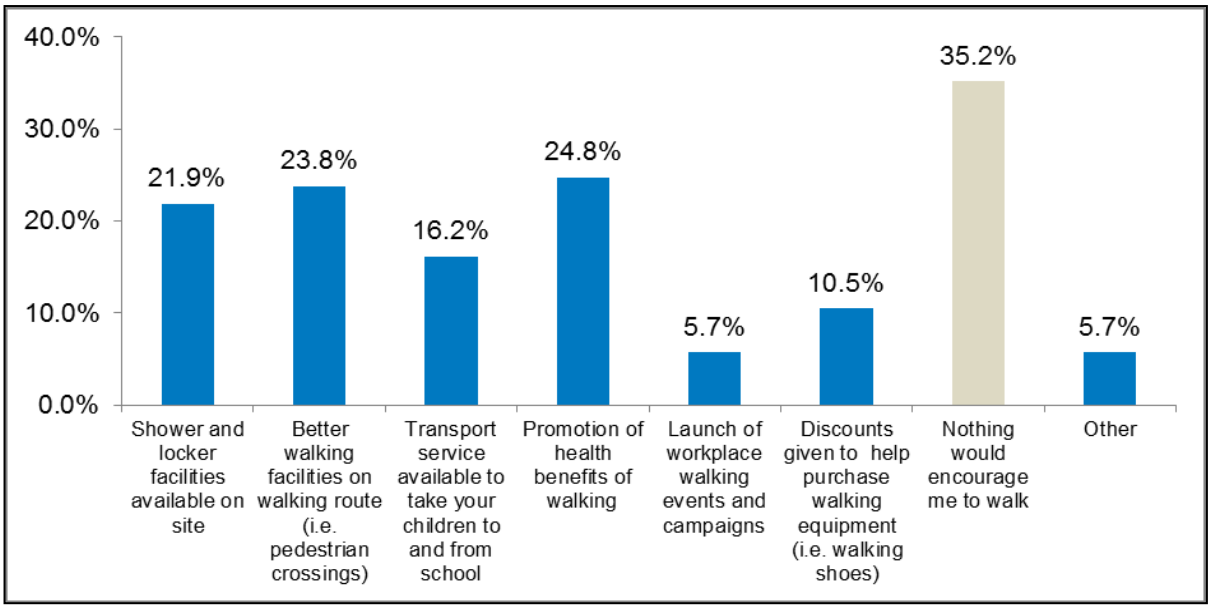
Figure 11.3: Encouraging Cycling



Source: Mott MacDonald
Base: 144

Based on the commuting modal share, walking is already popular. To further encourage walking, promoting the health benefits of walking would be most effective (25%). Similar providing better walking facilities on route to workplaces and providing shower & locker facilities at the workplace would also help to encourage people to walk to work (24% and 22% respectively). Over a third of those who don't currently walk to work, state that nothing could be done to persuade them alter their behaviour.

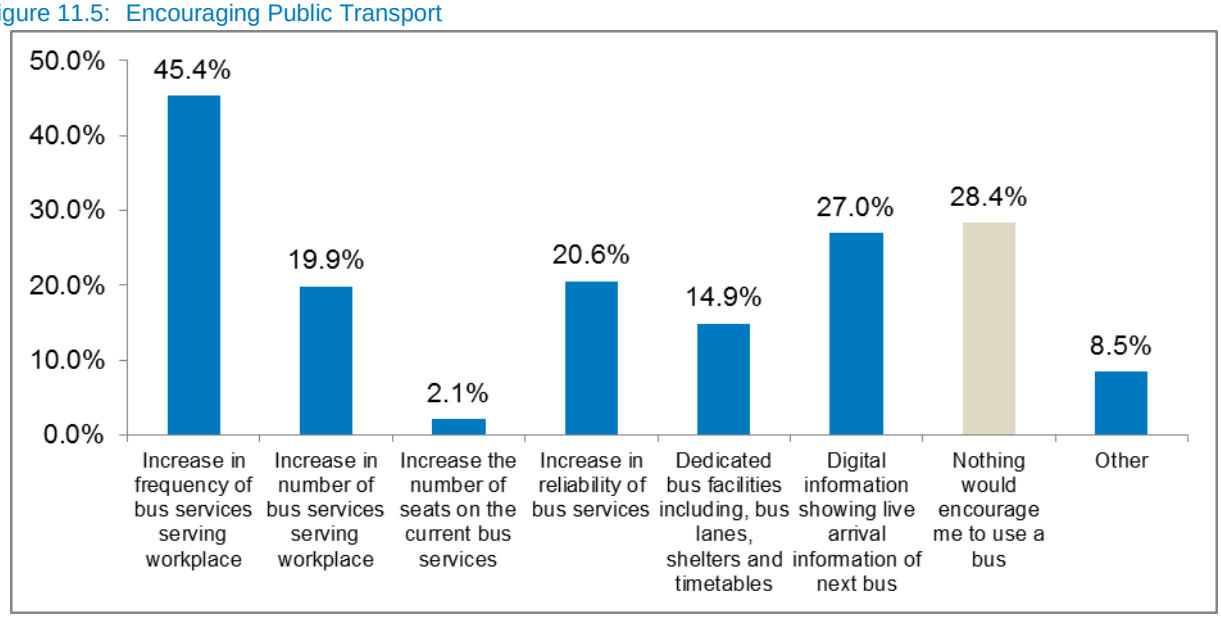
Figure 11.4: Encouraging Walking



Source; Mott MacDonald
Base: 105

The majority of Gibraltar's workforce don't currently travel to work by bus. Nearly half of respondents (46%) stated that would are more likely to commute by bus is the frequency of buses serving their workplace were increased. Encouragingly, over a quarter (27%) of the workforce would consider bus travel if live arrival information was available at bus stops and similarly a fifth of respondents (21%) would like to see service reliability improved. Interestingly, the Gibraltarian workforce are more likely to consider commuting by bus if a variety of improvements were made as only 28% of respondents stated that nothing would encourage them to travel by bus.

Figure 11.5: Encouraging Public Transport



Source; Mott MacDonald
Base: 141

11.3 Key themes and issues

Based on the responses, only 45% of Gibraltar's workforce commute to work by sustainable modes of transport (bus, cycle, walk or car-share –as passenger or with passenger). With nearly a fifth of workforce commuters travelling by car. as a lone driver. There is therefore an opportunity to encourage more sustainable modes of transport.

12 General Online Travel Survey

12.1 Methodology

Residents and visitors of Gibraltar were encouraged to complete a comprehensive travel survey based on their typical travel behaviours for different types of trips, including commuting, work-related travel, leisure and education travel. The survey could be completed online and was promoted through the Government's website and in local media. It attracted a total of 313 unique responses.

12.2 Results

A higher percentage of responses were received from the South and Westside Districts (circa a third each) with approximately 10% of responses obtained from those living in the Town Area or Spain (12% and 11% respectively).

Table 12.1: Distribution of Online Survey Responses

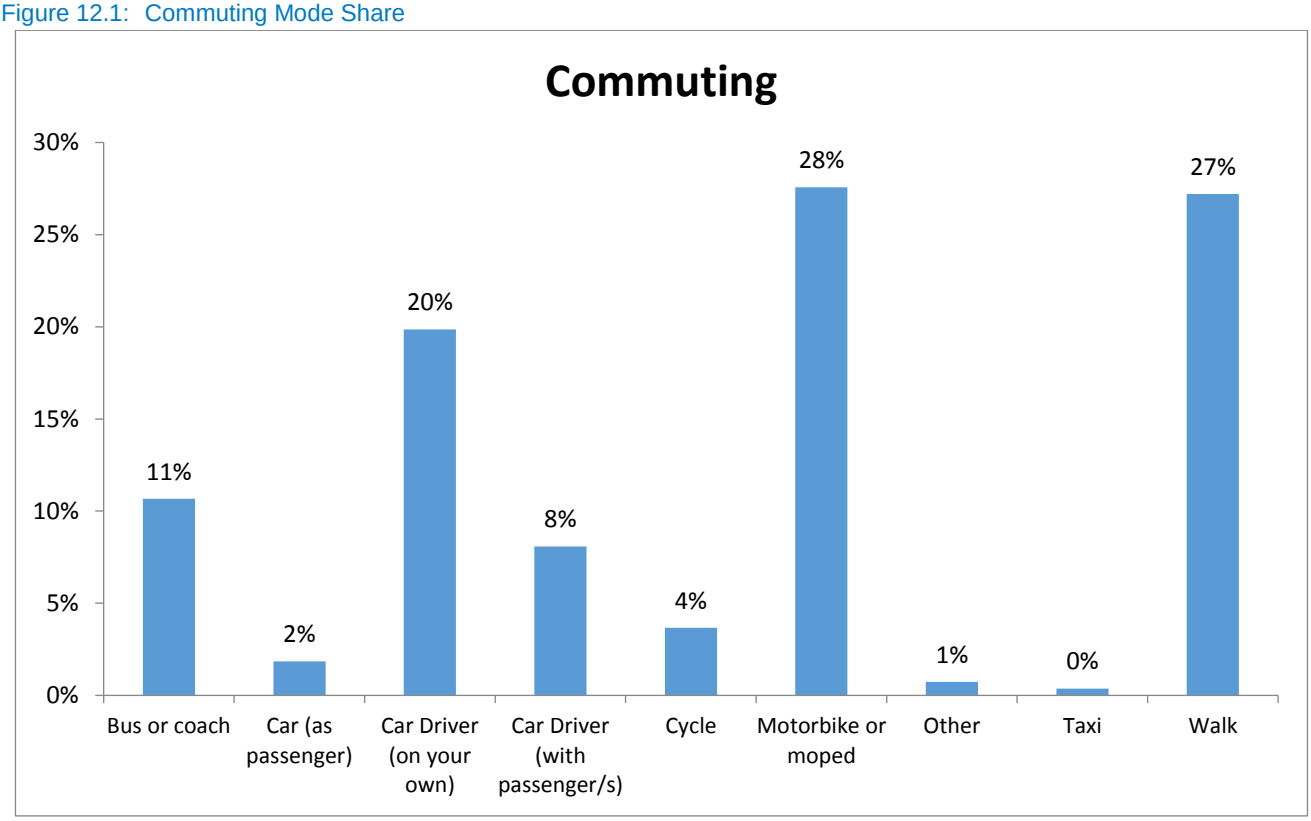
District	Number of Responses	Percentage of Responses (n=313)
Eastside District	5	1.60%
Europa Point	9	2.88%
North District	23	7.35%
South District	105	33.55%
Spain	33	10.54%
Town Area	37	11.82%
Upper Rock	9	2.88%
Westside District	92	29.39%

Source: Mott MacDonald

Commuting Trips

Based on the responses from the General Survey, 87% stated they commute to work. Of these respondents, a similar percentage either walk to work or travel by motorbike or moped (27% each). Nearly a fifth of the population commute by car, as a lone driver and in total 30% of respondents use vehicles to commute to work (including car driver, as passenger or with passenger). A very low percentage of respondents stated that travel by bike (4%), and more than 10% travelling by public transport.

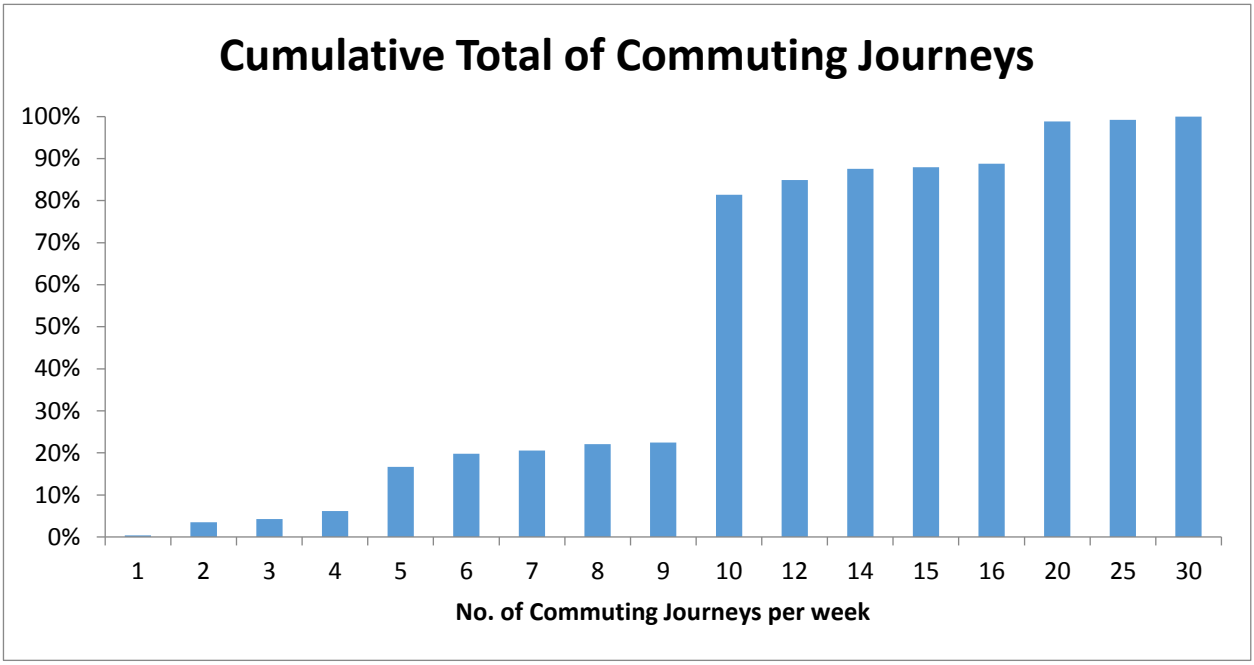
Figure 12.1: Commuting Mode Share



Source: Mott MacDonald
Base: 272

Based on the stated number of commuting journeys (272), nearly 60% of respondents commute for work ten times per week. With over four-fifths of respondents commuting between one and ten times per week. A fifth of respondents commute more than ten times per week, indicating that either they work more than five days per week or they travel during work breaks i.e. return home at lunchtime. A commuting journey constitutes as either travelling to work or travelling from work.

Figure 12.2: Accumulative Total of Commuting Journeys

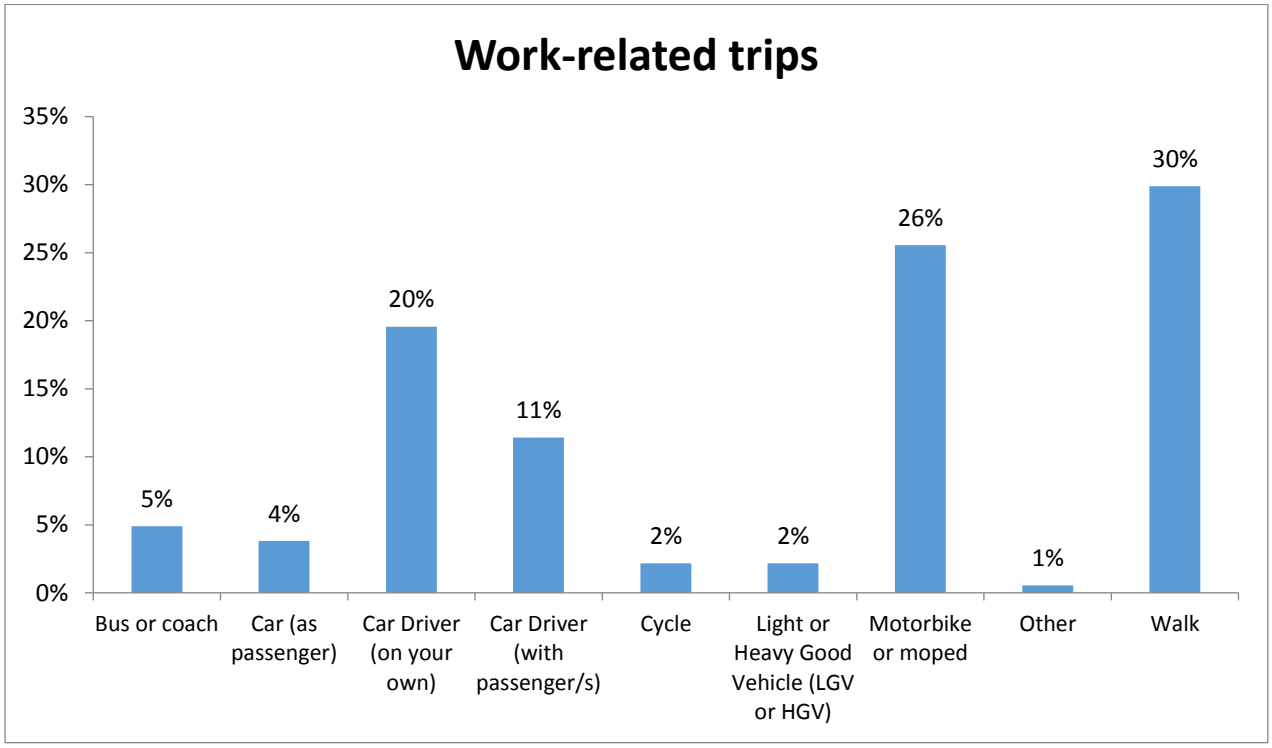


Source: Mott MacDonald
Base: 272

Work-related trips

Based on the responses to the General Survey, 58% of respondents travel for work-related purposes which include meetings and deliveries. The largest number of respondents travel for work on foot (30%) with an additional quarter travelling by motorbike or moped. Nearly a fifth (19.6%) travel for work by car as lone driver with a further 11% travelling with passengers. When compared to commuting patterns, this indicates that a number of vehicles are parked at the workplace all day and are only solely used for commuting purposes. Respondents are not likely to travel by public transport or by bike for work-related trips (5% and 2%).

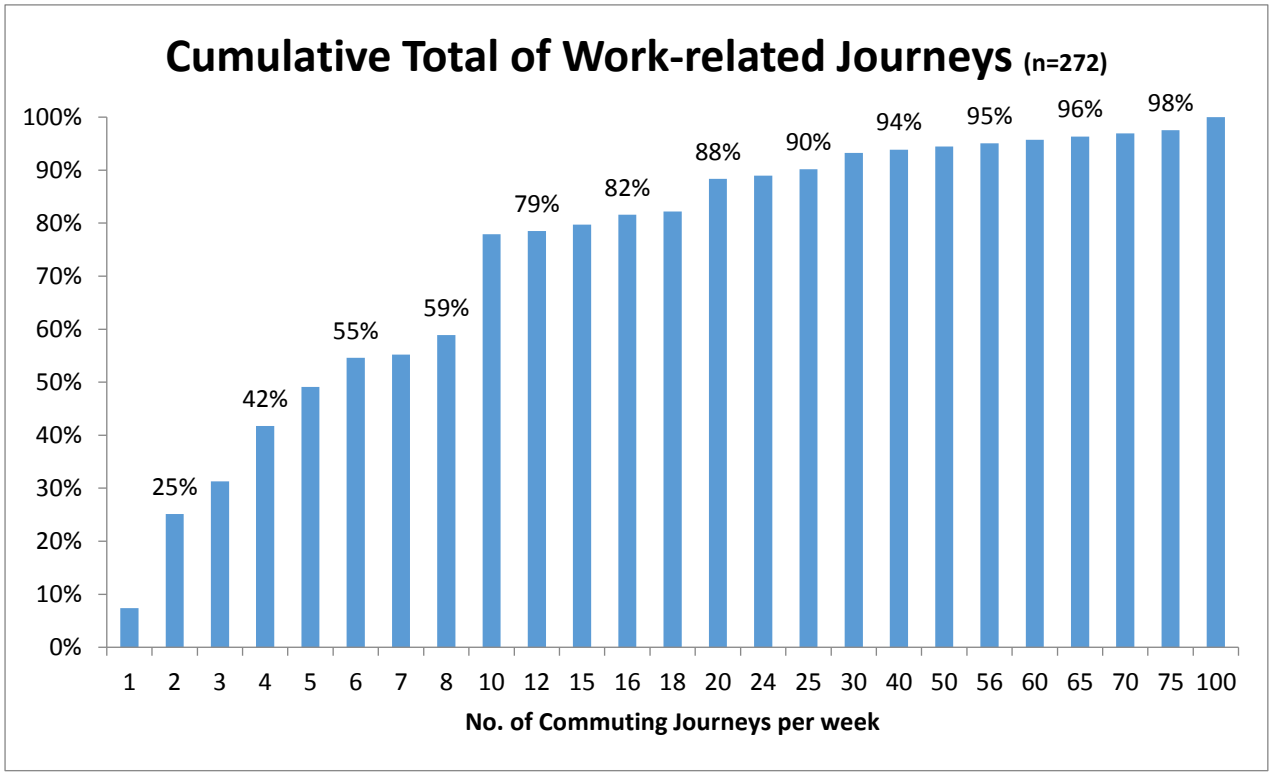
Figure 12.3: Work-related Trips



Source: Mott MacDonald
Base: 184

Of those who travel for work purposes (158 responses), a quarter only travel for work two times per week i.e. one return journey. Nearly 80% of respondents undertake five work-related trips per week (or ten single journeys) which approximately equates to one trip by working day. A tenth of respondents undertake between twelve and 24 work journeys per weeks; half of which are currently undertaking 20 journeys. A very small but significant percentage (2.5%), undertake 100 journeys per week indicating that they are continually travelling for work purposes.

Figure 12.4: Cumulative Total of Work-related Journeys

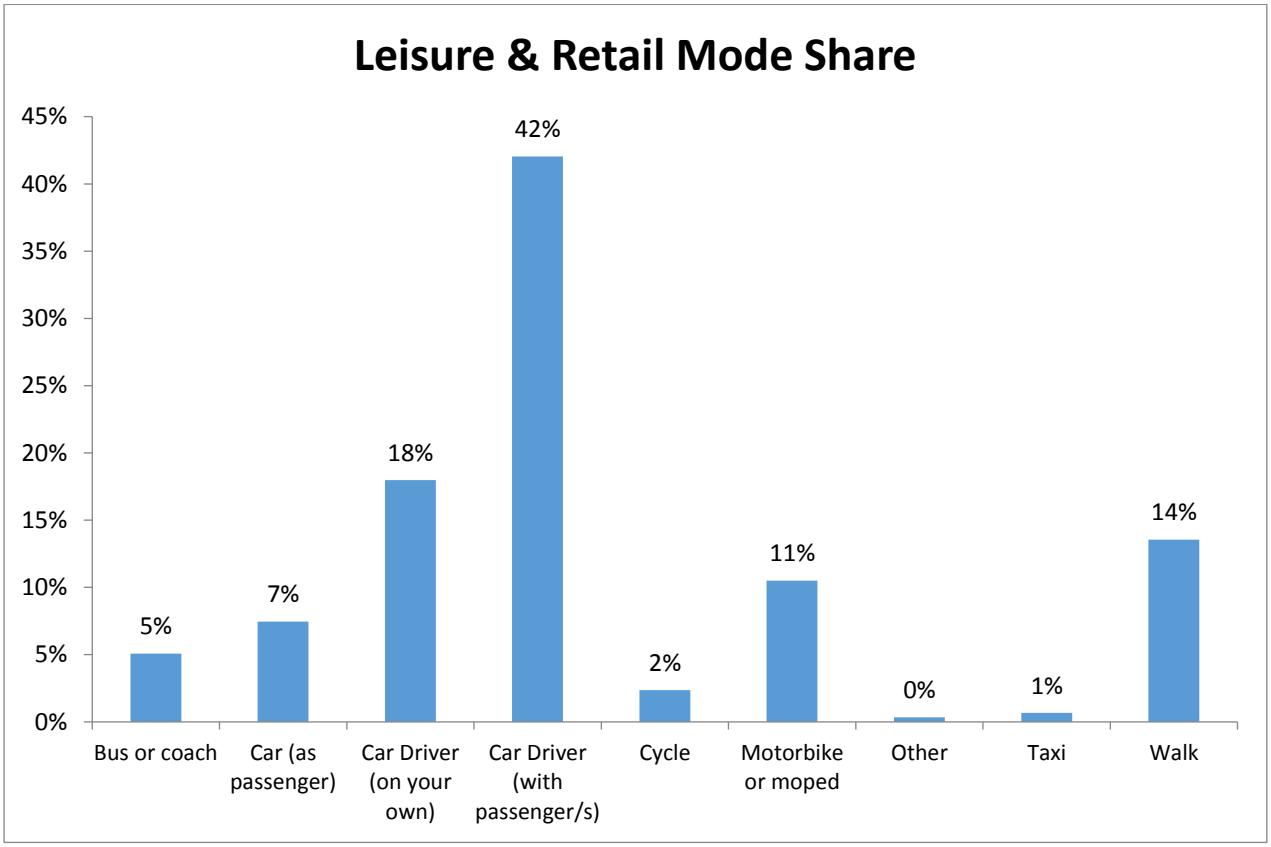


Source: Mott MacDonald
Base: 272

Leisure and Retail trips

Nearly 95% of respondents stated they travel for leisure and retail purposes during a typical week. Based on the responses, nearly half car-share (49.5%) with a further 18% travelling for leisure purposes in a car on their own. Only 5% choose to travel by bus for leisure purposes with even fewer choosing to cycle (2%). Although nearly 14% of respondents stated they walk when travelling for leisure, this is a significant reduction on the percentage of respondents who walk for commuting or work-related trips. The same pattern is reflected by those who travel by moped or motorbike (10%) indicating that walking and travelling by moped or motorbike are not popular modes of travel for leisure purposes.

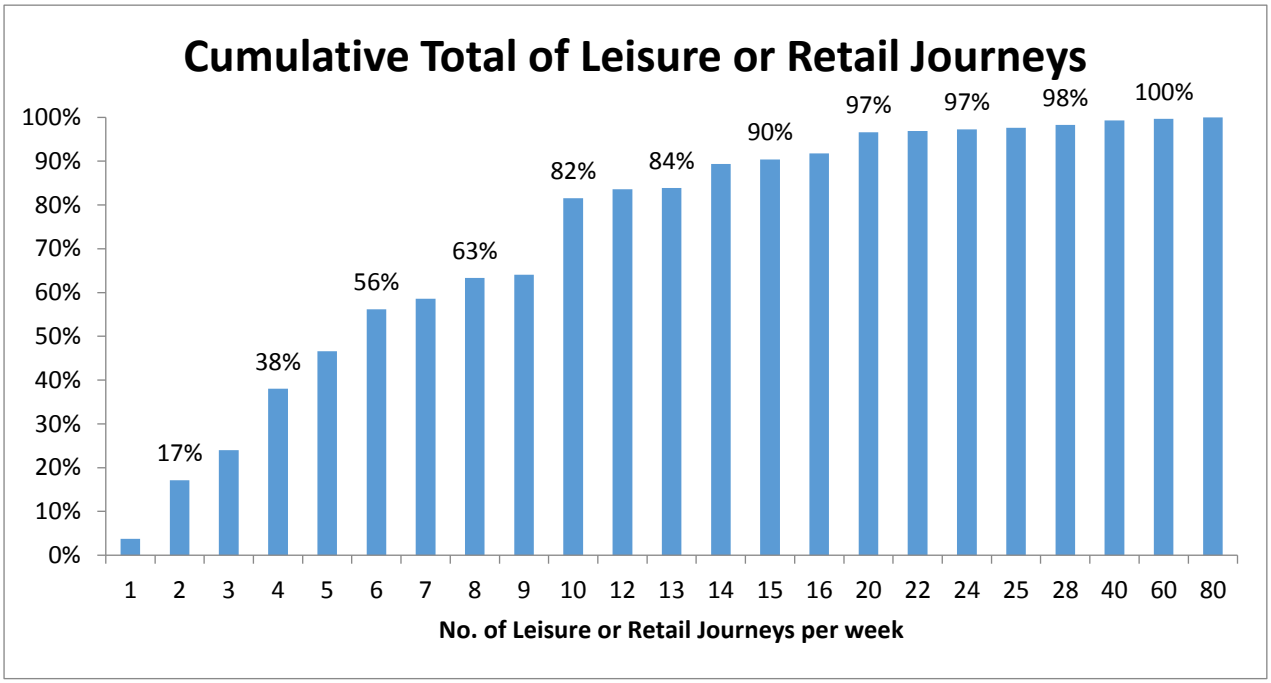
Figure 12.5: Leisure & Retail Mode Share



Source: Mott MacDonald
Base: 295

Over half of those who travel for leisure or retail purposes, have undertaken at least six journeys per week with majority of respondents (89%) undertaking at least one leisure or retail trip per day (assuming one trip is two journeys). Only 17% of respondents undertake one trip or less per week.

Figure 12.6: Cumulative Total of Leisure or Retail Journeys

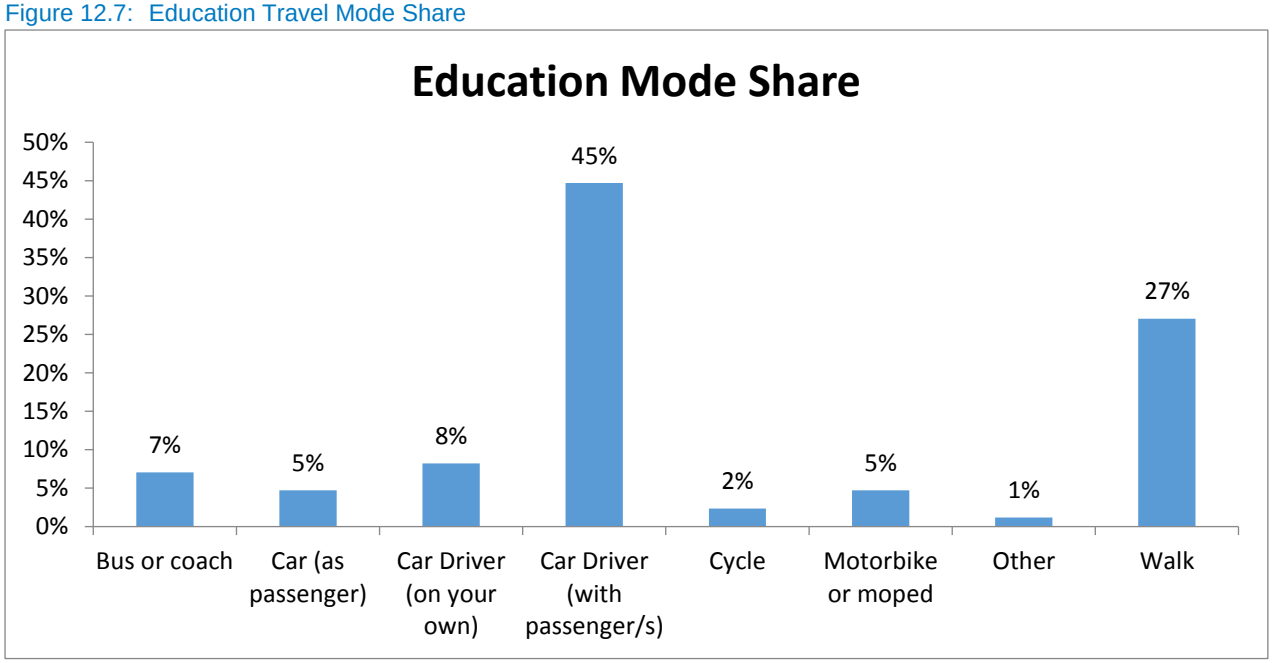


Source: Mott MacDonald
Base: 295

Education Travel

To provide further analysis on travelling for education, whether that is as a parent taking children to school or travel to college, the general survey focussed on education travel. 27% of respondents stated that they undertake travel for education purposes. Based on this percentage, the largest proportion stated that they travel by car with passengers (48%). This is not unexpected as it potentially accounts for parents taking their children to school. Over a quarter (27%) walk to their school or place of education. In total, only just over a third (37%) of respondents stated they travel on foot, public transport or bike for education purposes.

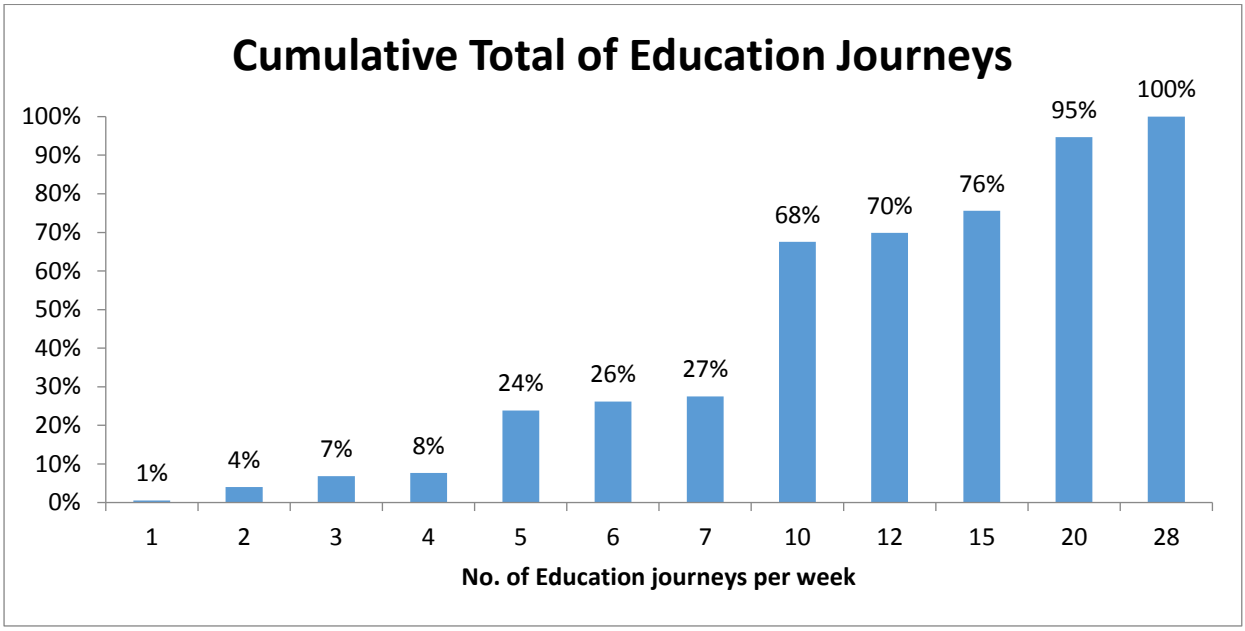
Figure 12.7: Education Travel Mode Share



Source: Mott MacDonald
Base: 85

Based on those who travel for educational purposes, approximately a quarter undertake less than ten education journeys per week (27.5%). A significant proportion (40%) undertake ten education journeys per week with a further 19% undertaking 20 education journeys, indicating a large number of parents undertake four journeys per day to drop and pick-up their children from school or place of education. 5% of respondents undertake more than 20 journeys per week.

Figure 12.8: Cumulative Total of Education Journeys



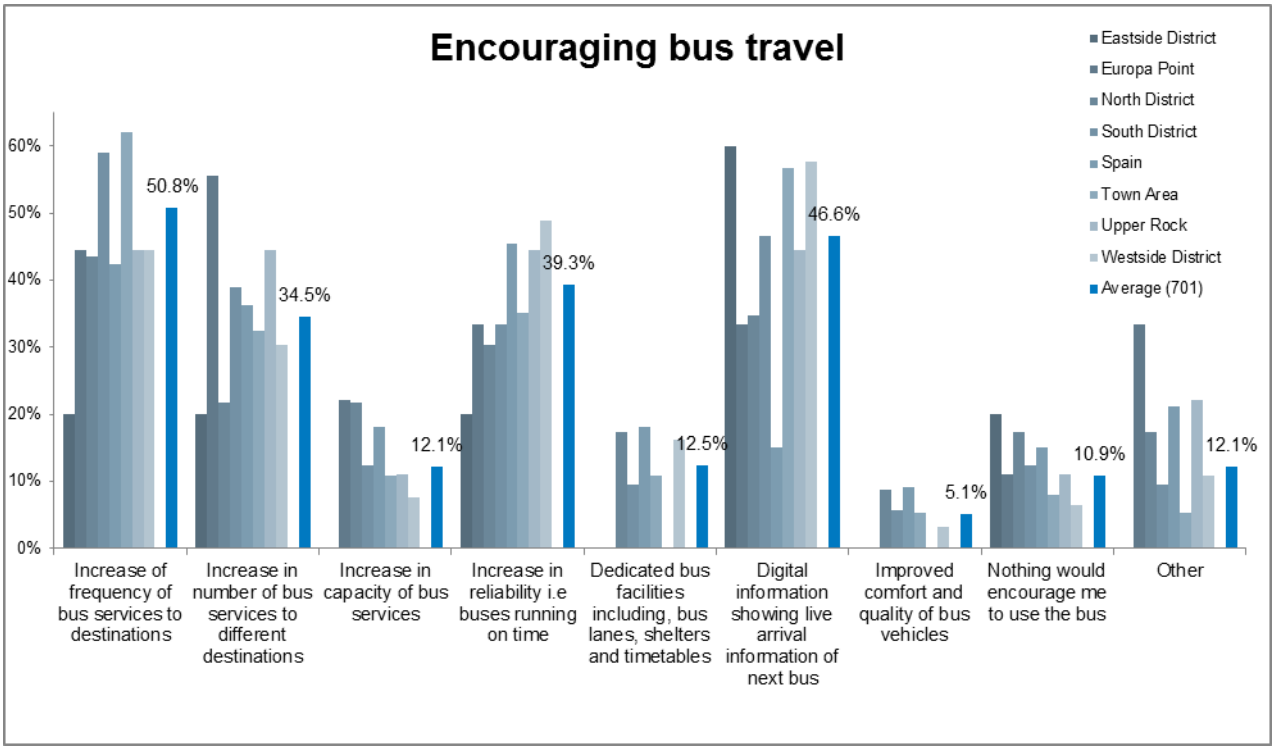
Source: Mott MacDonald
Base: 85

Encouraging alternative modes

Out of the 701 responses, an increase in frequency of bus services would be the most effective method of encouraging bus travel (50.8%). Similarly an increase in the number of bus services to different destinations was popular (34.5%). 46.6% of responses stated the introduction of live bus arrival information would encourage them to sue the bus. Whilst nearly two fifths (39.3%) of responses stated an increase in reliability would encourage them to use the bus. Encouragingly only 11% of responses stated nothing would encourage them to use the bus.

Increasing the frequency of bus services was particularly popular in the Town Area and South District (62% and 59% respectively). This may suggest that these areas currently have low frequency bus services. An increase in services to different destinations was popular in Europa Point and Upper Rock (55% and 44%). Only 20% of responses from Eastside suggested these two options as an effective method of encouraging bus travel perhaps indicating the area already has a good bus service. The introduction of live bus arrival information was the most popular improvement method for responses from Eastside and Westside (60% and 57% respectively). It was also popular in Town Area (56%). It was significantly less popular in Spain (15%).

Figure 12.9: Encouraging Alternatives – Bus Travel



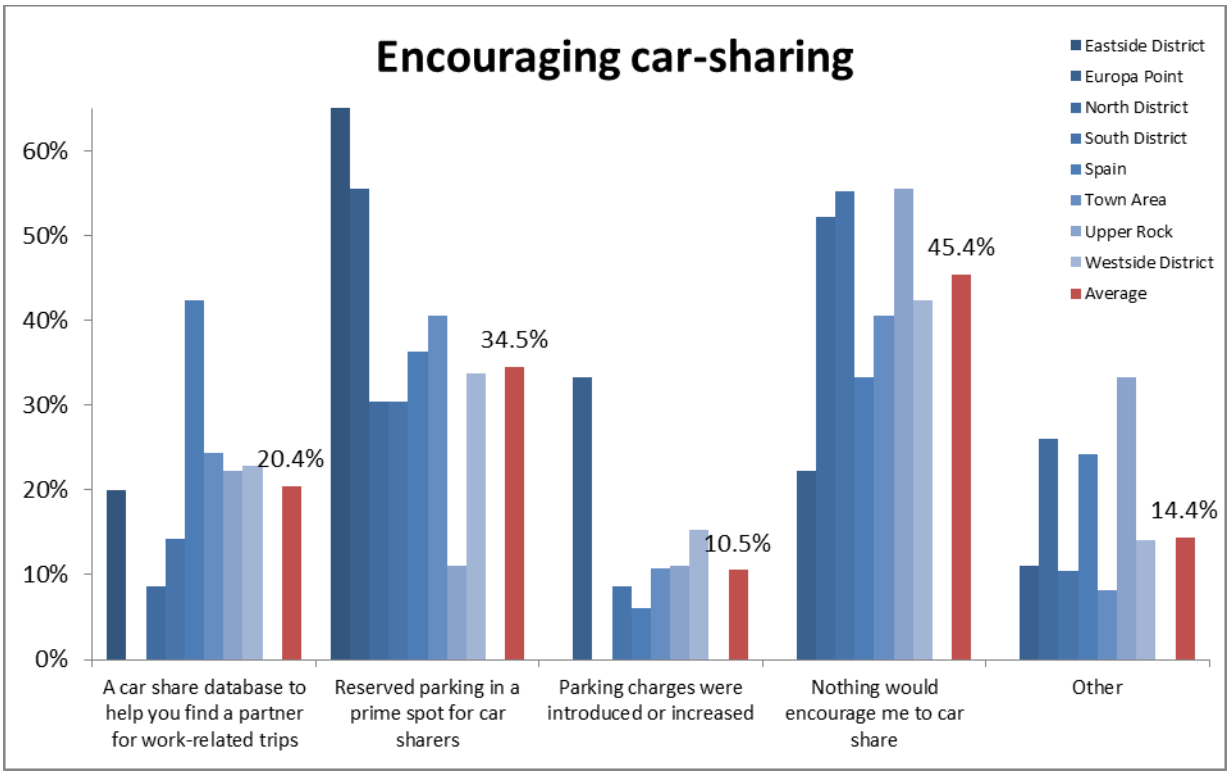
Source: Mott MacDonald

The overall most popular method for encouraging car sharing was reserved parking in prime locations for car sharers (34.5%). A fifth of responses thought a car share database would be the most effective option of encouraging car sharing. Introducing or increasing parking charges was not a popular option (10.4%). Despite this, 45.4% of responses indicated that nothing would encourage them to car share.

Reserved parking was the most popular improvement for 5 out of the 8 districts. It was particularly popular in Eastside and Europa Point (100% and 56%). In contrast, only 11% of responses from Upper Rock chose this option. A car share database was particularly popular in responses from Spain (42%). No one from Europa Point liked this option. Whilst introducing or increasing parking charges was generally unpopular, a third of responses from Europa Point stated introducing or increasing parking charges would encourage them to car share.

Respondents from the Eastside District could be the most influenced as only 22% stated nothing would encourage them to car share. Over 50% of responses from North District, South District and Upper Rock stated nothing would encourage them to car share.

Figure 12.10: Encouraging Alternatives - Car Sharing



Source: Mott MacDonald

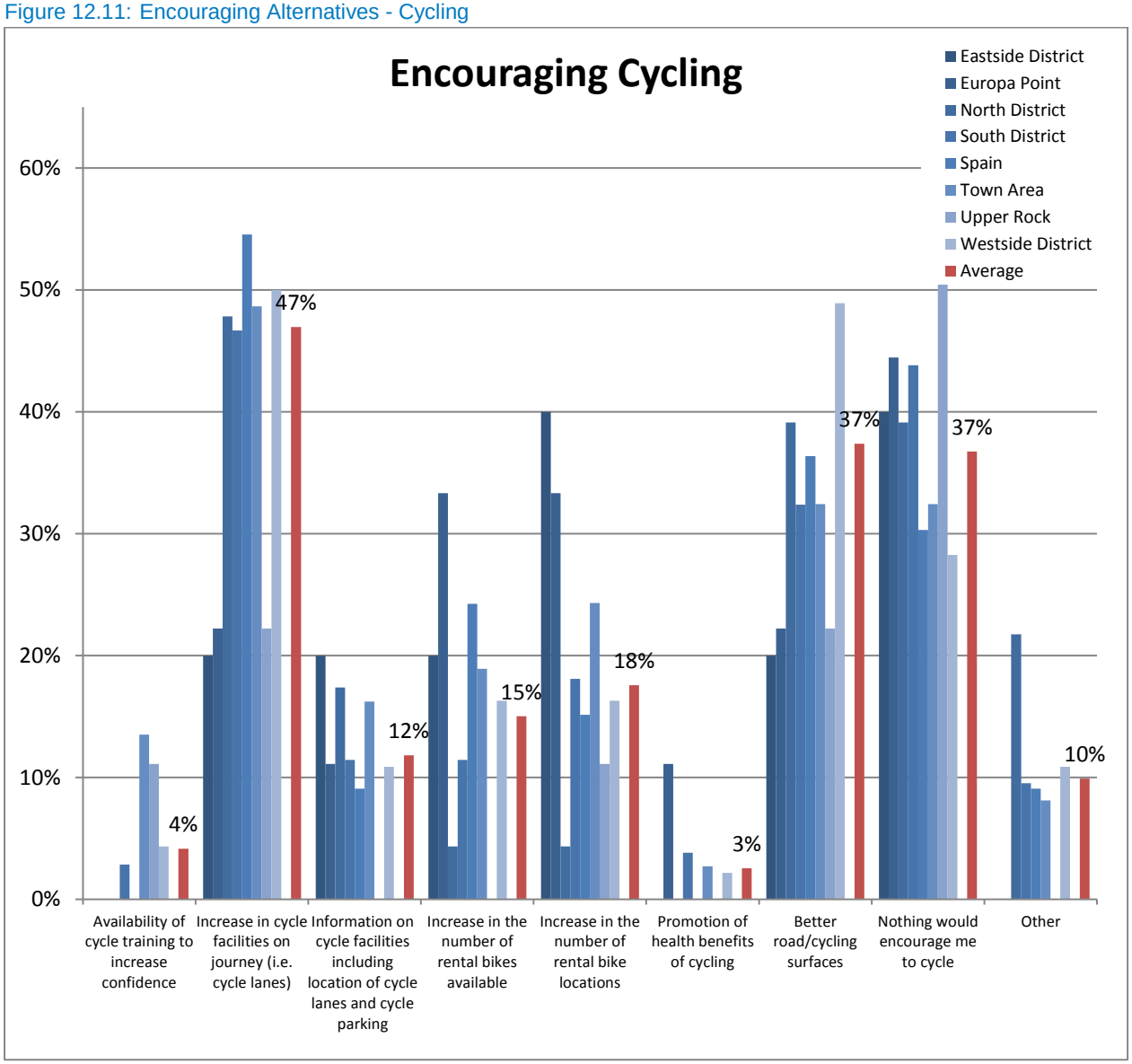
The overall most effective method for encouraging cycling would be an increase in cycle facilities such as cycle lanes (47%). Over a third of responses stated better road and cycle surfaces (37.4%). An increase in the number of bike rental locations and bikes was also popular (17.6% and 15% respectively). However, over a third of responses stated nothing would encourage them to cycle (36.7%).

Responses stating an increasing in cycle facilities were particularly low in Eastside, Europa and Upper Rock (20%, 22% and 22% respectively). Similarly the same areas also had few people stating better road/cycling surfaces would encourage them to cycle (20%, 22% and 22% respectively). This may suggest that these are not issues in these areas.

Responses indicating an increase in the number of rental bike locations were particularly high in Eastside and Europa (40% and 33% respectively). A third of responses from Eastside also indicated an increase in the number of rental bikes would encourage them to cycle. This may suggest an improvement in the current bike rental service is required in these areas. In contrast few responses from the North District stated an increase in bike rental locations or rental bikes would encourage them to cycle (4.3% each).

Two thirds of responses from the Upper Rock stated nothing would encourage them to cycle. This is perhaps reflective of the terrain in the district. In contrast, only 28.3% of responses from Westside stated nothing would encourage them to cycle.

Figure 12.11: Encouraging Alternatives - Cycling

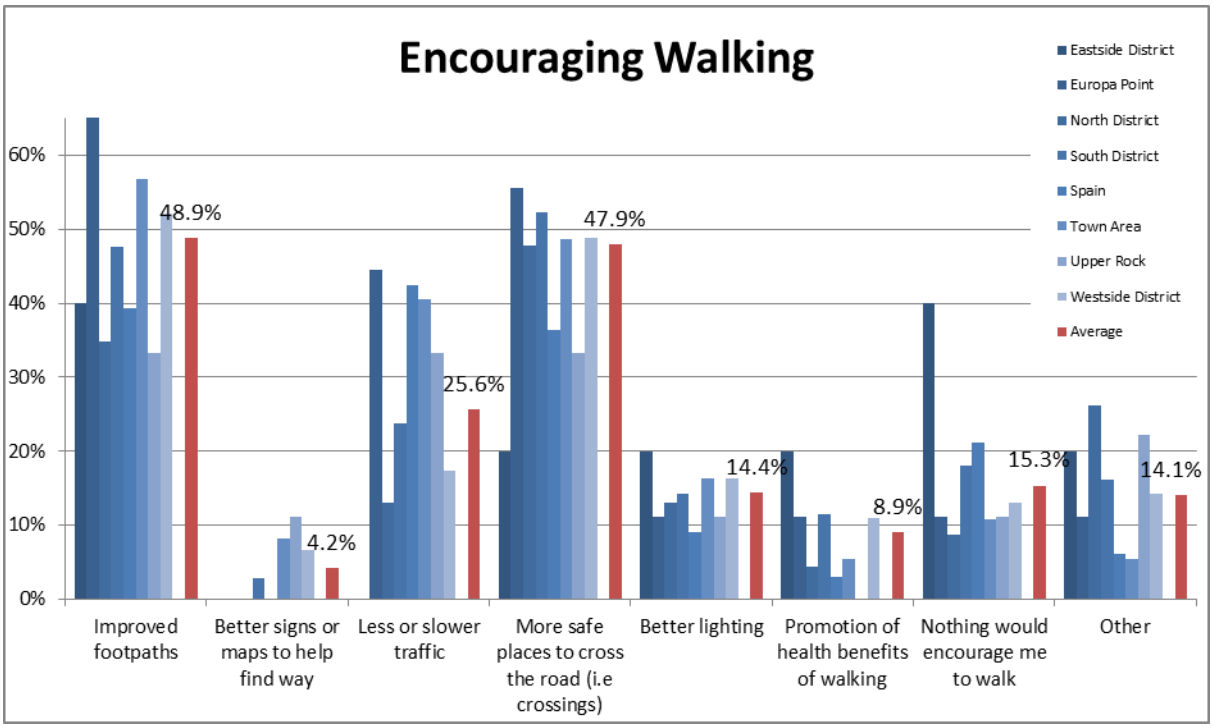


Source: Mott MacDonald

The most popular methods for encouraging walking are improved footpaths and safer crossing points (48.9% and 47.9% respectively). Over a quarter of responses indicated less or slower traffic would encourage them to walk (25.6%). Whilst 14% stated better lighting was needed to encourage people to walk more, encouragingly only 15% stated that nothing would encourage them to walk.

An improvement in footpaths was particularly popular in Europa Point (88.9%). This may suggest footpaths in this area are poor. In contrast, few people from Upper Rock and North District stated this option (33.3% and 34.8% respectively). Few people from Upper Rock and Spain stated safer crossing points as a method of encouraging them to walk (33% and 36%). Less or slower traffic was a popular improvement option in Europa Point, Spain and Town Area (44%, 42% and 40% respectively) suggesting this is a problem in these areas. No responses from Eastside stated this as an improvement option. However 20% of responses from this district stated better lighting suggesting this is an issue in the area.

Figure 12.12: Encouraging Alternatives - Walking



Source: Mott MacDonald

Open Ended Responses

A total of 282 respondents provided additional comments about what they perceive to be the traffic and transport problems in Gibraltar. This analysis provides unbiased feedback on the transport issues in Gibraltar. To help interpret the issues stated within the feedback, the comments have been reviewed and subsequently categorised into key themes. In total, 497 comments were received indicating that the majority of respondents provided more than one comment.

The main theme which was a common response from all of the districts is that there are too many cars or motorcyclists on the road. Nearly 30% of responses stated this along with a further 14% of respondents commenting that there is too much traffic, particularly during peak times. This is significant as it indicates that a good proportion of people who use the Gibraltar road network recognise that the level of traffic is an issue and that the number of vehicles is the main attributable factor for the congestion.

Relating to these two themes, it was noted that respondents stated that some households in Gibraltar have too many vehicles which impact the number of vehicles on the roads (5.4%). Reducing the number of vehicles per household is one option to tackle the overall transport issues.

Other comments received indicate that the public transport system in Gibraltar is not reliable and therefore prevents local residents from using it (15%). One respondent from the South District summarised the general theme by commenting that *"there is too much traffic on the roads, which means public transport (buses) can't be relied on to get anywhere on time".* The hours of operation was also raised as a concern, with bus services stopping at 9pm seen as a detrimental factor.

Over a tenth of responses (13%) commented that there was not enough available parking in Gibraltar. Some respondents indicated that the parking problems were caused by people having a second vehicle or spaces been taken up by abandoned vehicles.

In addition, a similar number of comments (11%) were received around the issue of people being too dependent on travelling in their own vehicle, particularly for short trips. Some comments argued that for these short journeys walking, cycling or using public transport are viable options. One comment from the West District attributed this dependency to laziness saying "*People are too lazy to walk anywhere and think the distances in Gibraltar are 'too great' to walk. Destinations are too far away! There is also the perception that the bus is 'beneath me' and embarrassing to be seen on them".*

Table 12.2: **Most Commented Themes - What do you perceive the traffic problems to be in Gibraltar?**

Comment	Eastside district	Europa point	North District	South District	Spain	Town Area	Upper Rock	West District	TOTAL	
Too many cars/motorcyclists on the road	1	1	5	34	6	7	2	30	86	27.4%
Issues with public transport	0	1	2	19	6	6	0	12	46	14.6%
Too much traffic especially during peak hours	1	1	2	13	8	5	1	13	44	14.0%
Not enough parking available	0	0	4	11	2	7	3	15	42	13.4%
Issue of dependency on private vehicles	0	3	0	5	5	7	2	14	36	11.5%
Frontier causes traffic	0	0	1	15	1	3	0	8	28	8.9%
Quality of roads are very poor/outdated	0	0	3	7	4	3	0	5	22	7.0%
Enforcement of laws is poor	0	0	1	6	1	2	1	10	21	6.7%
Poor/Immature quality of driving	0	0	4	7	3	0	0	6	20	6.3%
Too many cars per household means too many cars on the road	0	0	2	9	1	0	1	4	17	5.4%
Overflow of non-Gibraltarian people/cars	0	0	0	4	1	0	3	9	17	5.4%

A total of 278 respondents provided additional comments about what they believe the solutions are to the traffic and transport problems in Gibraltar. In total, 438 comments were received indicating that majority of respondents provided more than one issue. The comments have been categorised into key themes to aide interpretation of the qualitative responses. Making improvements to the public transport network and services was the primary solution which was suggested by respondents with nearly 30% of respondents stating this. Providing a more direct and regular bus network and having more school buses were improvements suggested to encourage more people not to drive.

Over a fifth of respondents commented that improvements to the parking facilities were needed to improve the traffic and transport problems. This included providing more parking spaces at the Frontier, increasing parking in residential areas and providing Park & Ride facilities. The majority of those respondents stated that parking should be free to the user with one respondent from West District suggesting *"all new buildings (especially when they are taking away parking spaces) should have two floors of parking one for the users/residents and another below for the general public".*

However 16% of respondents stated that the cost for using a car should be increased, suggesting the issue of charging for using vehicles is a polarised subject in Gibraltar. Introducing or increasing parking fees and re-introducing vehicle exercise duty were popular measures which were suggested to tackle the issue of abandoned vehicles and help discourage unnecessary car trips.

Supporting this argument, a tenth of comments stated that bans or restrictions should be imposed on vehicles or at certain places to reduce congestion, including the options of congestion charging, banning traffic in the town and increasing the driving age. In addition, 5% of responses commented that measures should be introduced to reduce the number of non-Gibraltarian vehicles on the road indicating that a small minority believe that there is an external solution to the transport problems in Gibraltar.

Table 12.3: Most commented themes - what do you think the solutions are to the traffic and transport problems in Gibraltar?

Comment	Eastside district	Europa point	North District	South District	Spain	Town Area	Upper Rock	West District	TOTAL	
Improve public transport services (e.g. bus frequency, new bus services)	0	3	9	30	13	13	1	22	91	29.0%
Improving parking facilities incl. park & ride	3	0	2	25	3	9	5	22	69	22.0%
Investment to improve road quality (e.g. surfaces, signage)	0	0	5	25	5	3	2	10	50	15.9%
Increase costs of using a car (e.g. car park charges, taxes)	0	3	1	22	1	7	1	14	49	15.6%
Reduce congestion by imposing bans/ regulations	2	1	2	7	6	5	2	9	34	10.8%
Encourage walking	0	1	2	8	2	3	1	12	29	9.2%
Encourage cycling by improving accessibility	0	0	3	7	8	4	0	5	27	8.6%
Improve influence of authorities	0	0	2	7	0	3	0	13	25	7.9%
Reduce numbers of non-Gibraltar cars (in particular, Spain)	2	1	0	5	0	3	0	5	16	5.1%
Implement/encourage 'greener'	0	0	2	5	3	2	0	4	16	5.1%

Comment	Eastside district	Europa point	North District	South District	Spain	Town Area	Upper Rock	West District	TOTAL
transport (e.g. hybrid transport, car sharing schemes)									

A total of 258 respondents provided additional comments about how they could change their travel patterns to reduce the traffic and transport problems. In total, 285 comments were received which have been categorised into key themes. The overarching theme arising from the comments was that nearly a quarter of respondents stated that they already travel by sustainable modes of transport and therefore are already minimising their impact on the congestion problems.

Nearly 20% of respondents stated that they could use public transport to reduce the impact of traffic. Half of the people who made similar comments to this theme live in the Southern District suggesting the services in this area are under-utilised. Although one comment points out this could be due to a number of issues relating to reliability and routes stating that *"to get to work in the Upper Town I have to take two buses from the south district. Not only this but the No1 bus that services the Upper Town travels along a route where the nearest bus stop to the south district is King's Wharf or at the bottom of Prince Edwards Road! At present if I wish to travel by bus I must factor in a 30min travel journey which for Gibraltar is ridiculous!!"*

Over 15% of respondents stated that they are unable to change their travel patterns due to work commitments, mobility issues and family commitments. Although this is not ideal, it does indicate that potentially 85% are more flexible with how they can travel.

Approximately a quarter of the respondents stated that they could walk or cycle more (11% and 13% respectively). Walking looks to be a more viable option to promote in the Town Areas and West District and there seems to be an appetite for cycling in Southern and West District. However, many of the comments stated that improvements need to be made to make walking and cycling viable options. On top of issues of safety, one comment from the Town Area states that "*Gibraltar is a compact locality. It should use this opportunity to base its transport system on walking and cycling (including using electric cycles). This could be achieved by providing better cycling and pedestrian infrastructure."*

Table 12.4: Most commented themes - How could you change your travel patterns to reduce the traffic and transport problems?

Comment	Eastside district	Europa point	North District	South District	Spain	Town Area	Upper Rock	West District	TOTAL	
I travel sustainably already	0	0	8	20	8	15	4	22	77	24.2%
Use public transport	2	2	2	26	9	9	1	11	62	19.8%
Cannot change	1	3	4	26	3	3	1	10	51	16.2%
Cycle as a mode of transport	0	1	0	17	3	3	0	17	41	13.0%
Walk	0	0	0	8	5	4	0	16	33	10.5%
Get a more efficient vehicle or car share	0	0	1	1	2	0	0	0	4	0.1%
Avoid travelling by car during rush hour/or less frequently	0	0	0	2	0	0	0	2	4	0.1%
Introduce online shopping at supermarkets	0	0	0	1	0	2	0	1	4	0.1%
Limit use of the car	0	0	0	2	0	0	1	0	3	0.1%
Park in town	0	2	0	0	0	0	0	0	2	0.1%

13 Summary

A summary of the data analysis and key headline data is presented in Table 13.1 below.

Table 13.1: Headline Transport Statistics from the STTPP Surveys (Spring 2013)

Roadside Interviews (Vehicles) *RSI and traffic counts at seven sites*	▪ All areas car mode share was 69% ▪ Moped/motorcycle mode share was 24% ▪ LGV/HGV mode share was 5% ▪ 61% of car journeys were single occupancy ▪ Destination purpose: – 33% Home – 36% Work/School – 27% Leisure	▪ High single occupancy indicating an individual dependence of private vehicle ownership ▪ Personal transport used equally for all trip purposes indicating dependency on vehicles ▪ Measures for mopeds and motorbikes need to be integral to plan
Roadside Interviews (Pedestrian & Cyclists)	▪ Over 60% use a car to get from Spain to border ▪ Majority of people are walking from the border into Gibraltar. Likely to walk for more than 10 minutes ▪ Taxi and bus used for medium/longer distance trips	▪ Better pedestrian routes (Quality, runway closure warning, road crossings, pavement widths) ▪ Bus services (high priority access, reduced waiting, better stop, more direct services, coordination)
Journey Times *Seven set routes analysed repeated over several days*	▪ Average journey speeds between 17 – 33 km/h ▪ Journey times typically slower during AM peak periods ▪ Journey times slower and more variably on routes around the Town area	▪ Measures to improve journey time reliability should be introduced ▪ Current scenario effects travel by public transport
Cruise Ships	▪ Majority of visitors travel to Main Street while in Gibraltar with nearly on fifth also visiting Upper Rock ▪ The largest percentage of visitors travel by Tourist Bus while a 40% travel by taxi or shuttle bus. ▪ A third of visitors walk to Main Street	▪ Not many visitors choose to walk on first visit will consider doing so next time ▪ Better pedestrian infrastructure and information needed ▪ Coordination of taxi and shuttle buses for Cruise Ship visits
Public Transport	▪ A large number of passenger board services at Market Place ▪ Heavy demand on most services in the AM peak ▪ Some route/sections have limited number of passengers i.e. Route 7	▪ Additional services & frequency key issues ▪ Market Place stops are inappropriate for a modern bus interchange ▪ Priority for Buses ▪ Improve Information & Ticketing:
Pedestrian Counts	▪ Winston Churchill Avenue and Main Street have highest pedestrian activity ▪ Pedestrian activity is highest on network adjacent to Main Street and generally dissipates outwards	▪ Urban realm and pedestrian priority routes attract significant footfall ▪ Expand key walking routes and some destinations are not conducive for walking
Household Survey Interview	▪ 60% of residents own a car with highest prevalence in Upper Rock. ▪ 76% of car drivers made a trip at least two to three times per week ▪ Average car journey time is just under 20 minutes	▪ High need and usage of private vehicle ▪ Vehicles trips could be undertaken by more sustainable modes due to trip length/time

		▪ Introduce measures to encourage this
Parking	▪ On average high usage of on (93%) and off (71%) street parking spaces ▪ Over 40% of vehicles parked on-street stay all day (23% for off-street vehicles) ▪ Nearly 65% vehicles single occupancy, with 90% having one passenger	▪ Coordinated car park designation – better use of existing space ▪ Strategic signing to car parks – reduce circuitous movements ▪ Demand management through charging and enforcement ▪ Supported by technology – ANPR, phone payments, VMS
Primary School Hands-up survey	▪ More than half of primary school children walk to school ▪ Significant number of pupils would prefer to cycle to school (at cost to car) ▪ 70% of pupils own a bike	▪ Latent demand for cycling to school ▪ Need to introduce initiatives to encourage and promote cycling and walking (i.e. training, activities, infrastructure)
Secondary School Online Survey	▪ Over two-thirds of students walk to school ▪ Reducing or slowing traffic would encourage more students to walk ▪ Improving reliability of bus services would encourage bus travel	▪ Traffic management measures need to be introduced around school roads ▪ Support should be provided to schools to introduce measures to promote sustainable travel ▪ Cooperation with bus and school services
Workplace Online Survey	▪ 32% commute to work by moped or motorbike (32%). ▪ Two-thirds of respondents would walk or cycle if facilities improved ▪ More people would commute by bus if frequencies increased	▪ Support should be given to businesses to help encourage active travel ▪ Bus services need to be reviewed/improved to meet commuter needs
General Travel Survey	▪ Moped/Motorbike, car (no passengers) and walking main modes ▪ ¼ of people living in the Town Area would walk more if there was less traffic or it was slower. ▪ 1/4 of respondents would cycle more if the number of cycle facilities increased	▪ General public are likely to travel by alternative modes if infrastructure is available ▪ Improvements to public realm (similar to pedestrianisation of Main Street) would have dual-benefits

Source: Mott MacDonald Limited

Gibraltar Sustainable Traffic, Transport and Parking Plan

Appendix B – Survey Data Bus Data Results

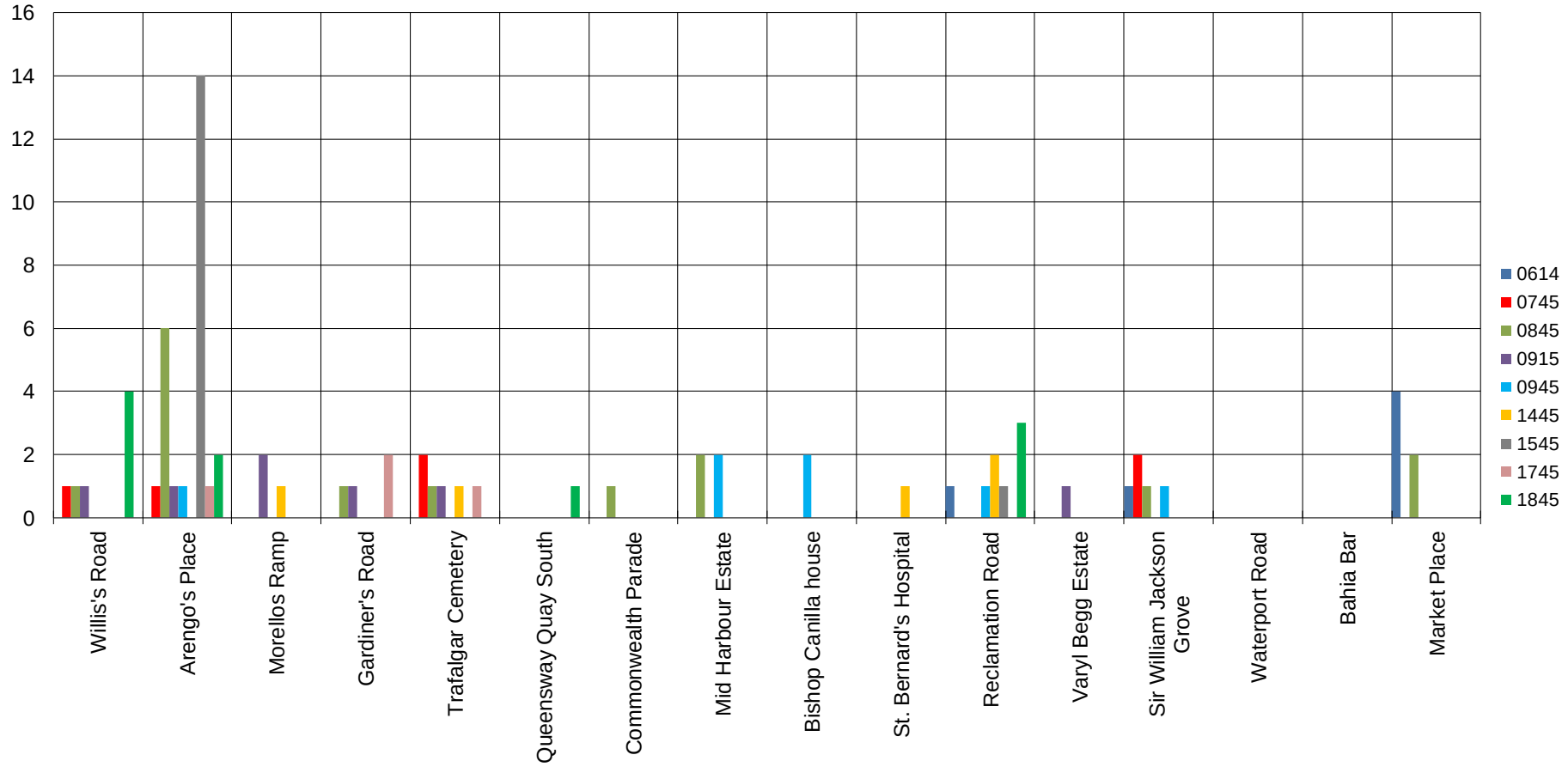
(Based on results obtained in 2013 through traffic and transport surveys)

November 2016

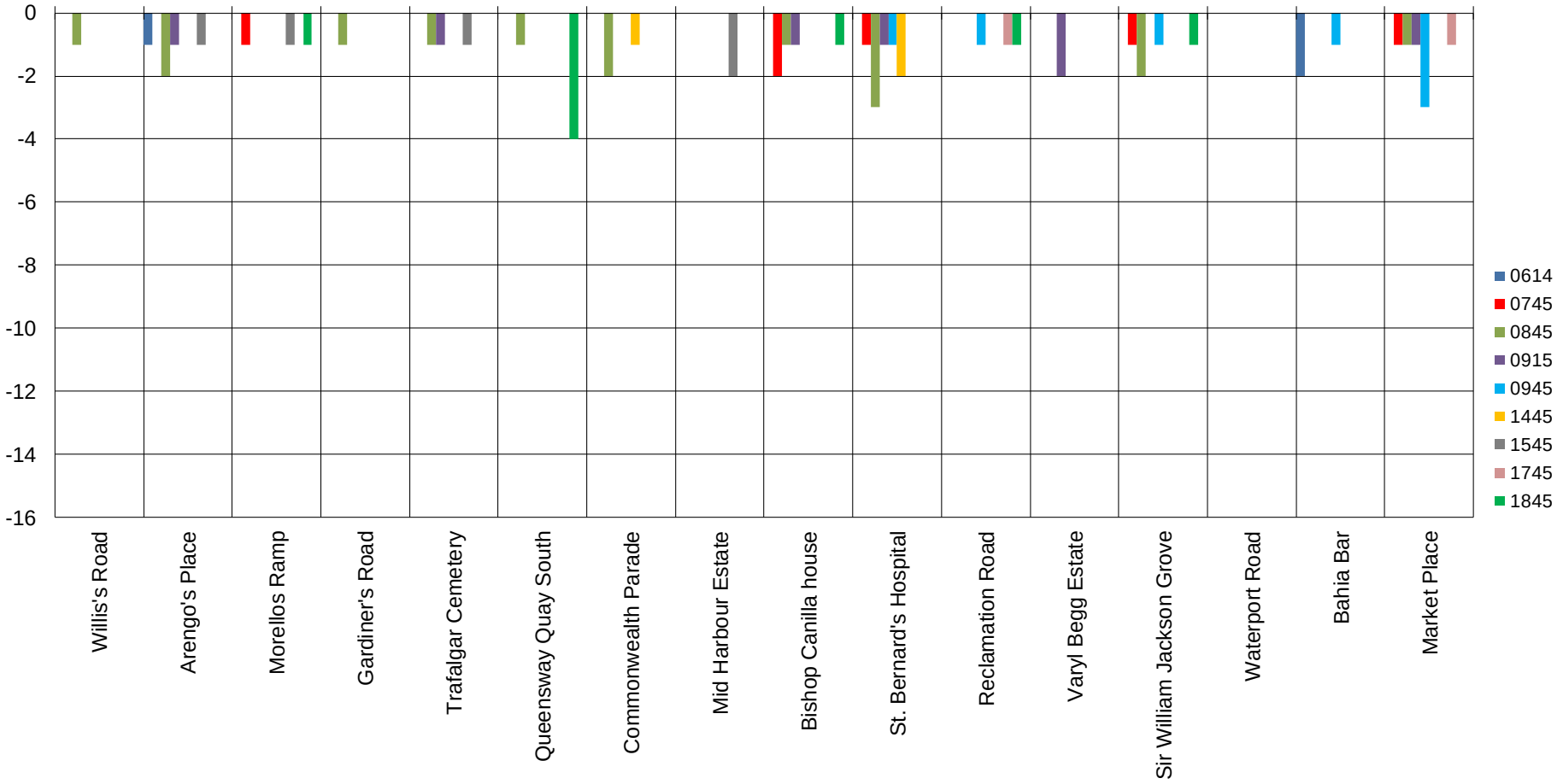
Mott MacDonald

Appendix B1

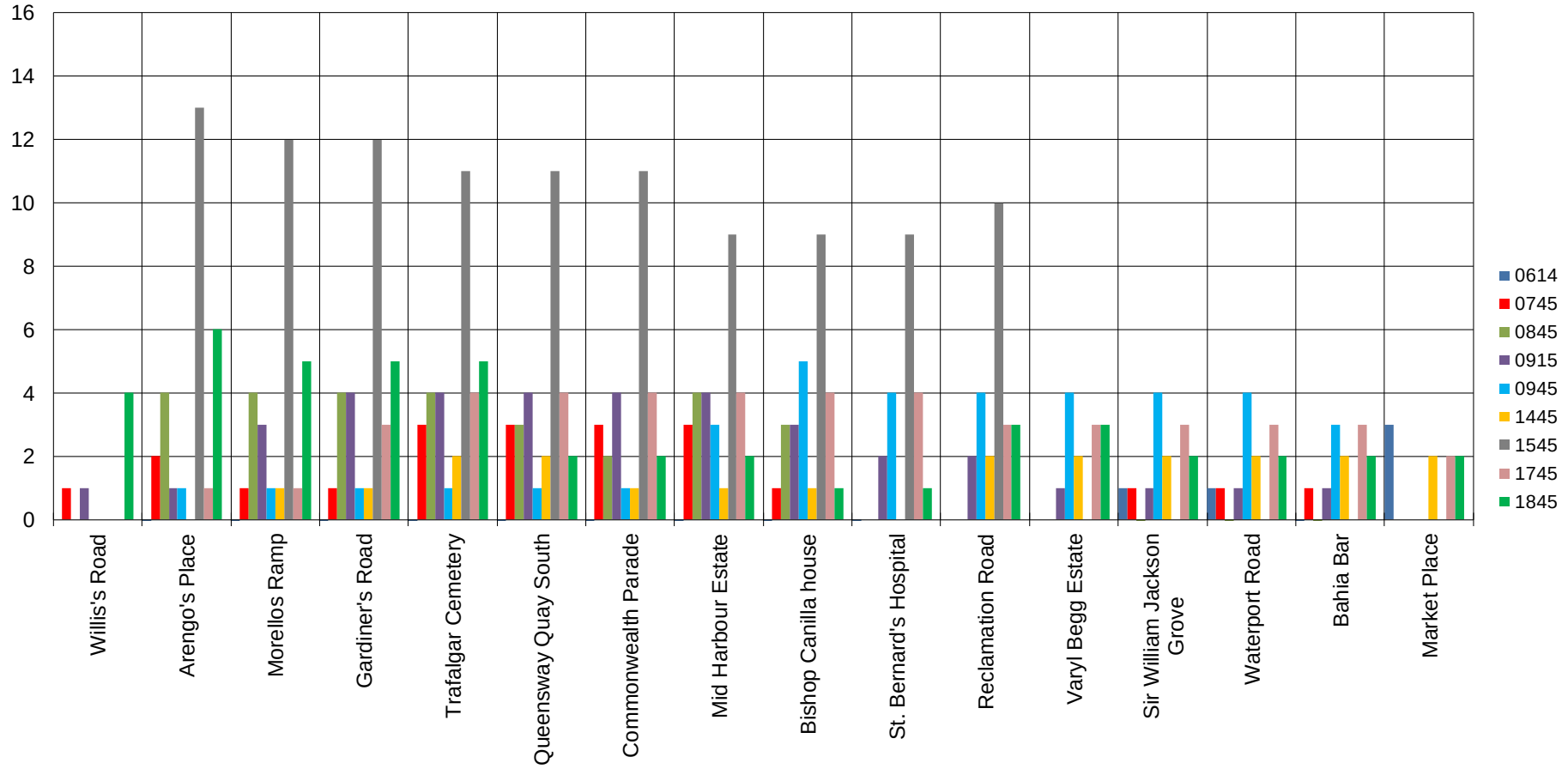
Route 1 Willis's Road to Market Place: Passenger Boarding



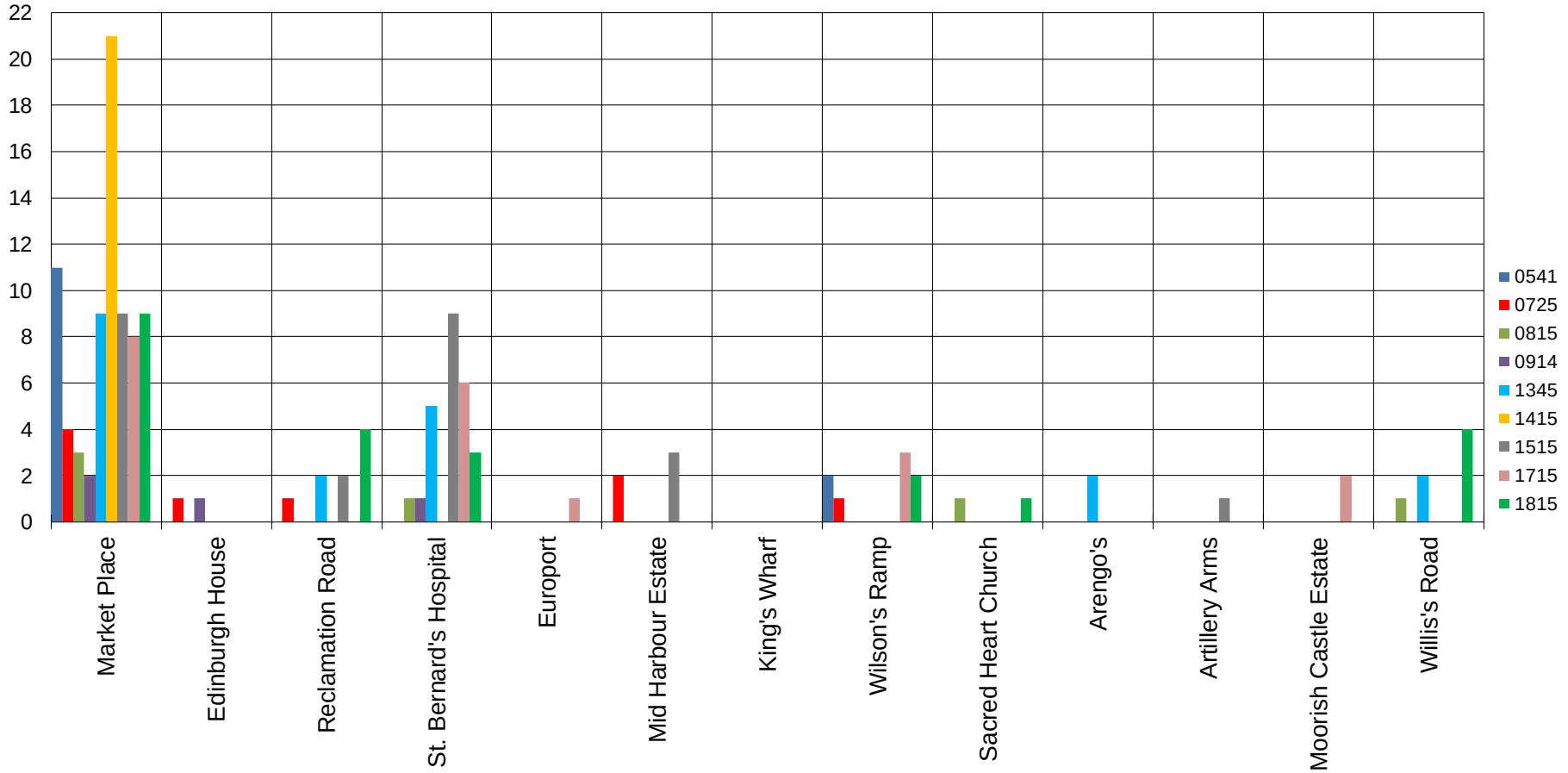
Route 1 Willis's Road to Market Place: Passenger Alighting



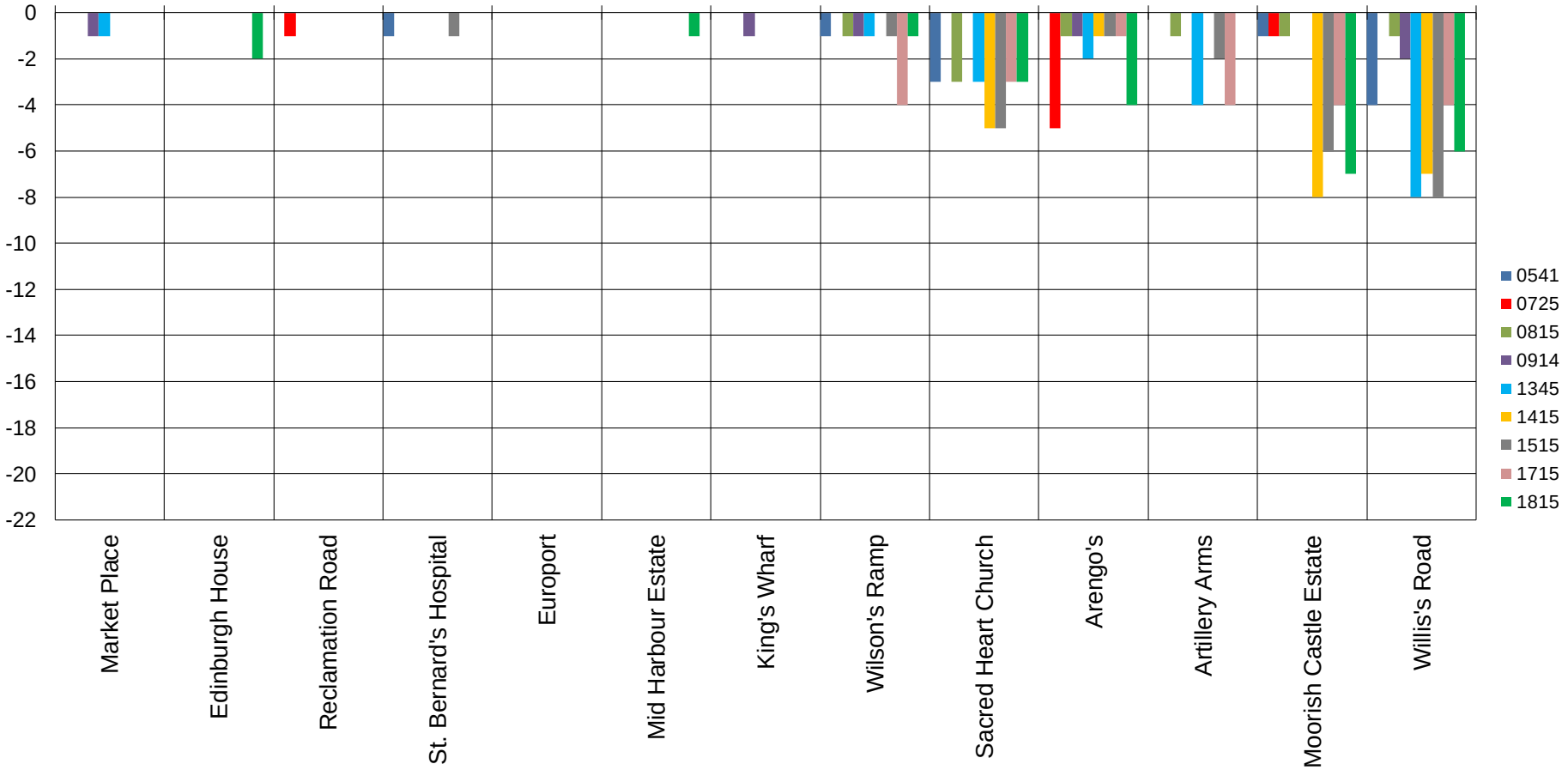
Route 1 Willis's Road to Market Place: Passenger Loading



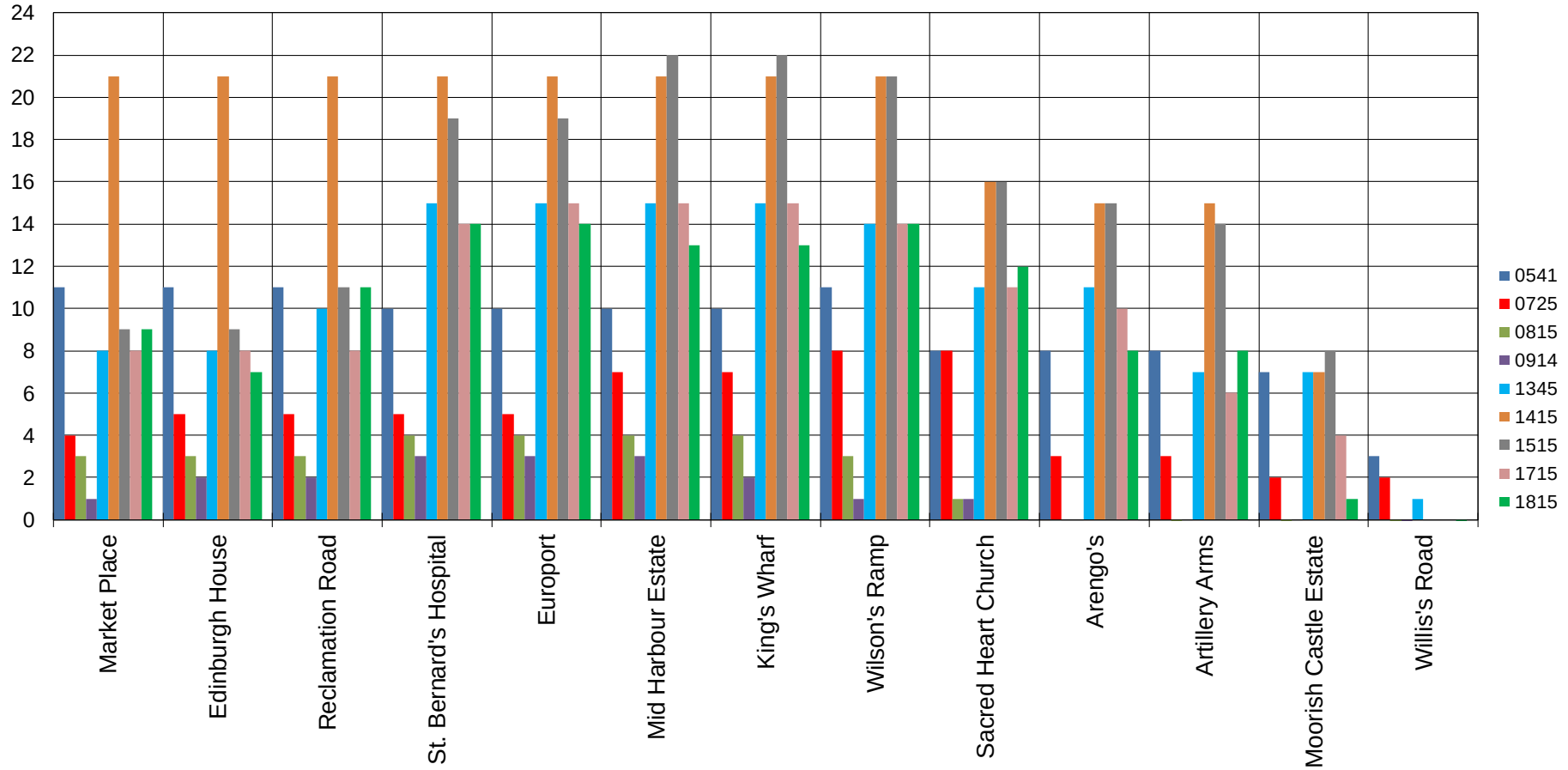
Route 1 Market Place to Willis's Road: Passenger Boarding



Route 1 Market Place to Willis's Road: Passenger Alighting

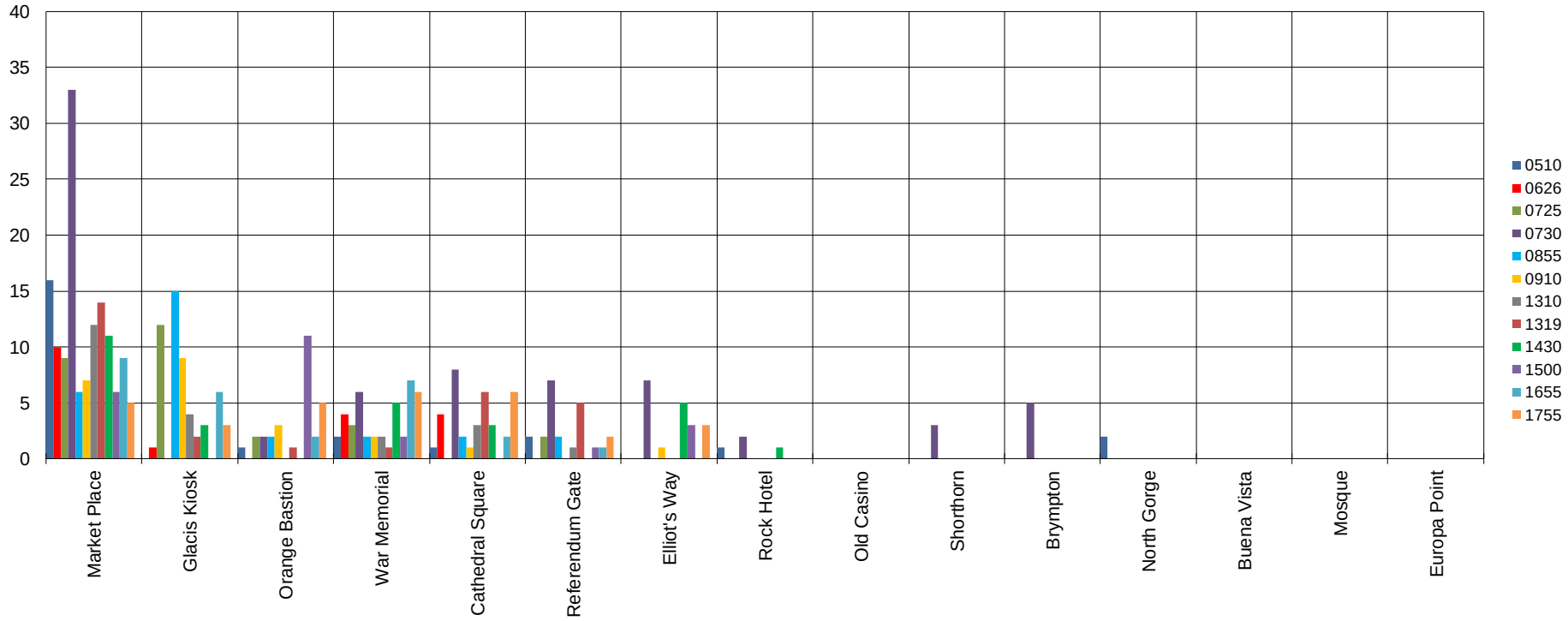


Route 1 Market Place to Willis's Road: Passenger Loading

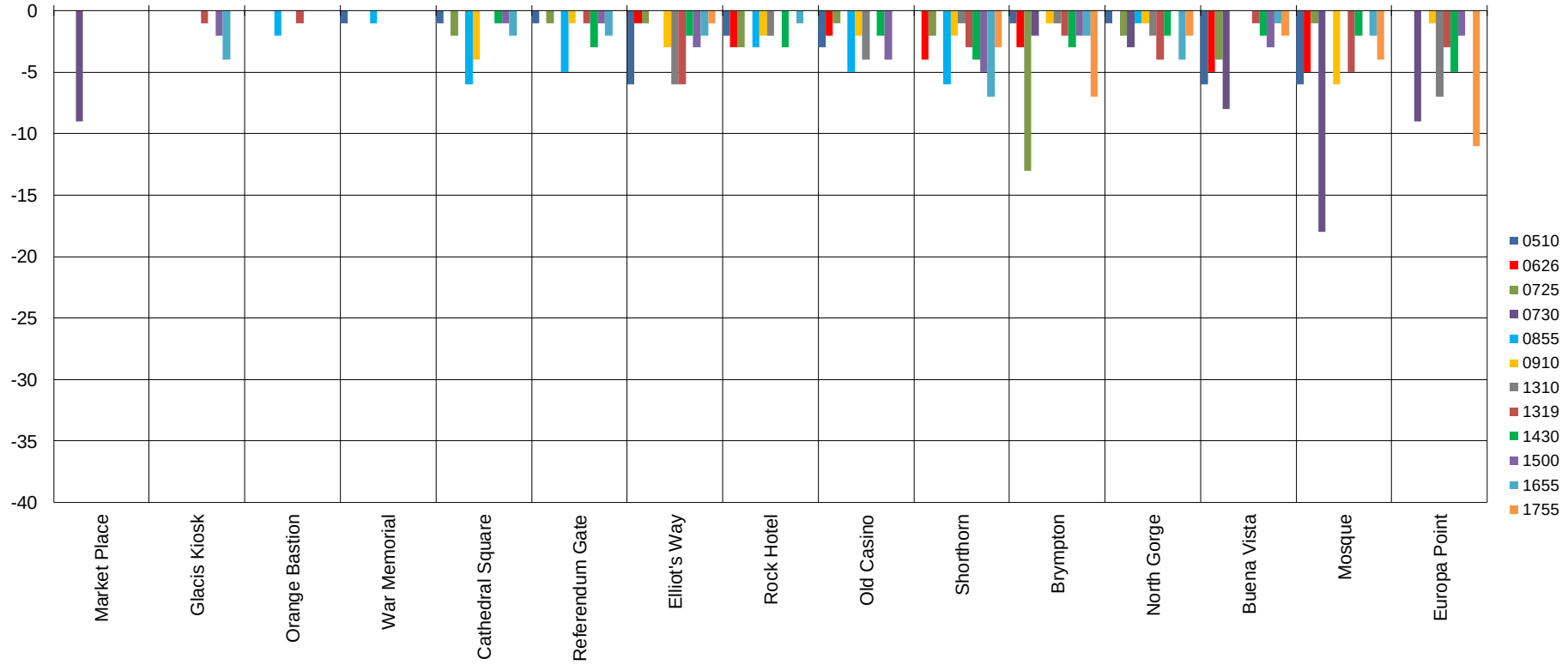


Appendix B2

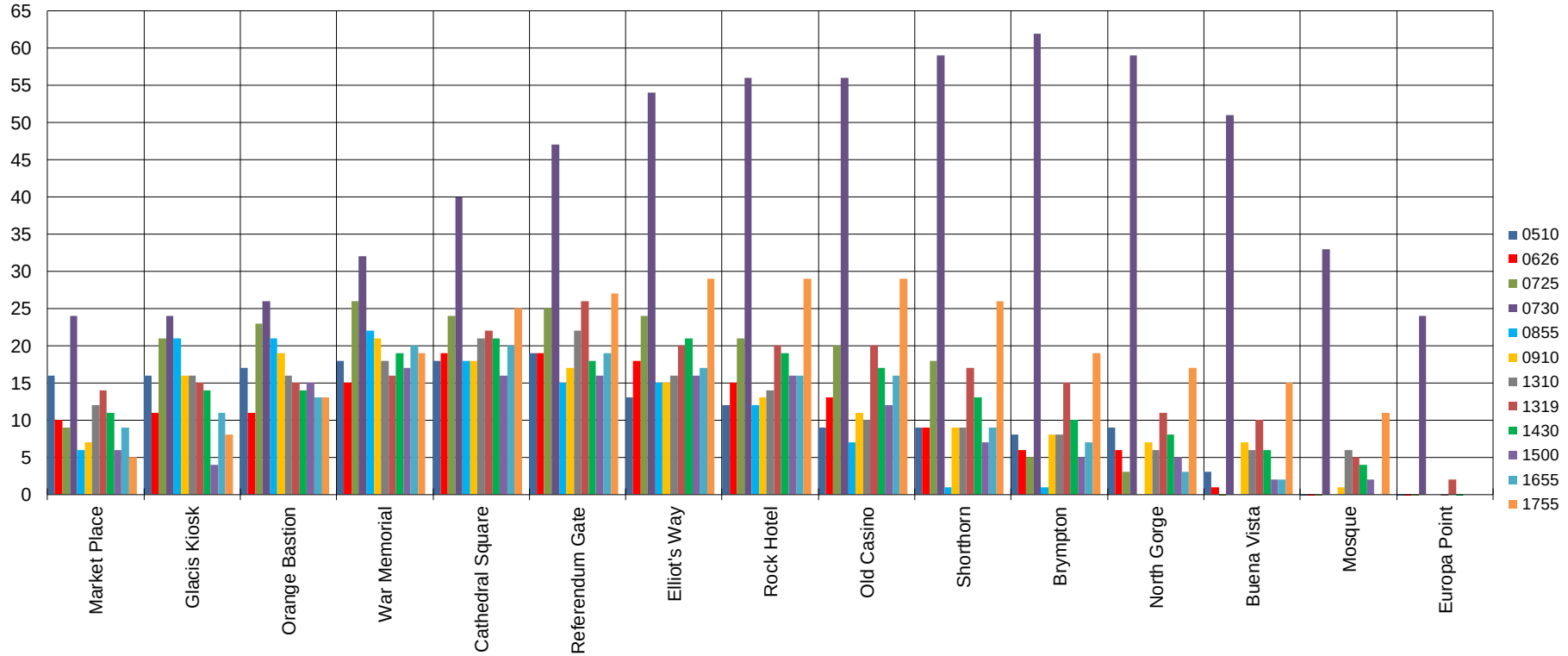
Route 2 Market Place to Europa Point: Passenger Boarding



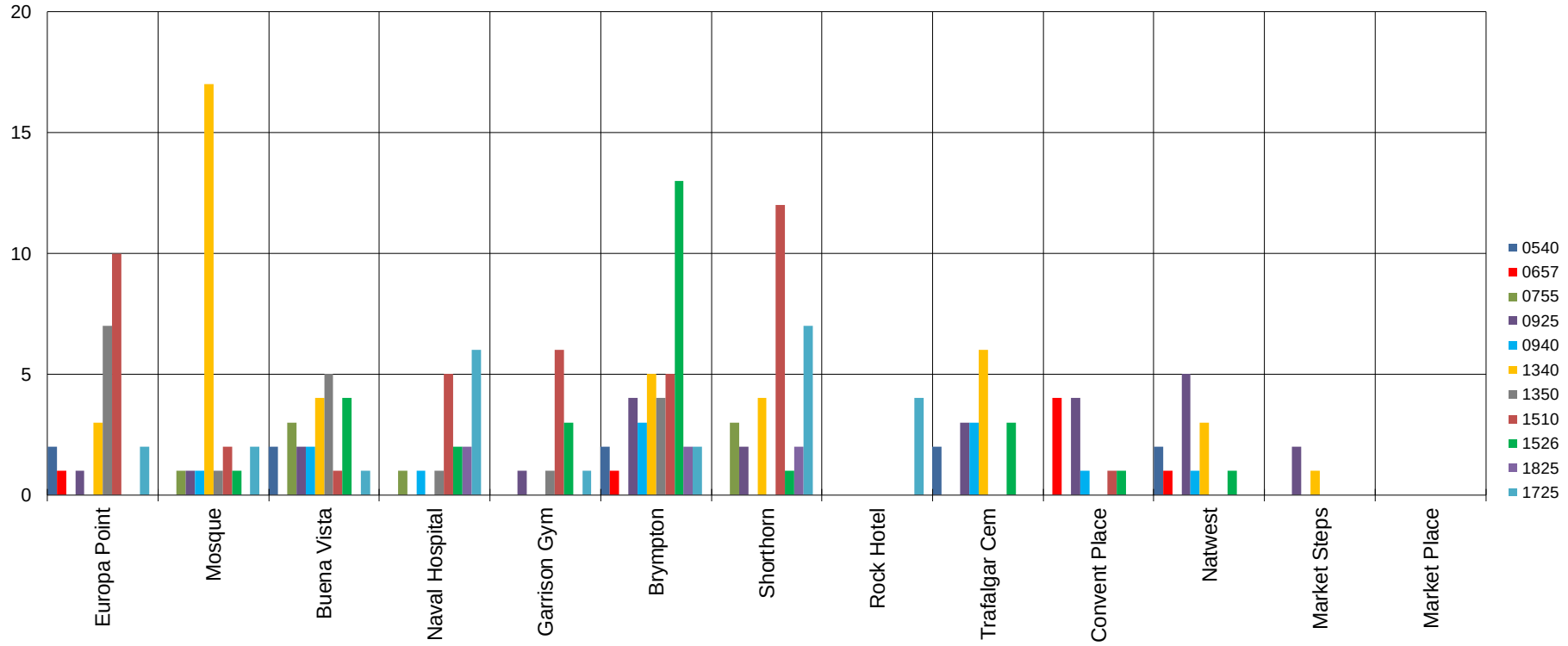
Route 2 Market Place to Europa Point: Passenger Alighting



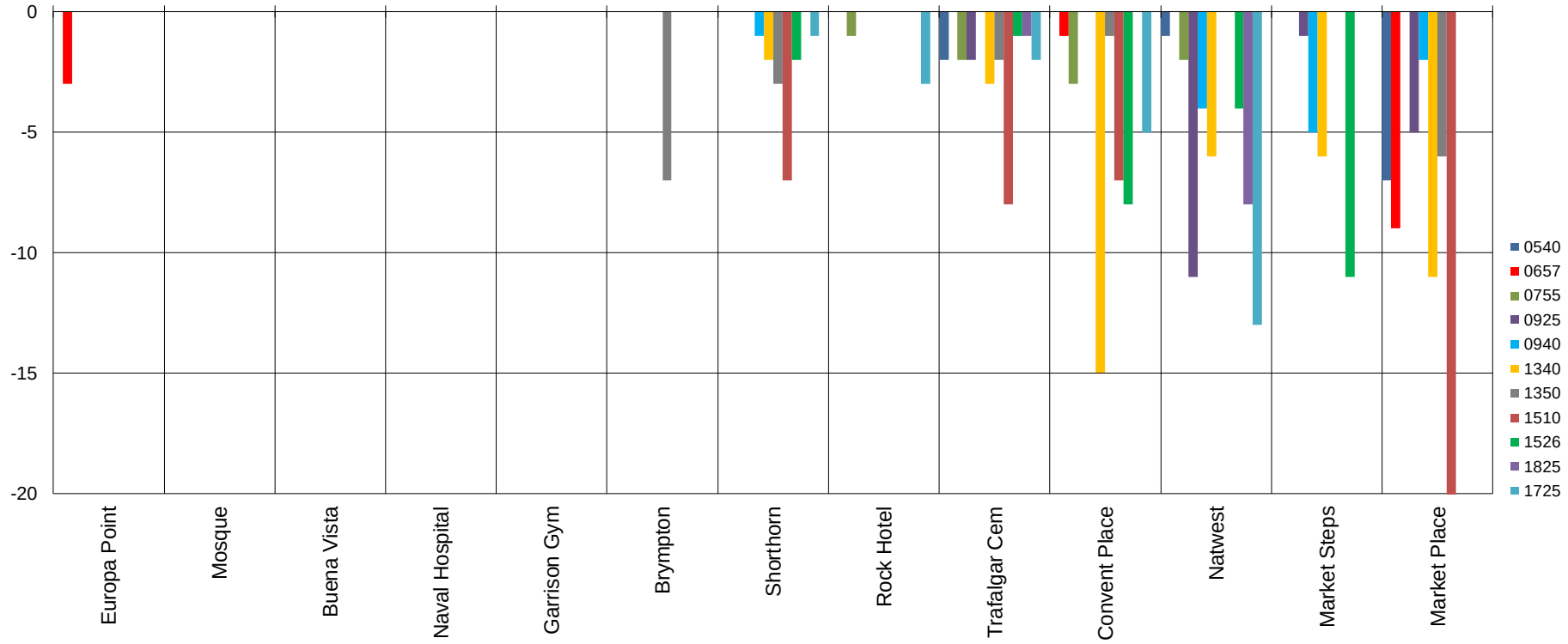
Route 2 Market Place to Europa Point: Passenger Loading



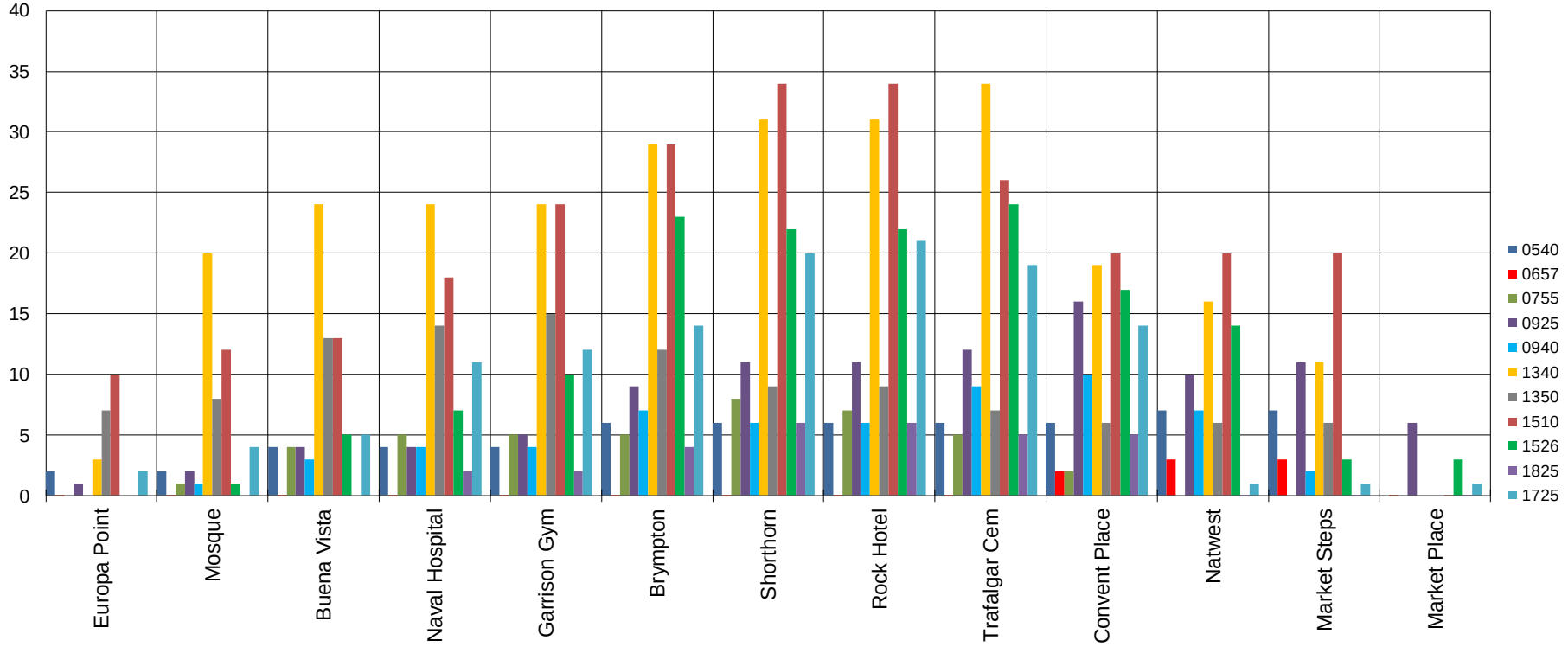
Route 2 Europa Point to Market Place: Passenger Boarding



Route 2 Europa Point to Market Place: Passenger Alighting

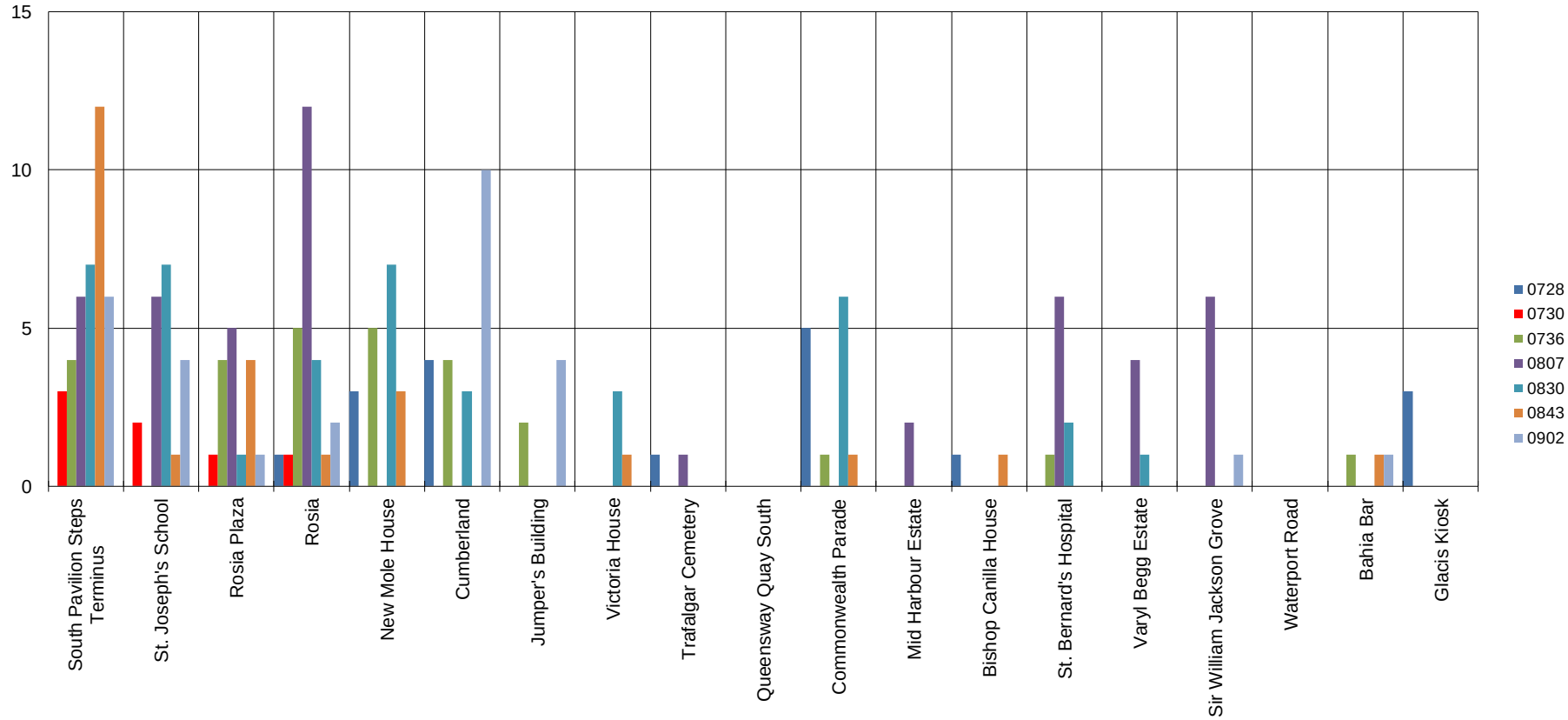


Route 2 Europa Point to Market Place: Passenger Loading

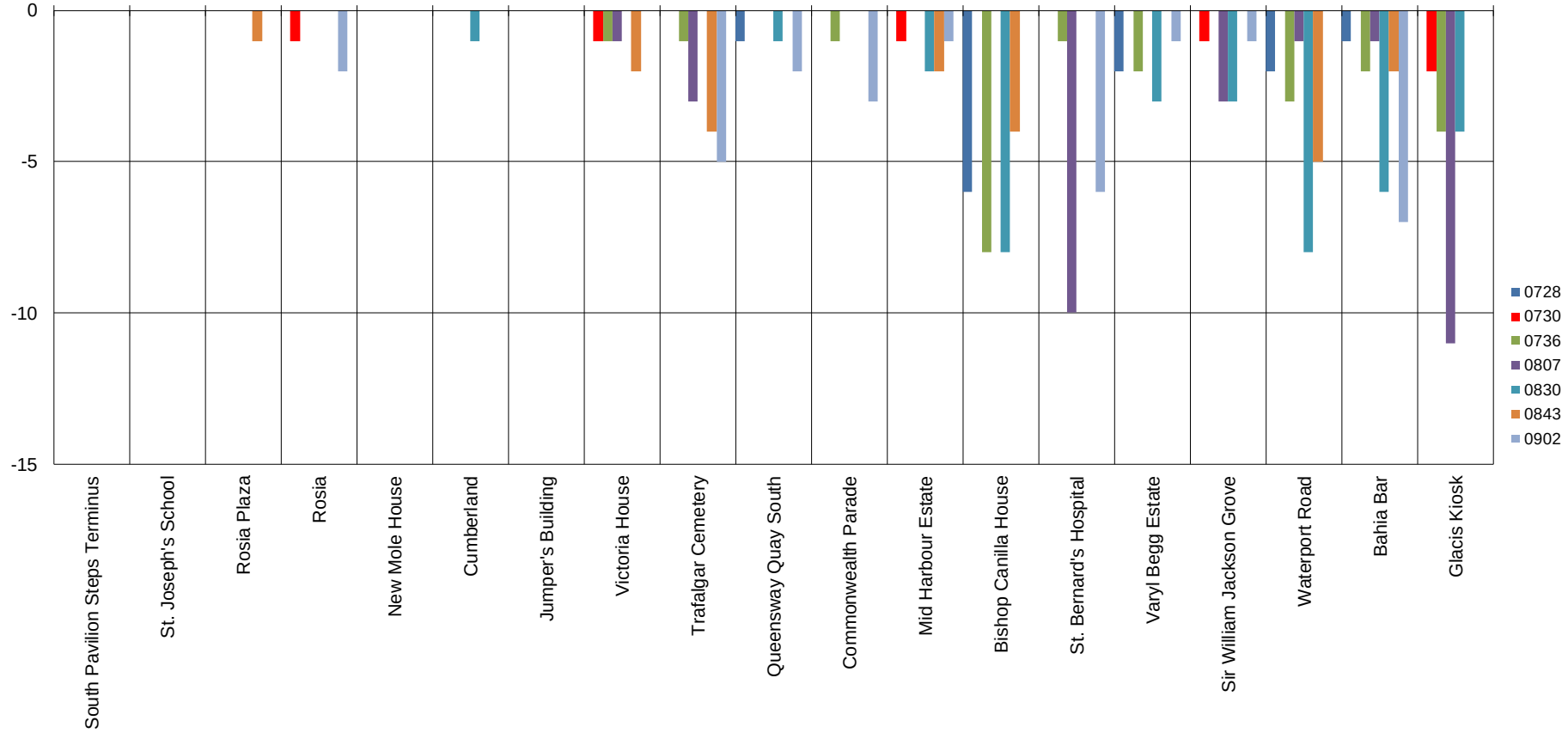


Appendix B3

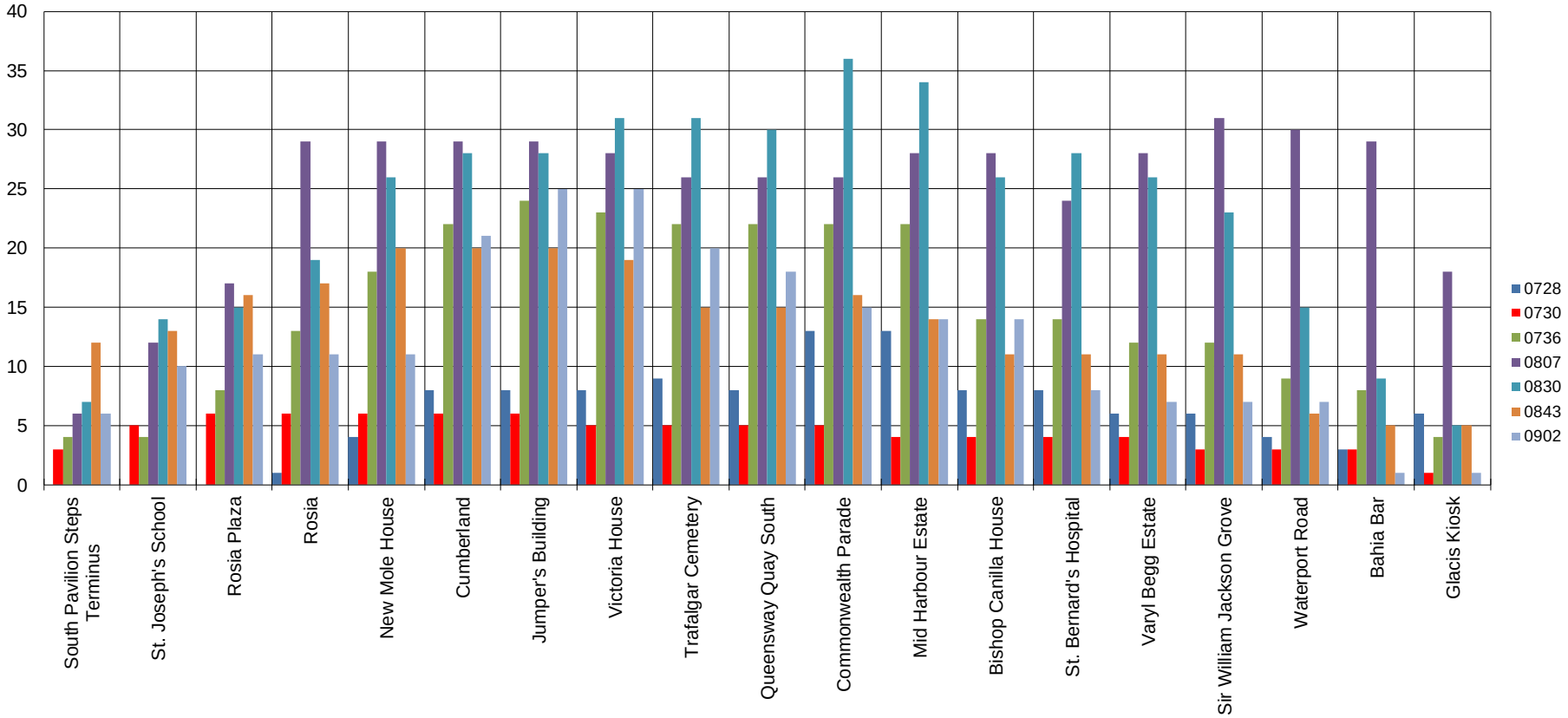
Route 3 South Pavilion Steps to Glacis Kiosk: Passenger Boarding



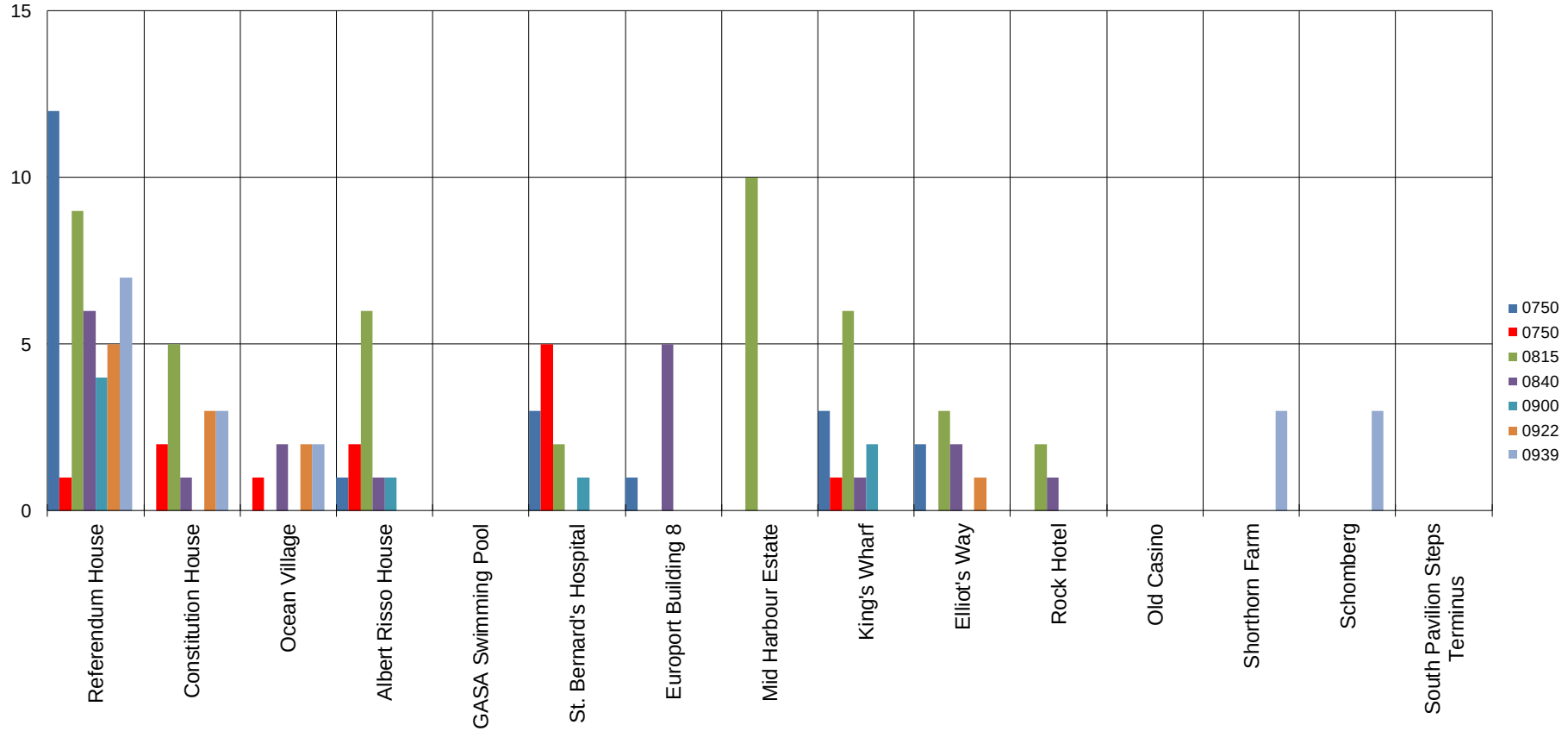
Route 3 South Pavilion Steps to Glacis Kiosk: Passenger Alighting



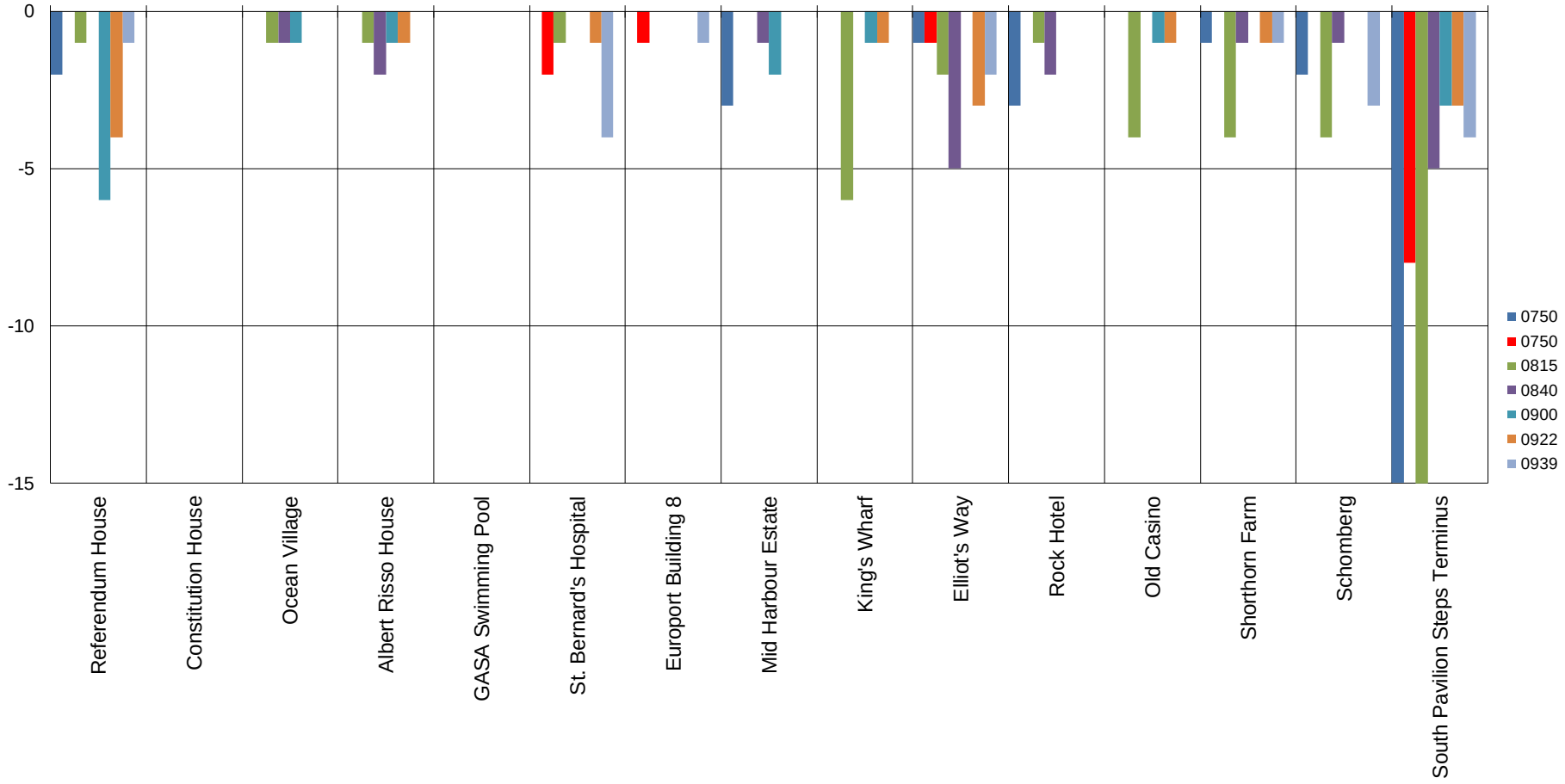
Route 3 South Pavilion Steps to Glacis Kiosk: Passenger Loading



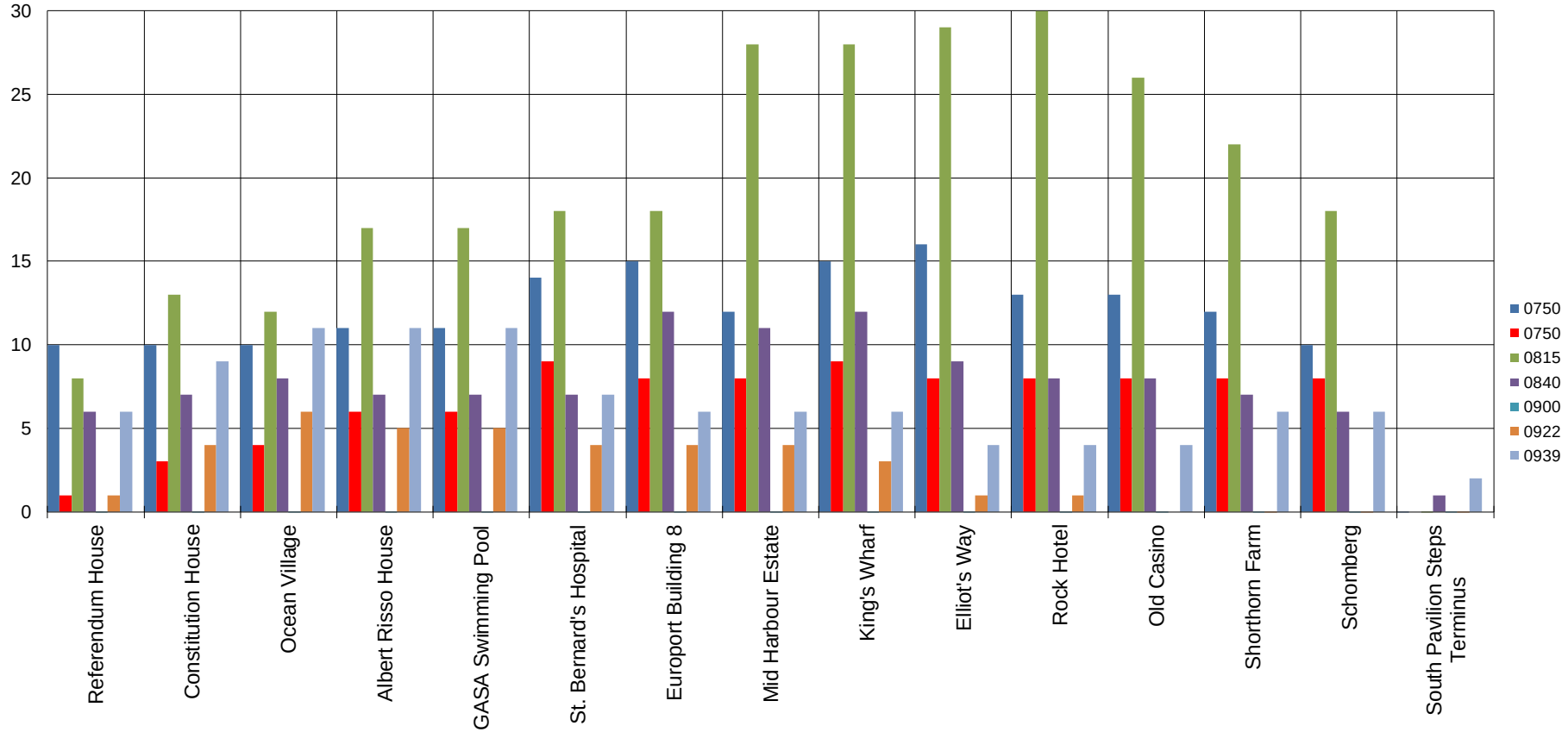
Route 3 Referendum House to South Pavilion Steps: Passenger Boarding



Route 3 Referendum House to South Pavilion Steps: Passenger Alighting

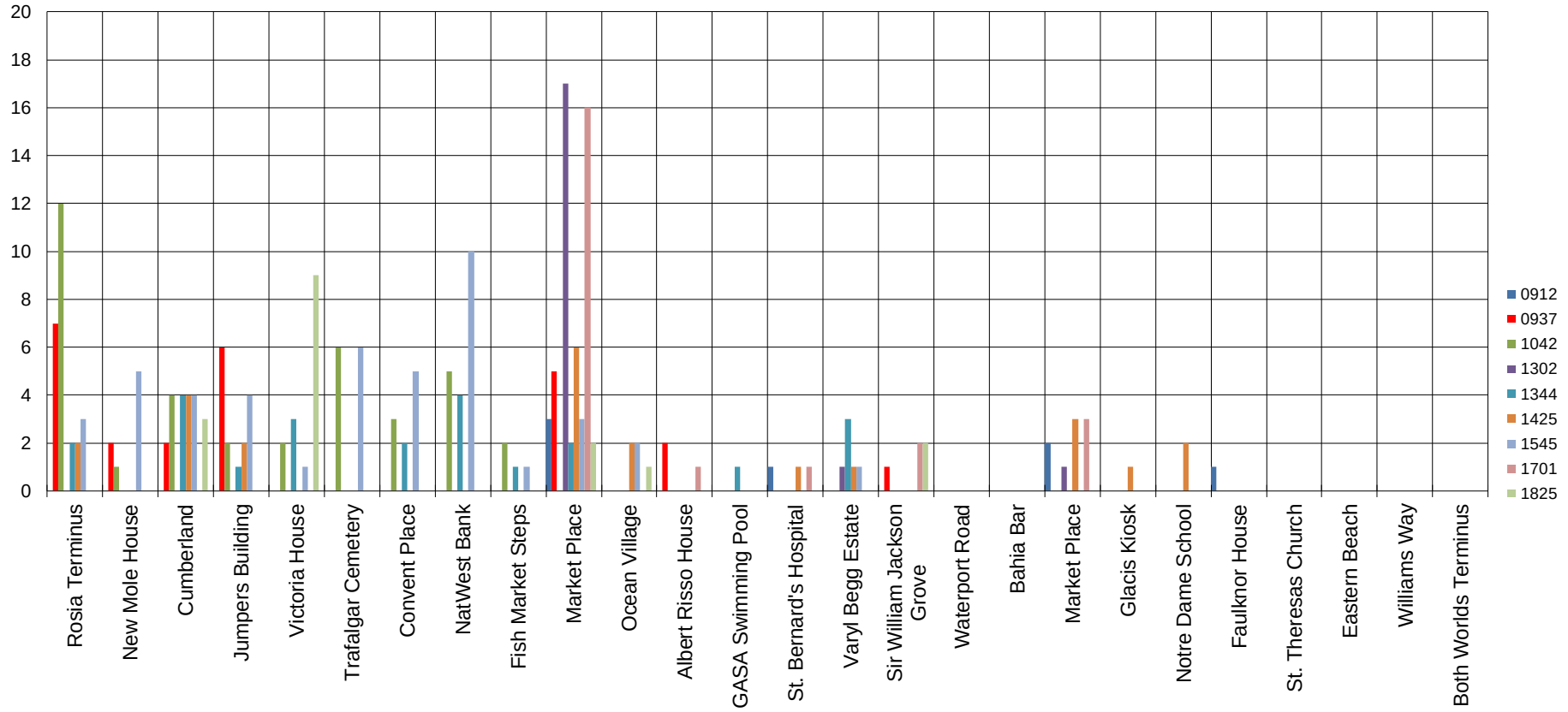


Route 3 Referendum House to South Pavilion Steps: Passenger Loading

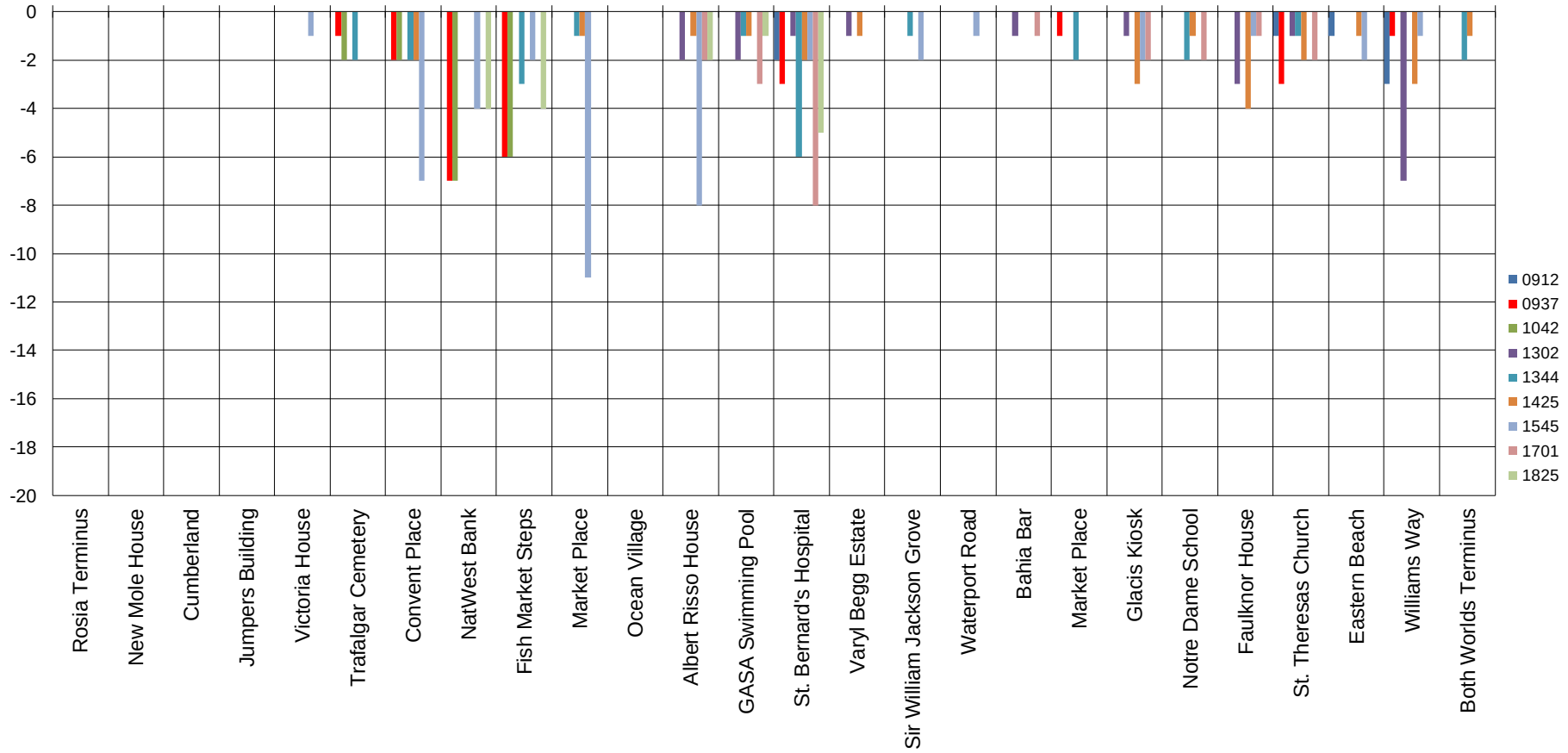


Appendix B4

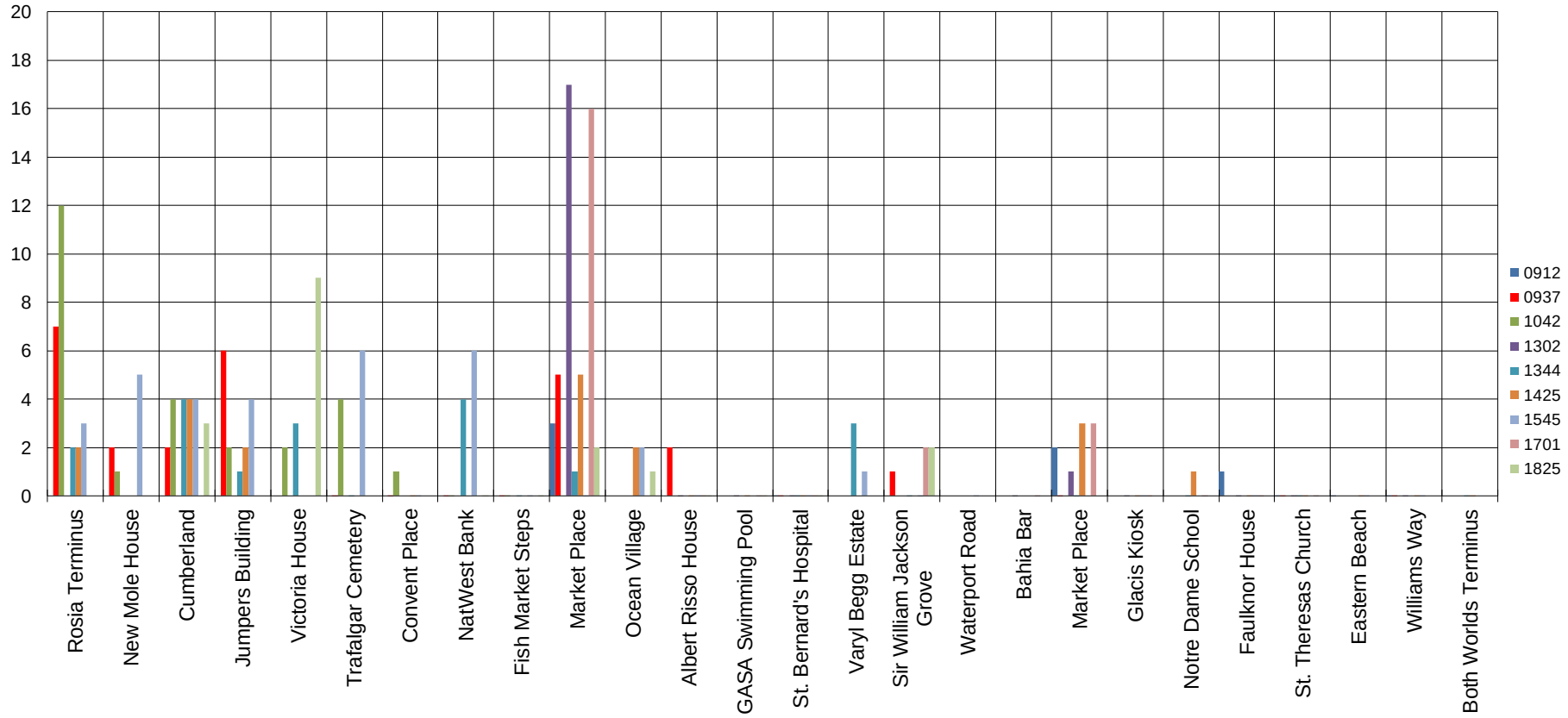
Route 4 Rosia to Both Worlds: Passenger Boarding



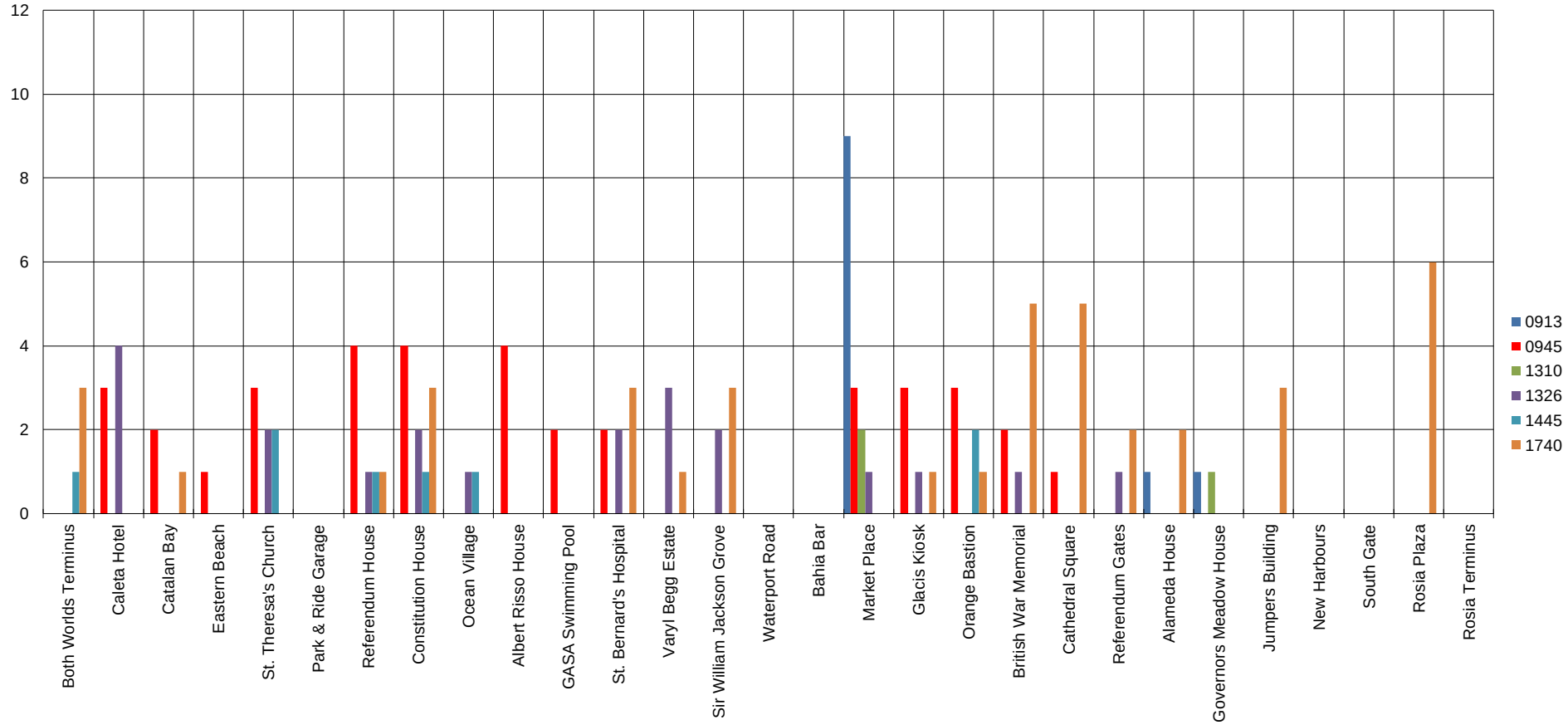
Route 4 Rosia to Both Worlds: Passenger Alighting



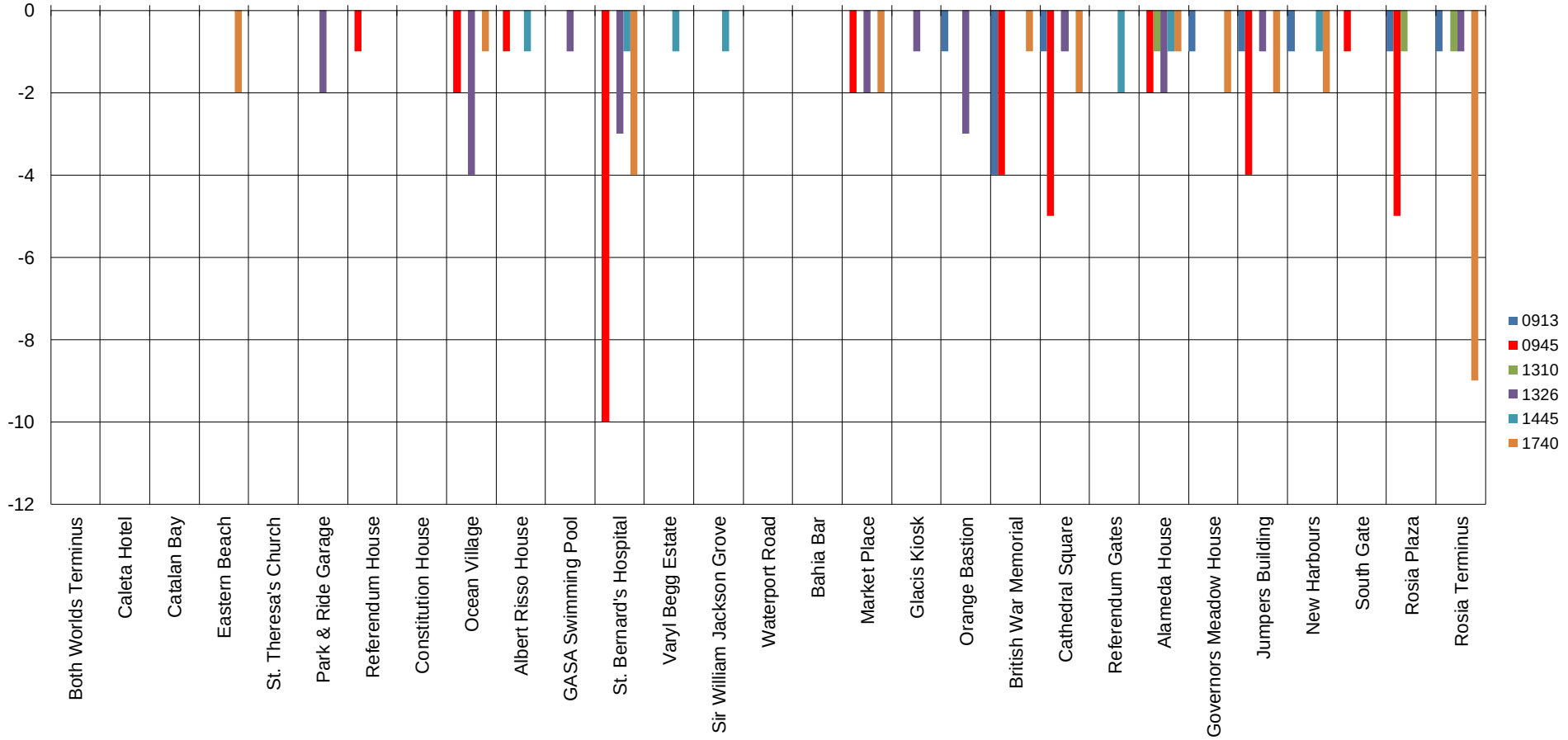
Route 4 Rosia to Both Worlds: Passenger Loading



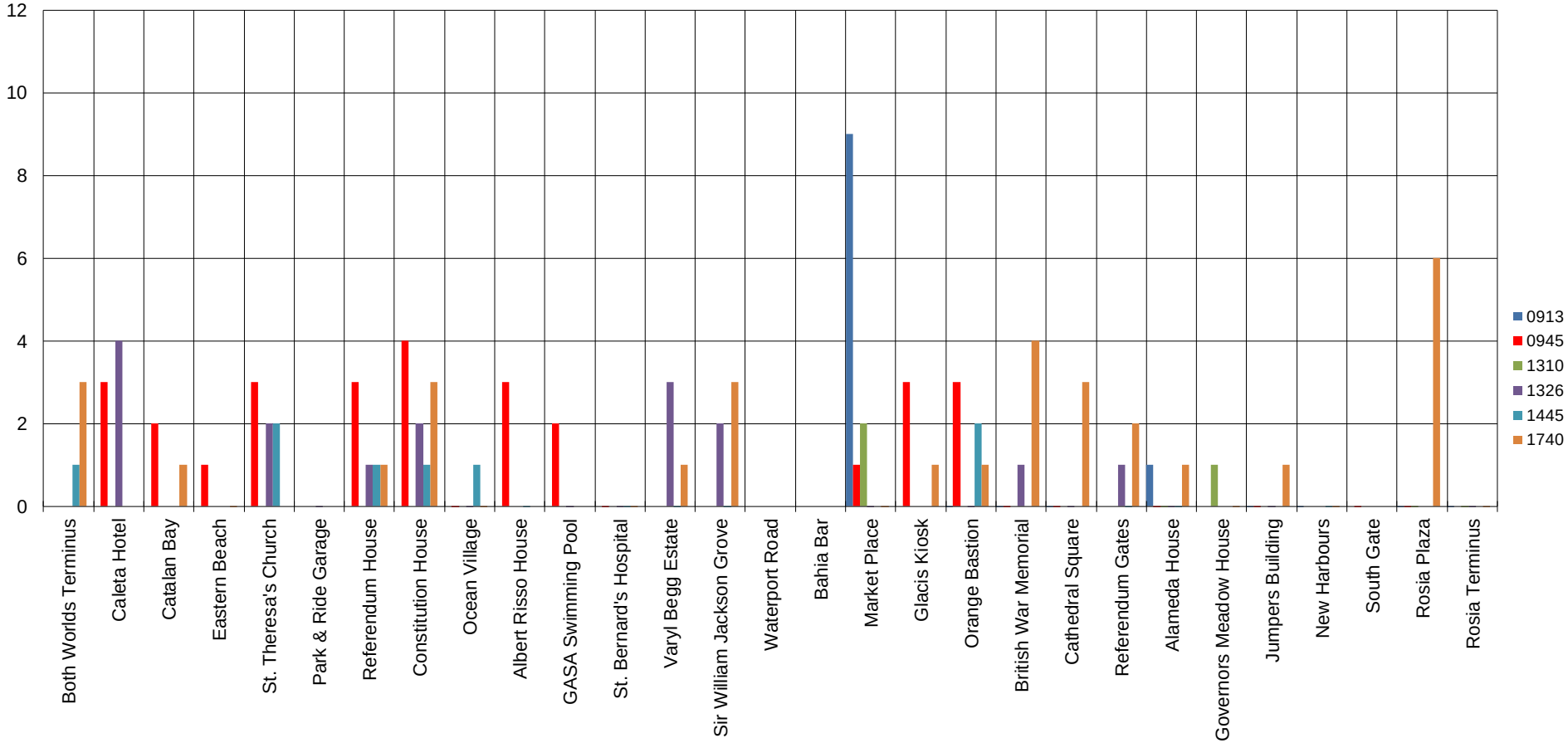
Route 4 Both Worlds to Rosia: Passenger Boarding



Route 4 Both Worlds to Rosia: Passenger Alighting

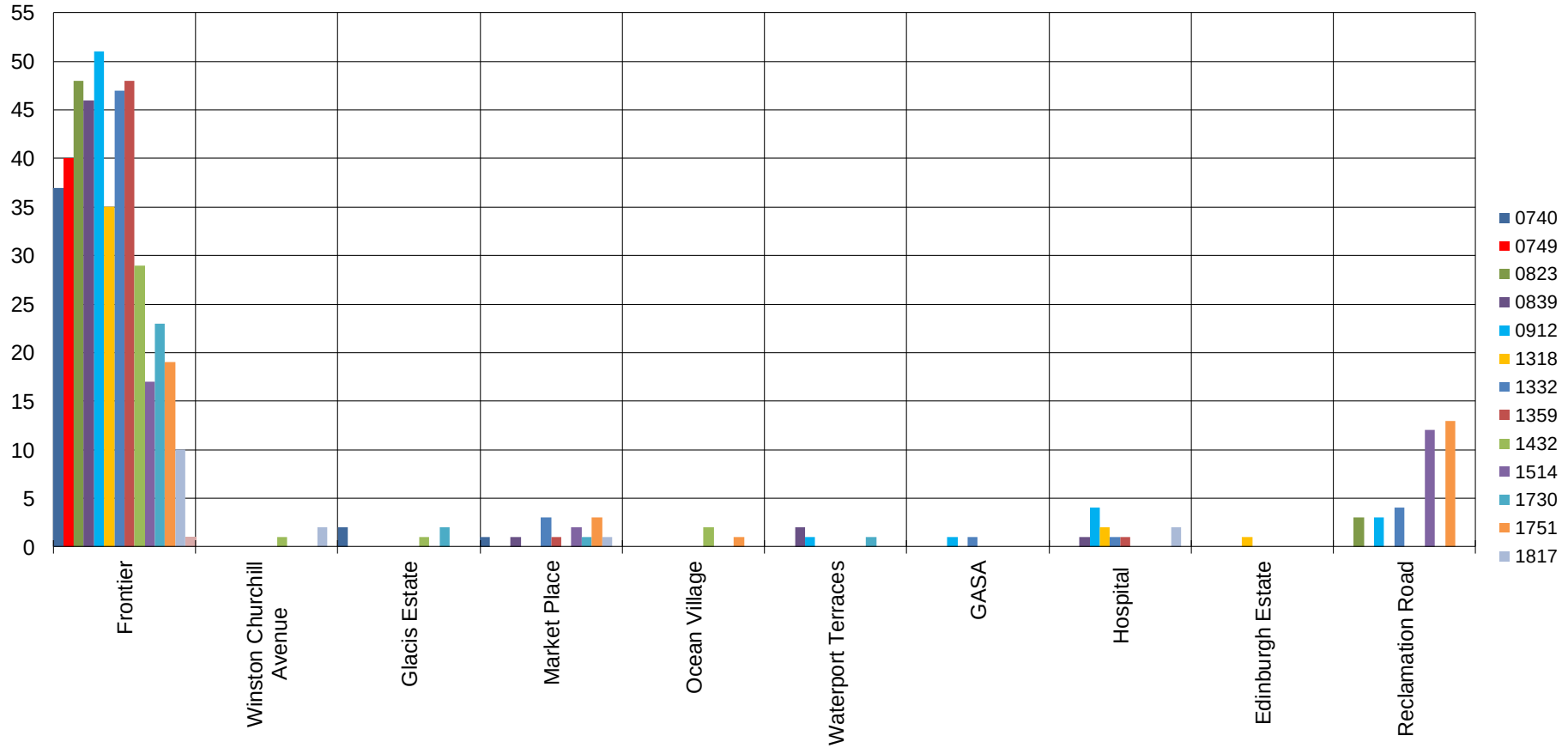


Route 4 Both Worlds to Rosia: Passenger Loading



Appendix B5

Route 5 Frontier to Reclamation Road: Passenger Boarding



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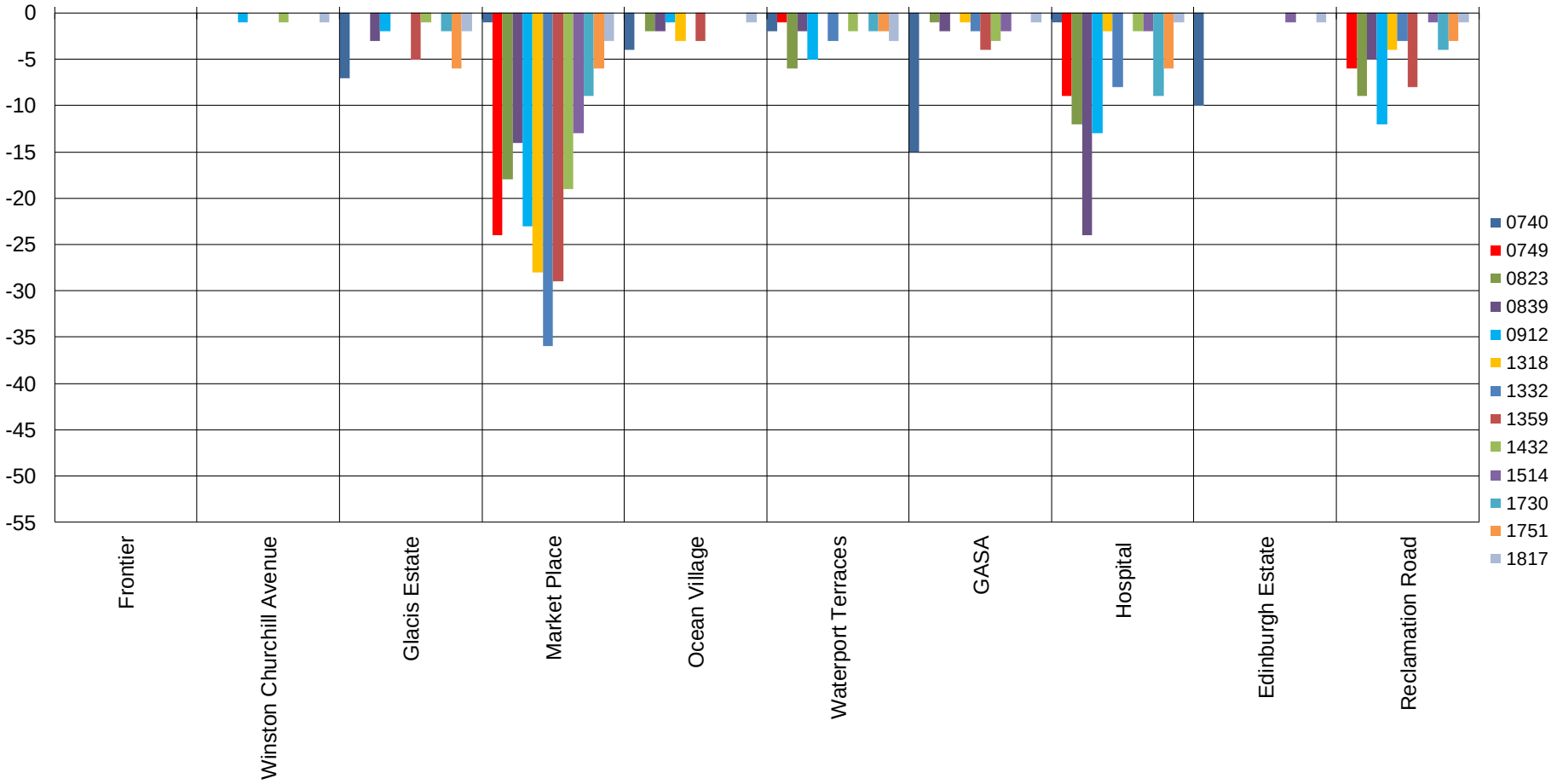

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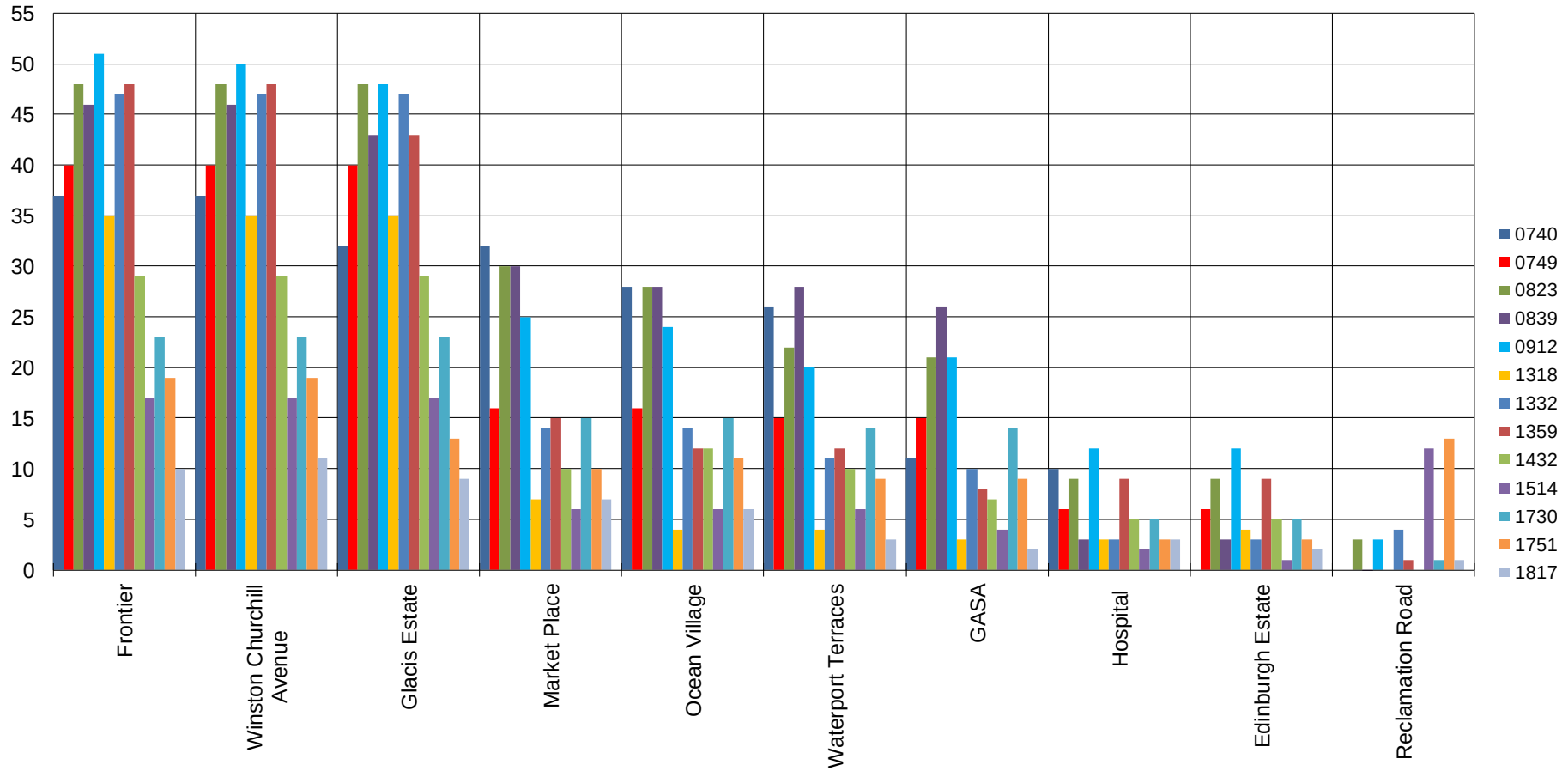
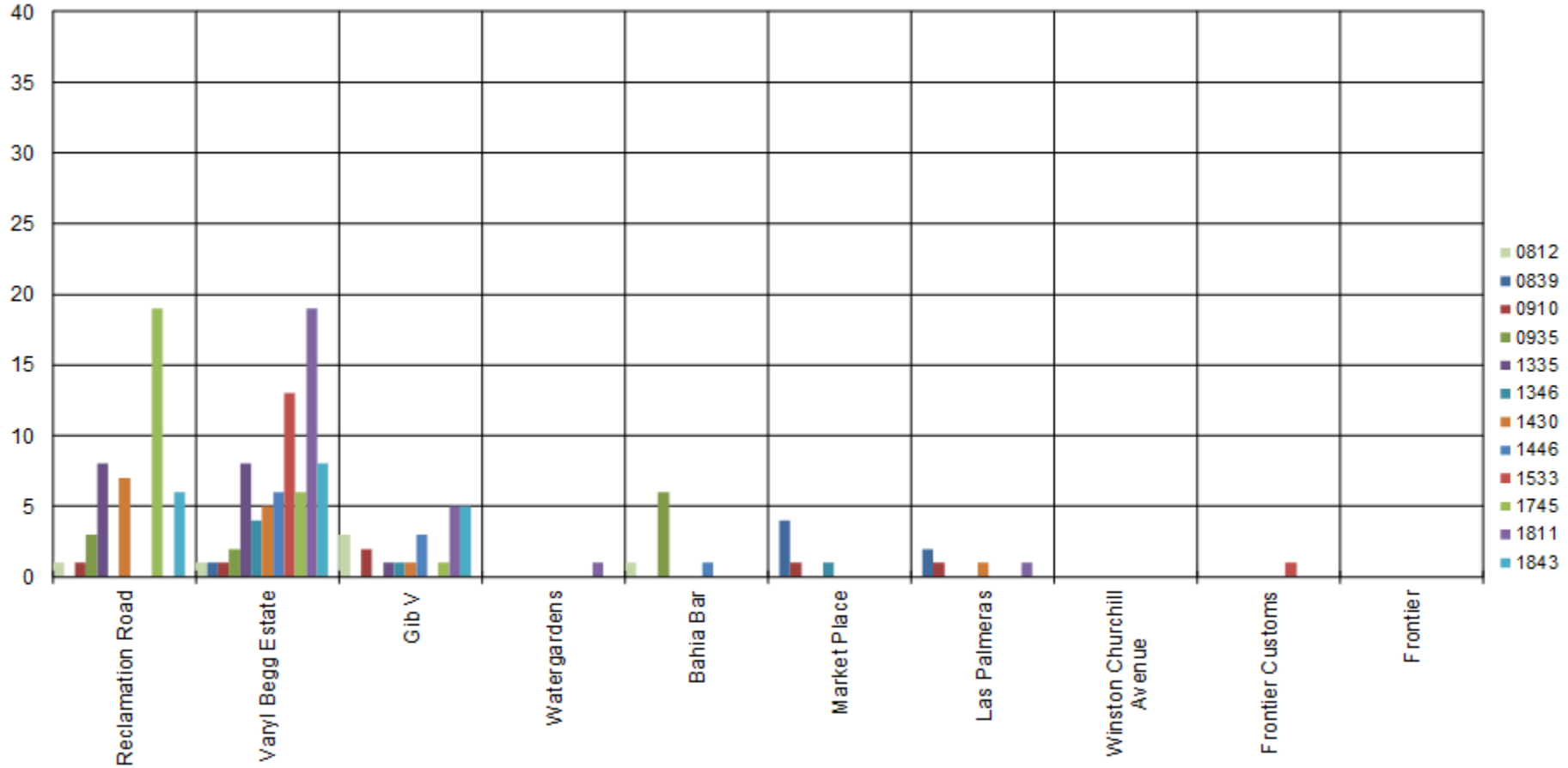
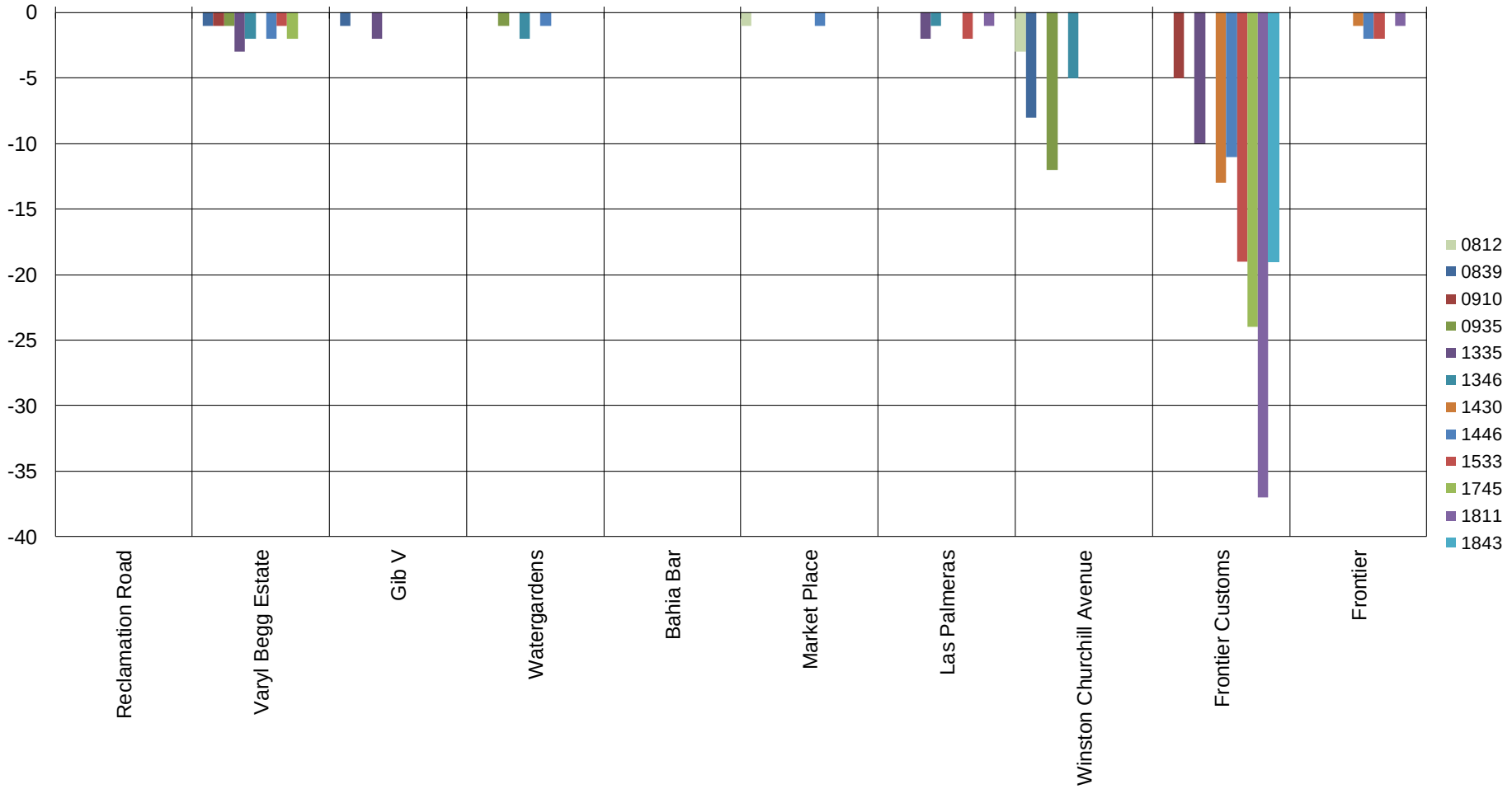


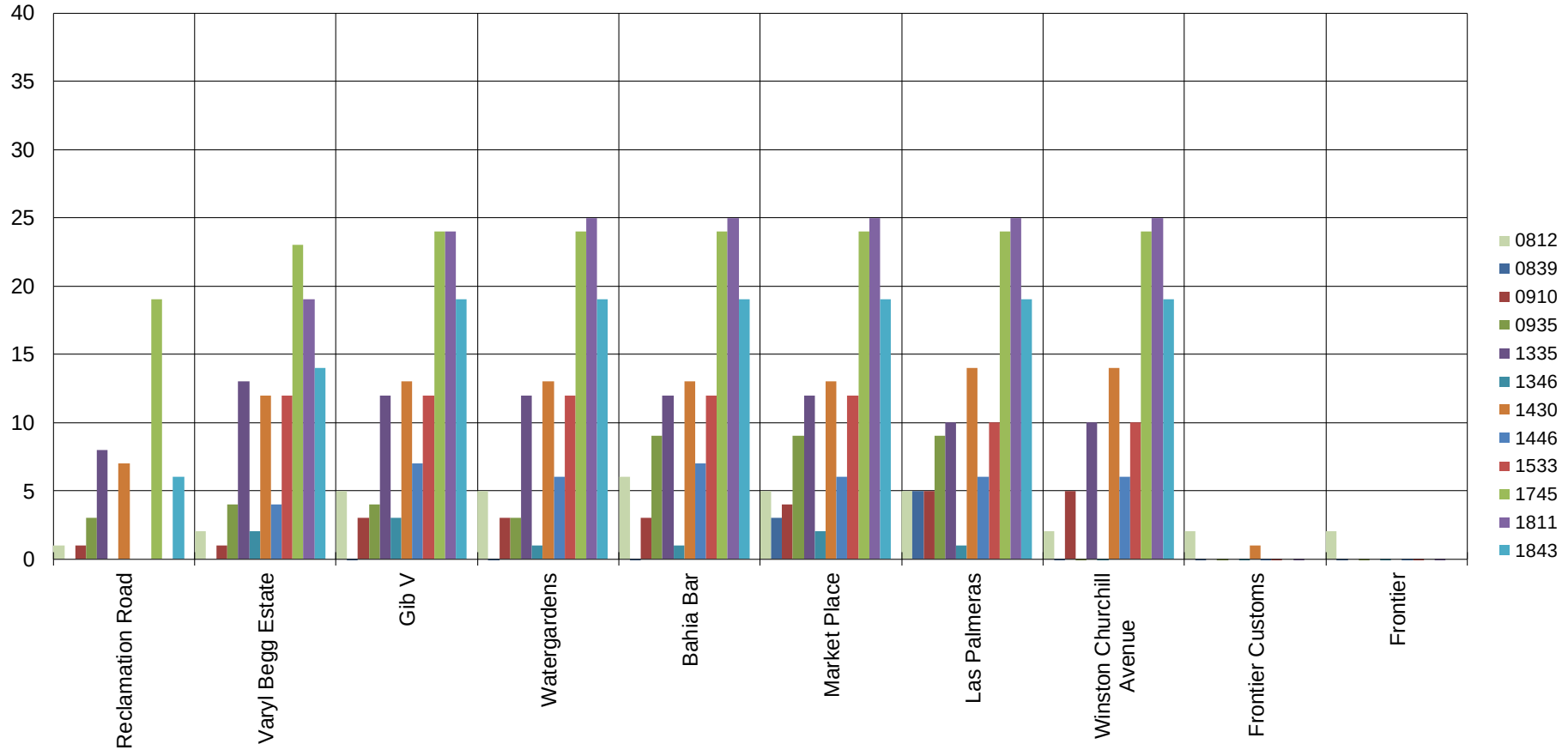
Route 5 Reclamation Road to Frontier: Passenger Boarding



Route 5 Reclamation Road to Frontier: Passenger Alighting

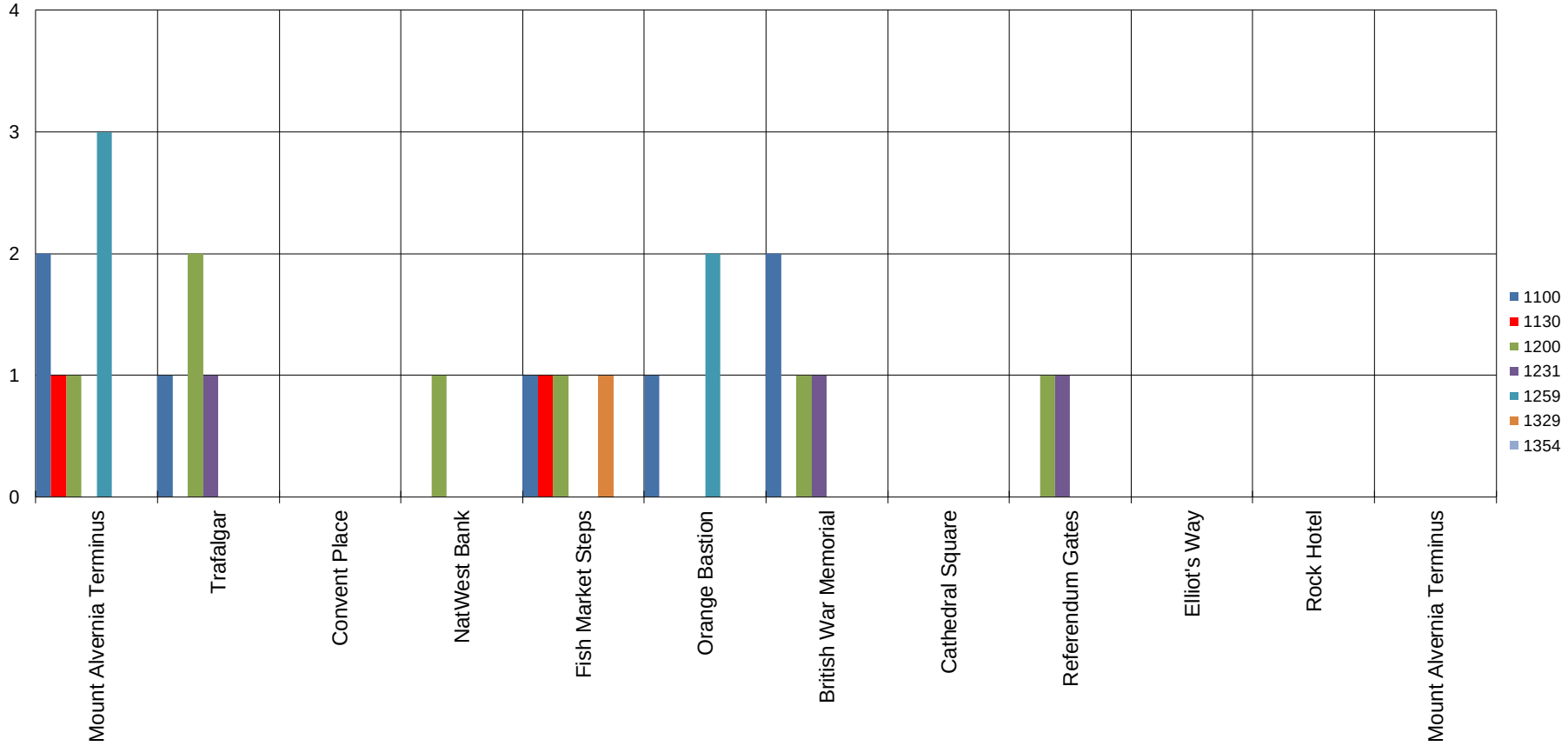


Route 5 Reclamation Road to Frontier: Passenger Loading

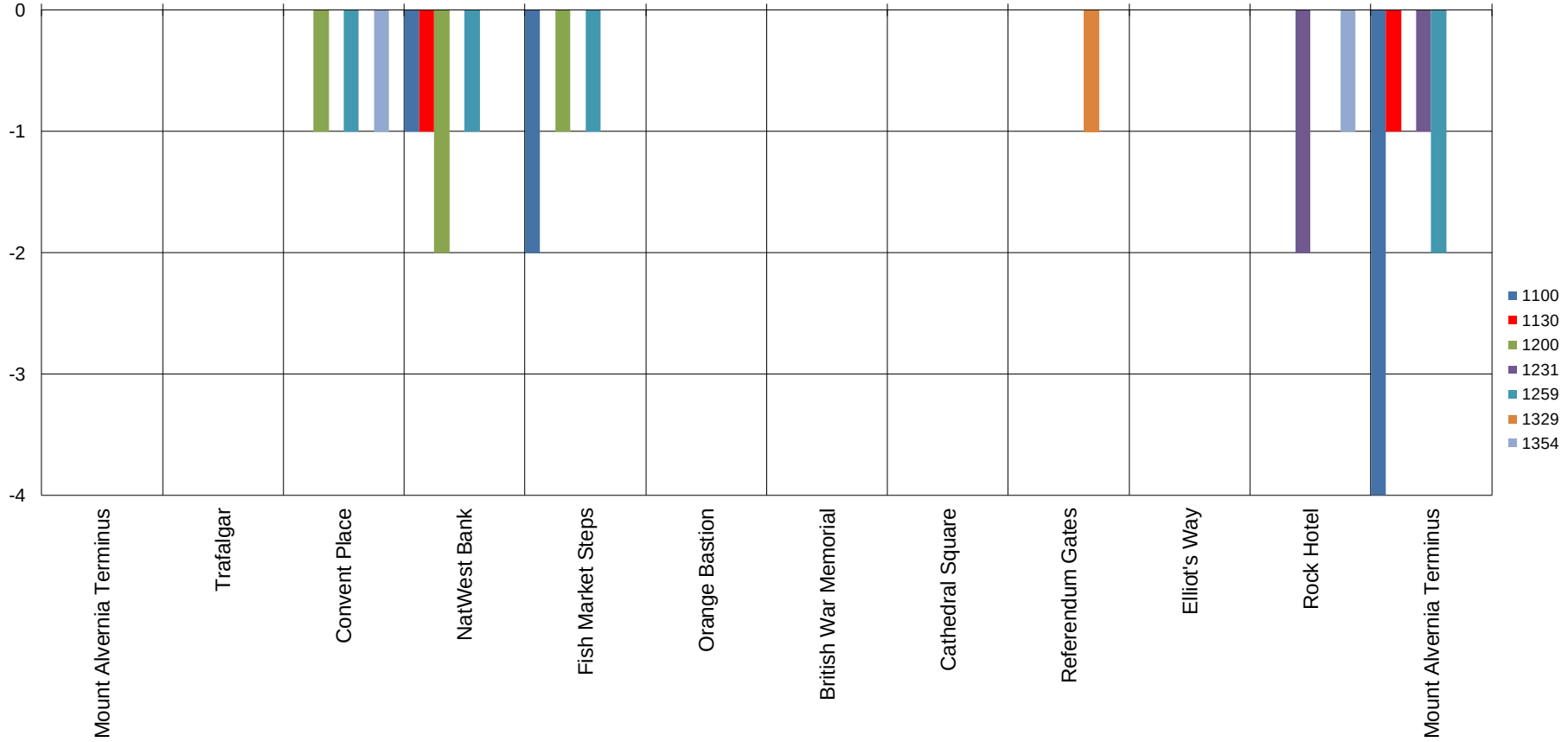


Appendix B6

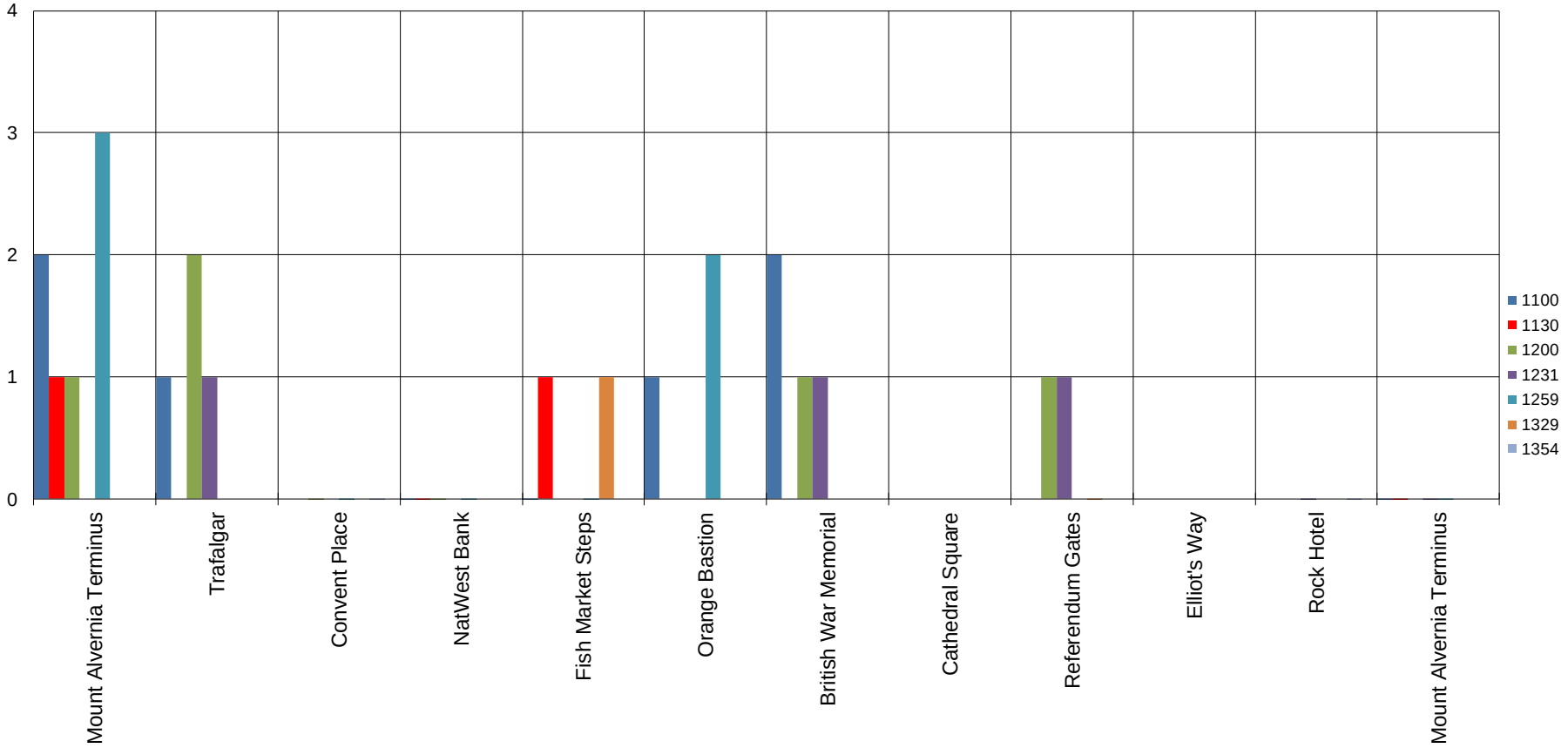
Route 7 Mount Alevnia Circular: Passenger Boarding



Route 7 Mount Alevnia Circular: Passenger Alighting

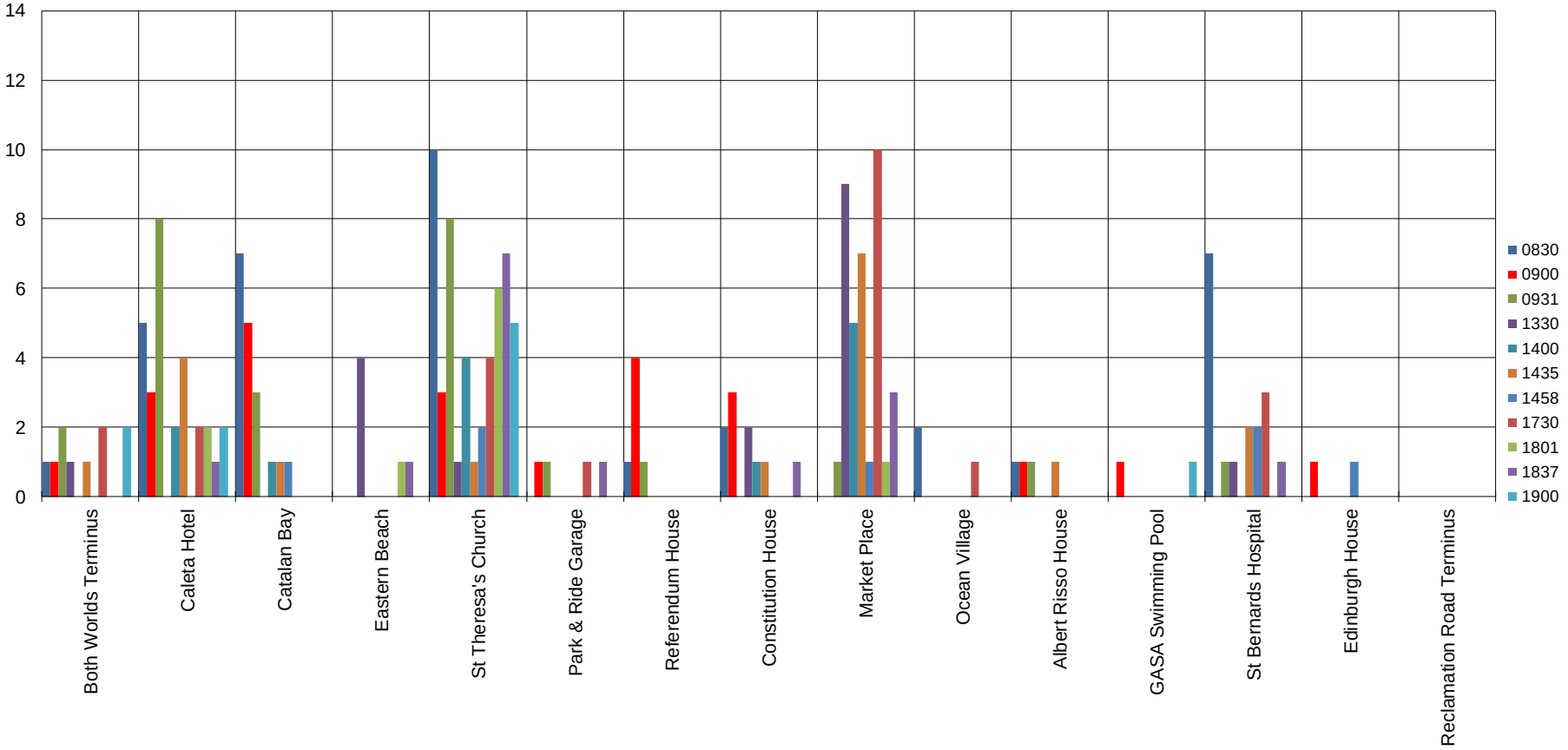


Route 7 Mount Alevnia Circular: Passenger Loading

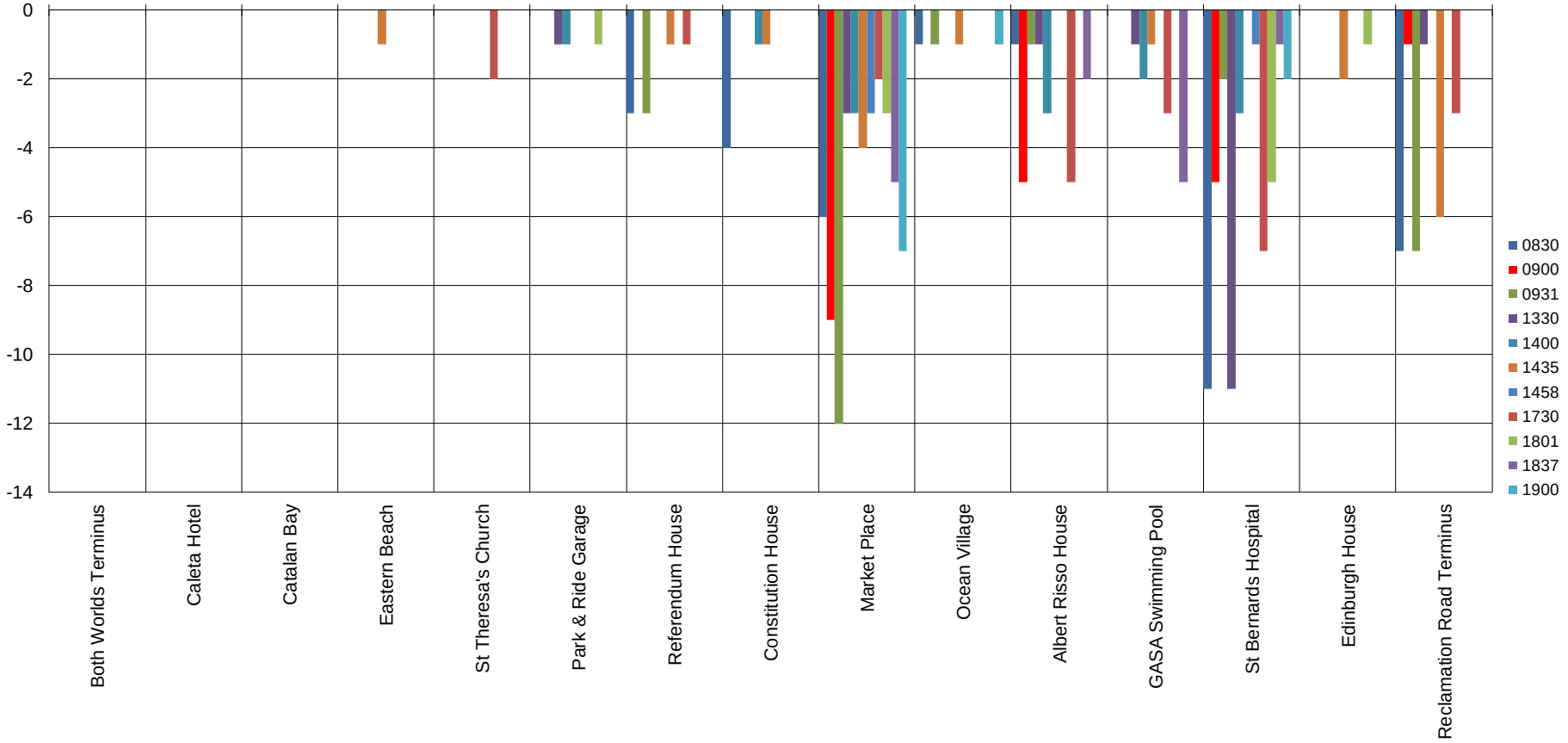


Appendix B7

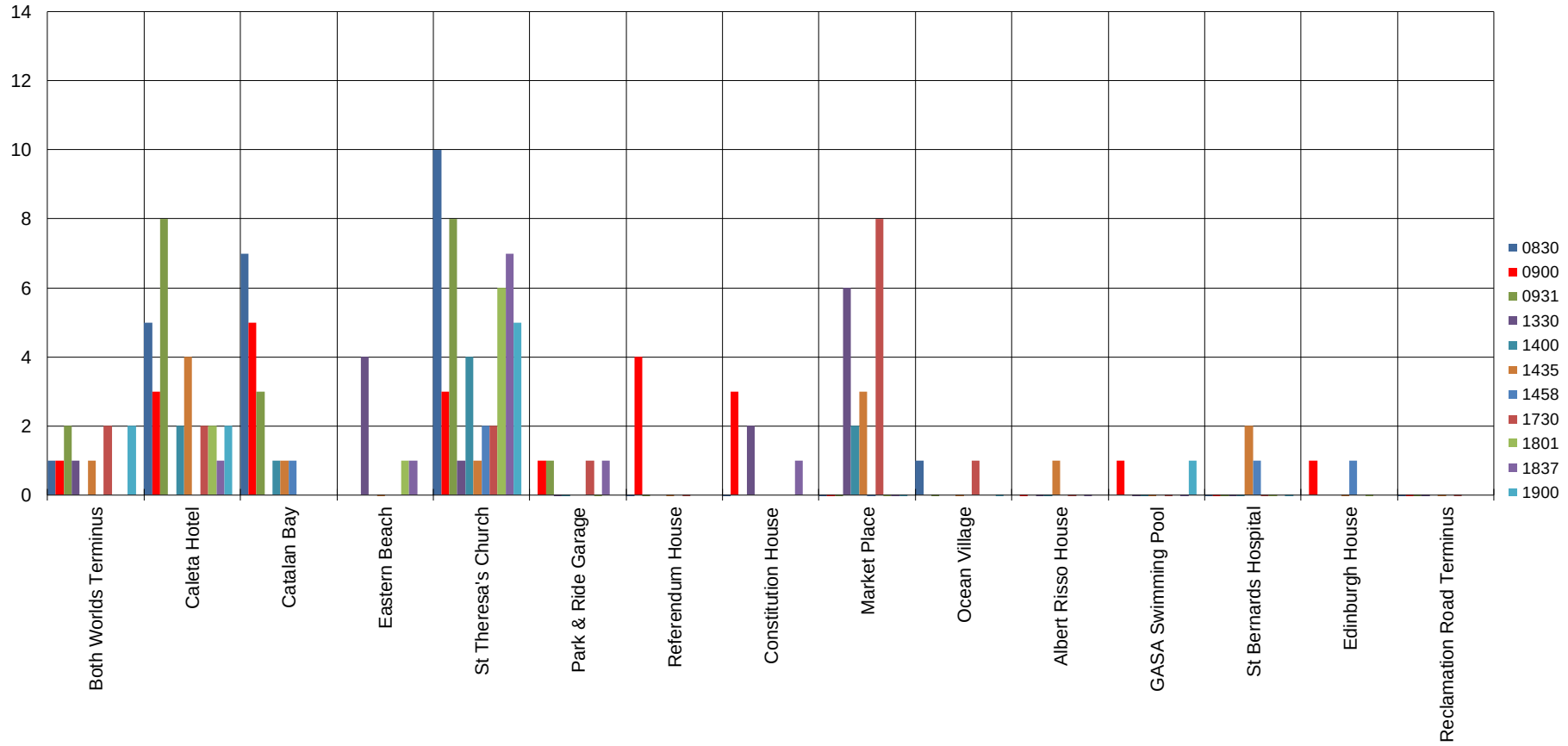
Route 8 Both Worlds to Reclamation Road: Passenger Boarding



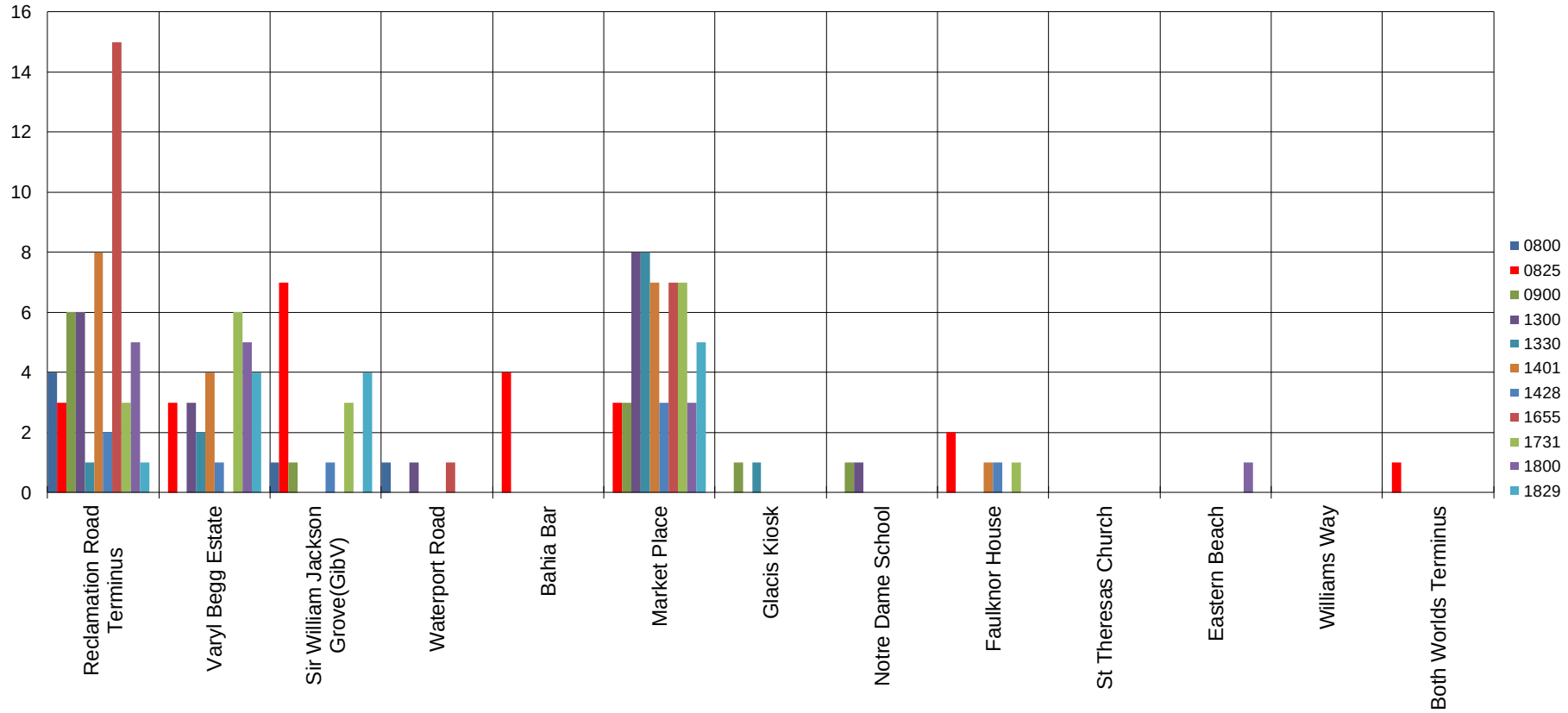
Route 8 Both Worlds to Reclamation Road: Passenger Alighting



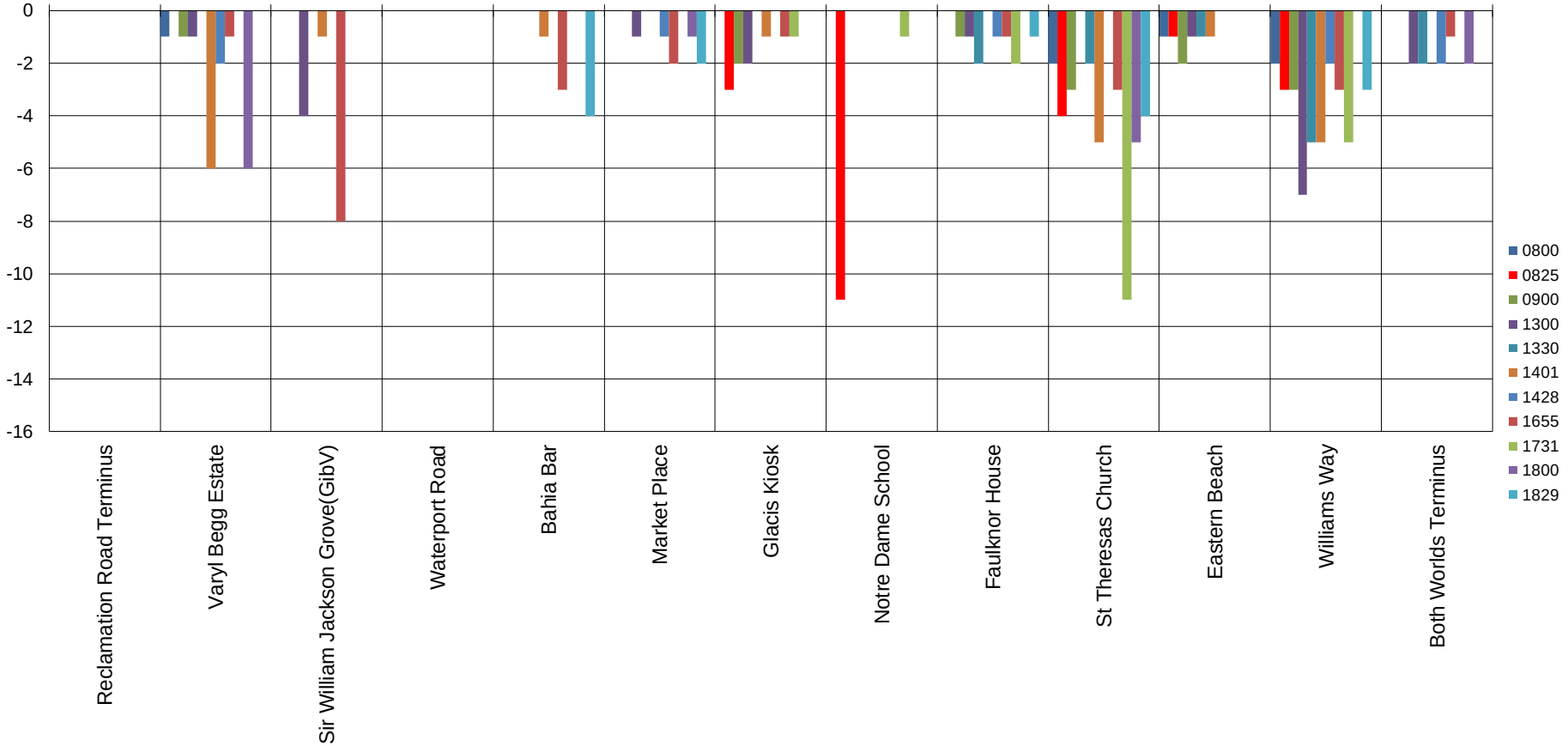
Route 8 Both Worlds to Reclamation Road: Passenger Loading



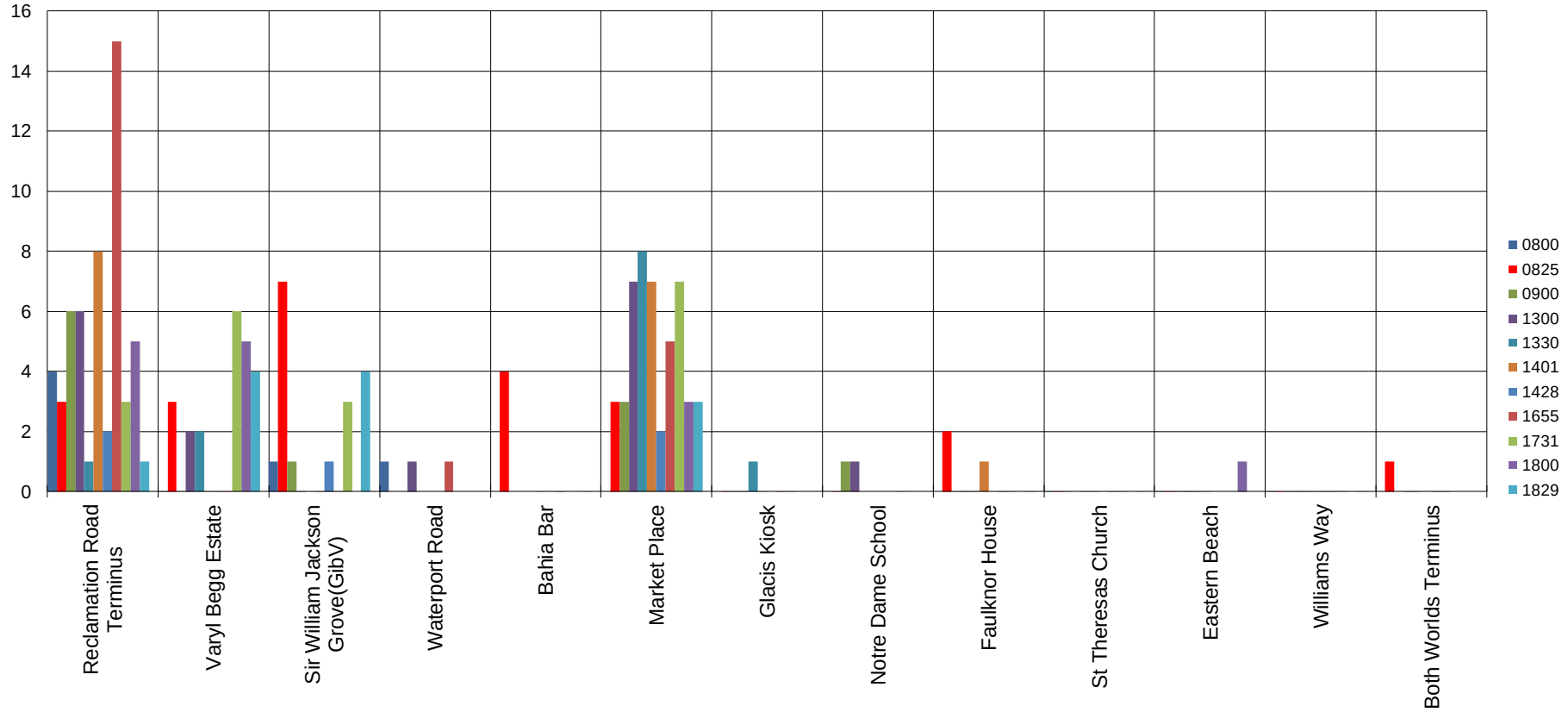
Route 8 Reclamation Road to Both Worlds: Passenger Boarding



Route 8 Reclamation Road to Both Worlds: Passenger Alighting

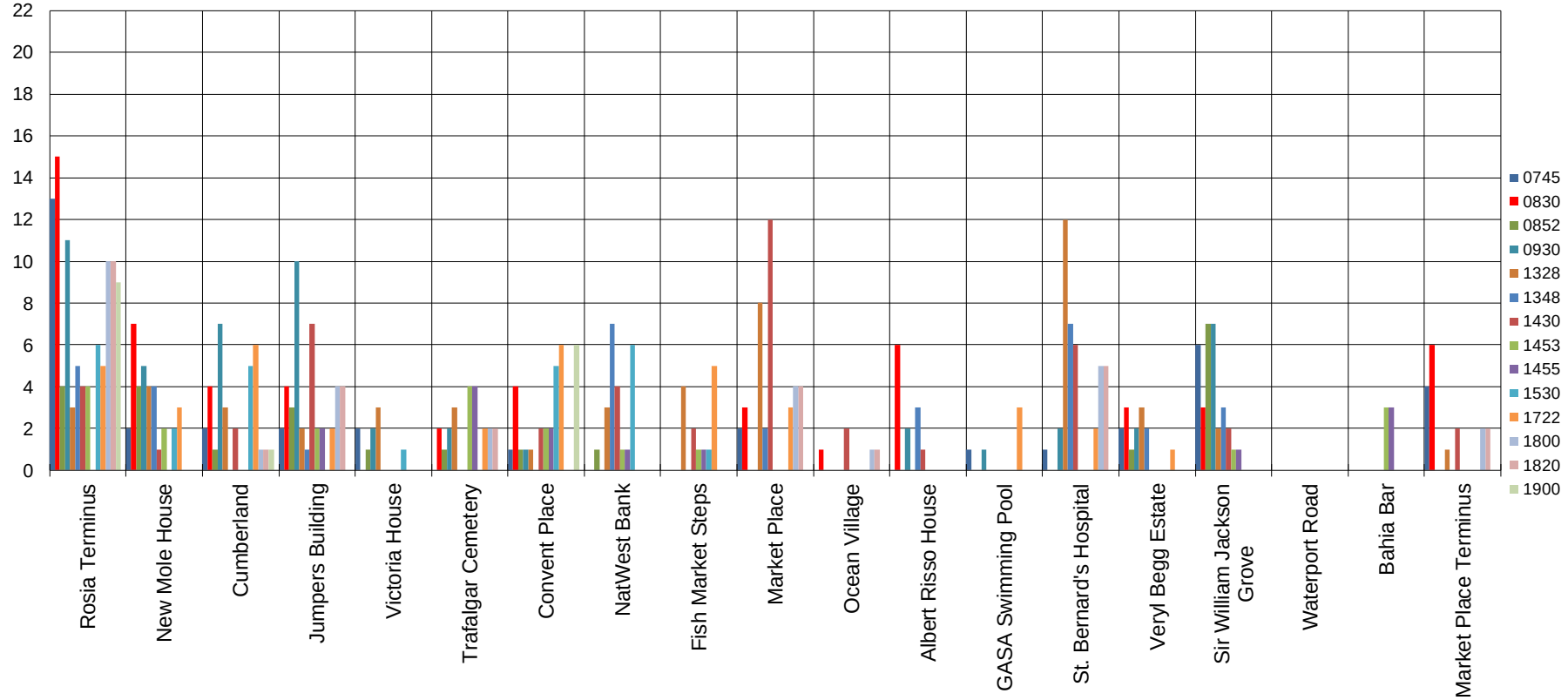


Route 8 Reclamation Road to Both Worlds: Passenger Loading

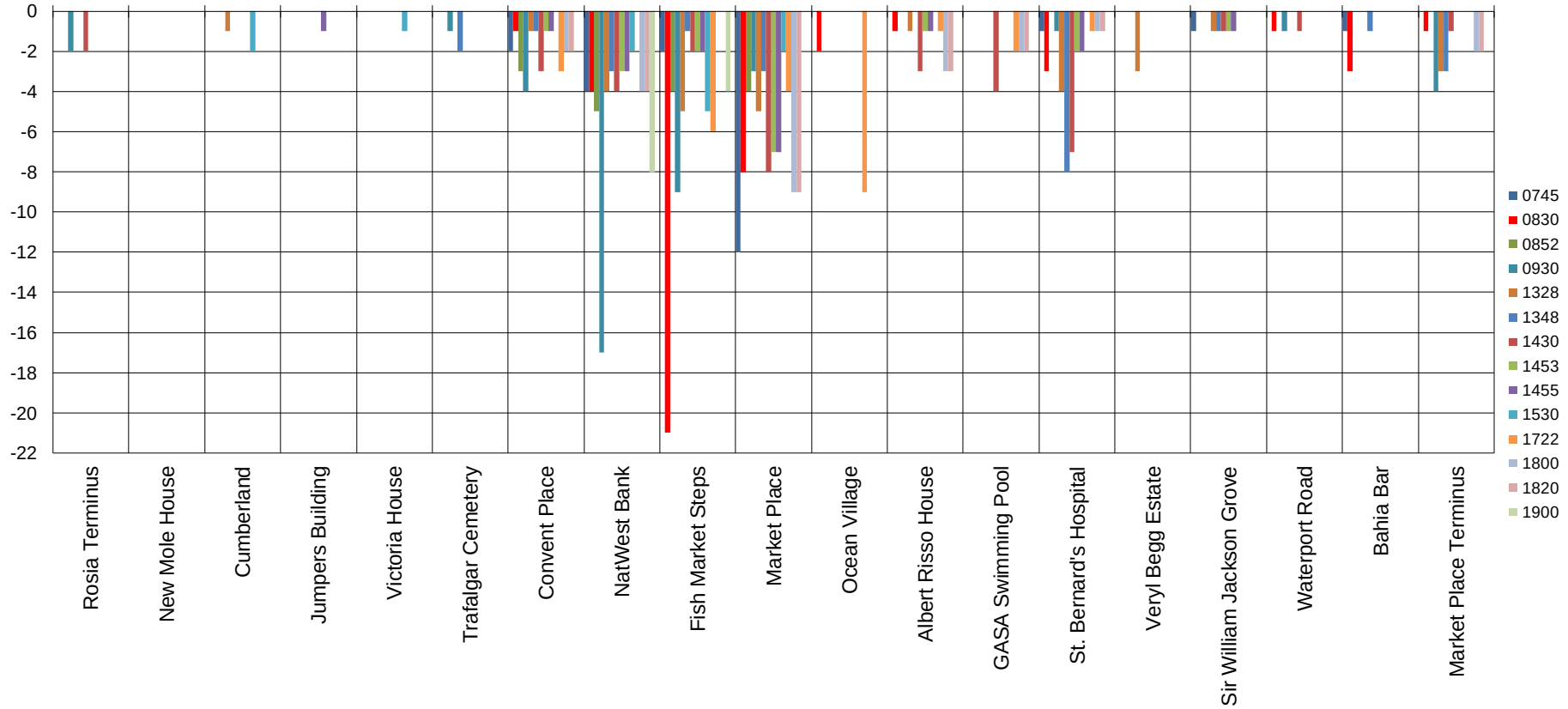


Appendix B8

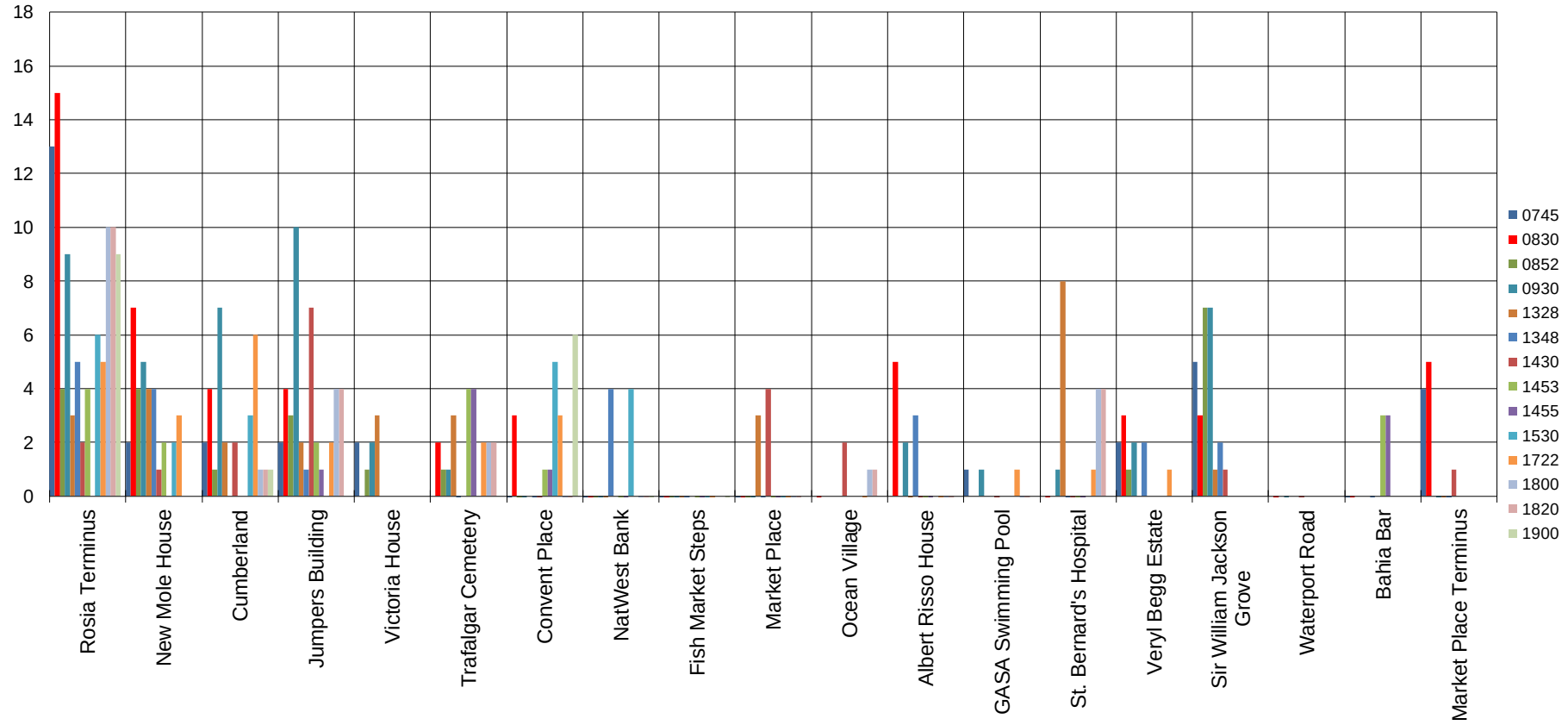
Route 9 Rosia Terminus to Market Place: Passenger Boarding



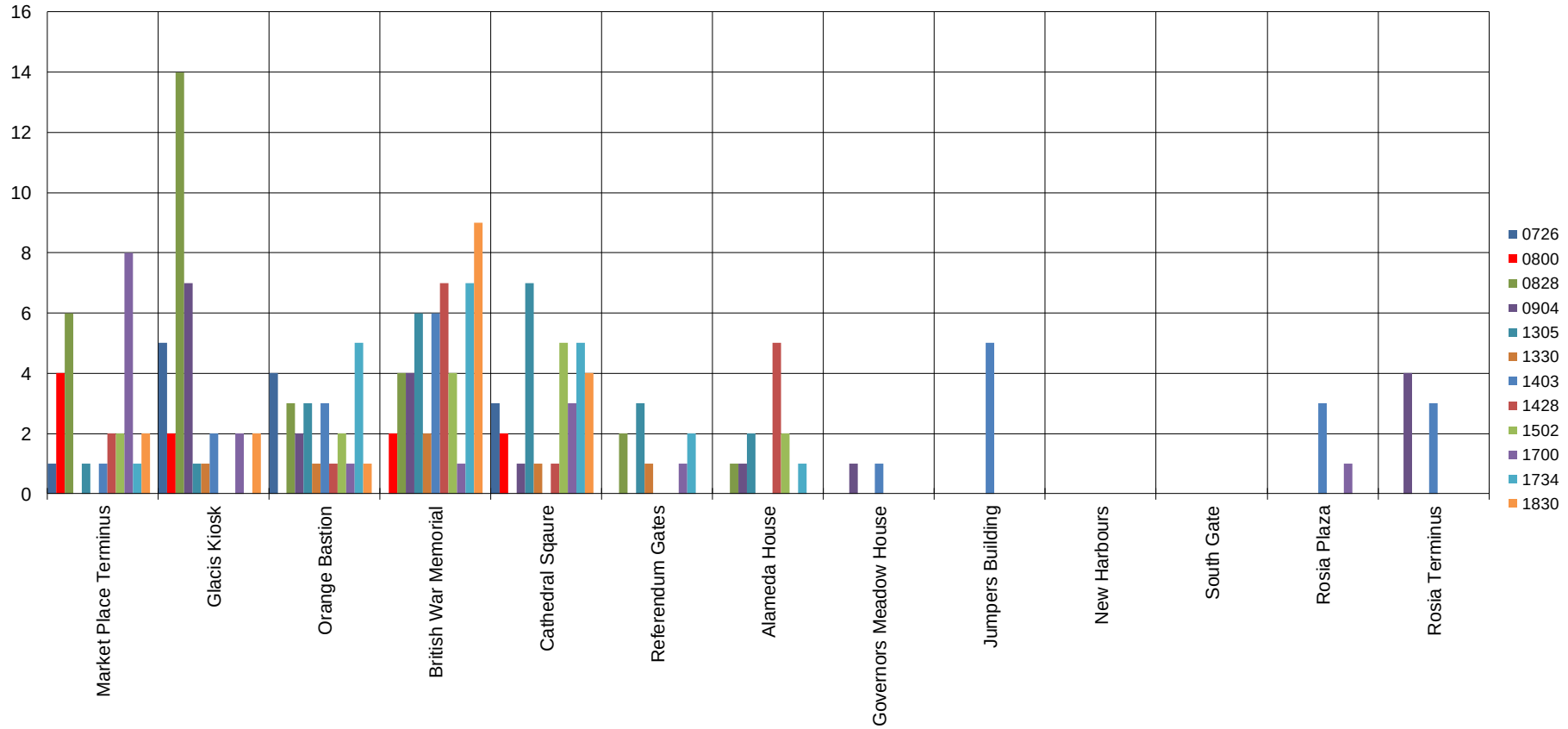
Route 9 Rosia Terminus to Market Place: Passenger Alighting



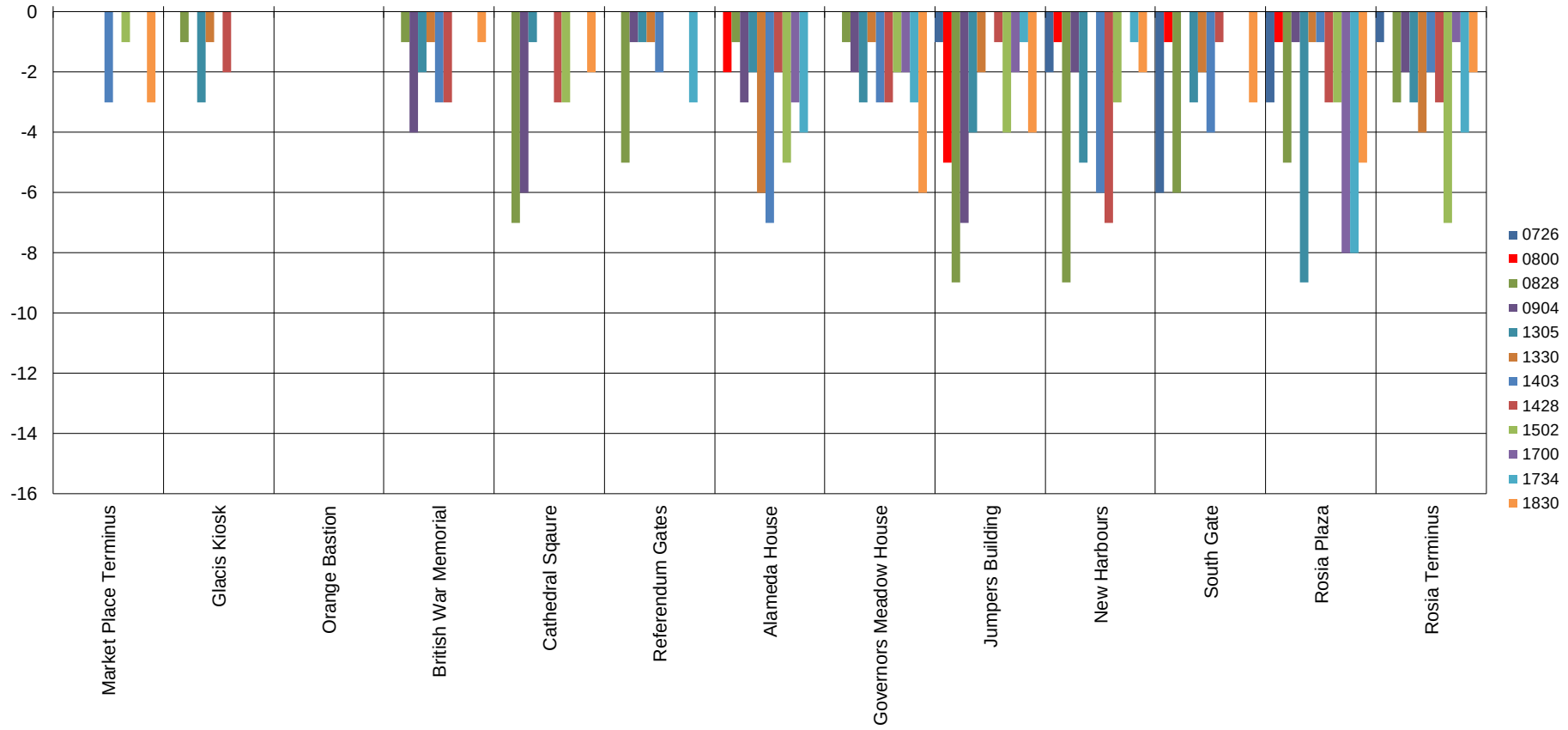
Route 9 Rosia Terminus to Market Place: Passenger Loading



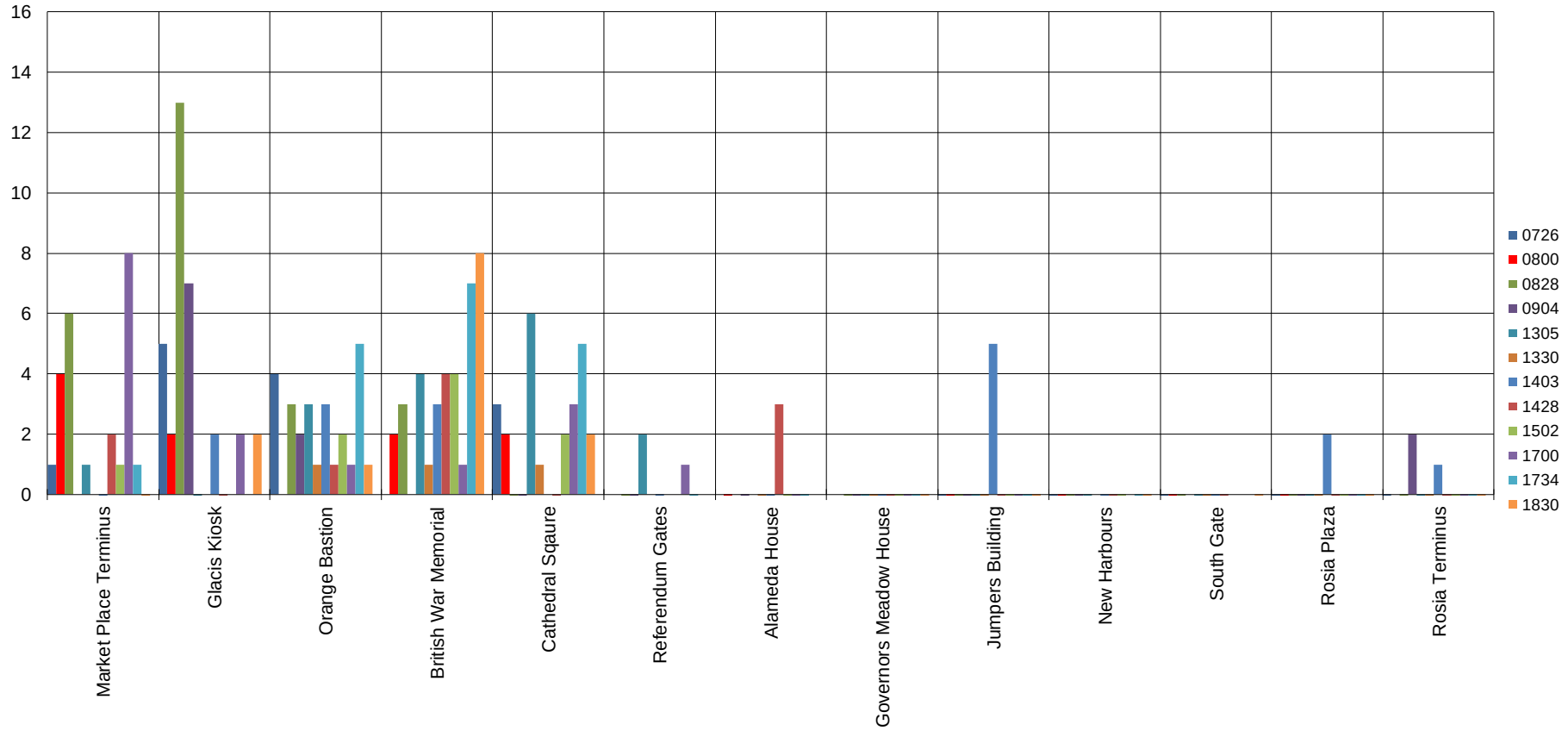
Route 9 Market Place to Rosia Teminus: Passenger Boarding



Route 9 Market Place to Rosia Teminus: Passenger Alighting



Route 9 Market Place to Rosia Teminus: Passenger Loading



Gibraltar Sustainable Traffic, Transport and Parking Plan

Appendix C – Existing Bus Data Results (2016 data)

October 2016

Mott MacDonald

ROUTE 1

From Willis's Road Terminus to Market Place Terminus (Via Queensway)

Monday to Friday

07:20	07:45	08:15	0845	09:15	09:45	10:00
10:15	10:45	11:00	11:15	11:45	12:00	12:15
12:45	13:00	13:15	13:45	14:00	14:15	14:45
15:00	15:15	15:45	16:00	16:15	16:45	17:00
17:15	17:45	18:00	18:15	18:45	19:15	19:45
20:05	20:30	21:00				

Saturdays/Sundays & Public Holidays

09:15	10:15	11:15	11:45	12:15	12:45	13:15
13:45	14:15	14:45	15:15	15:45	16:15	16:45
17:15	17:45	18:15	18:45	19:15	19:45	20:10
20:30	21:00					

From Market Place Terminus to Willis's Road Terminus (Via Queensway)

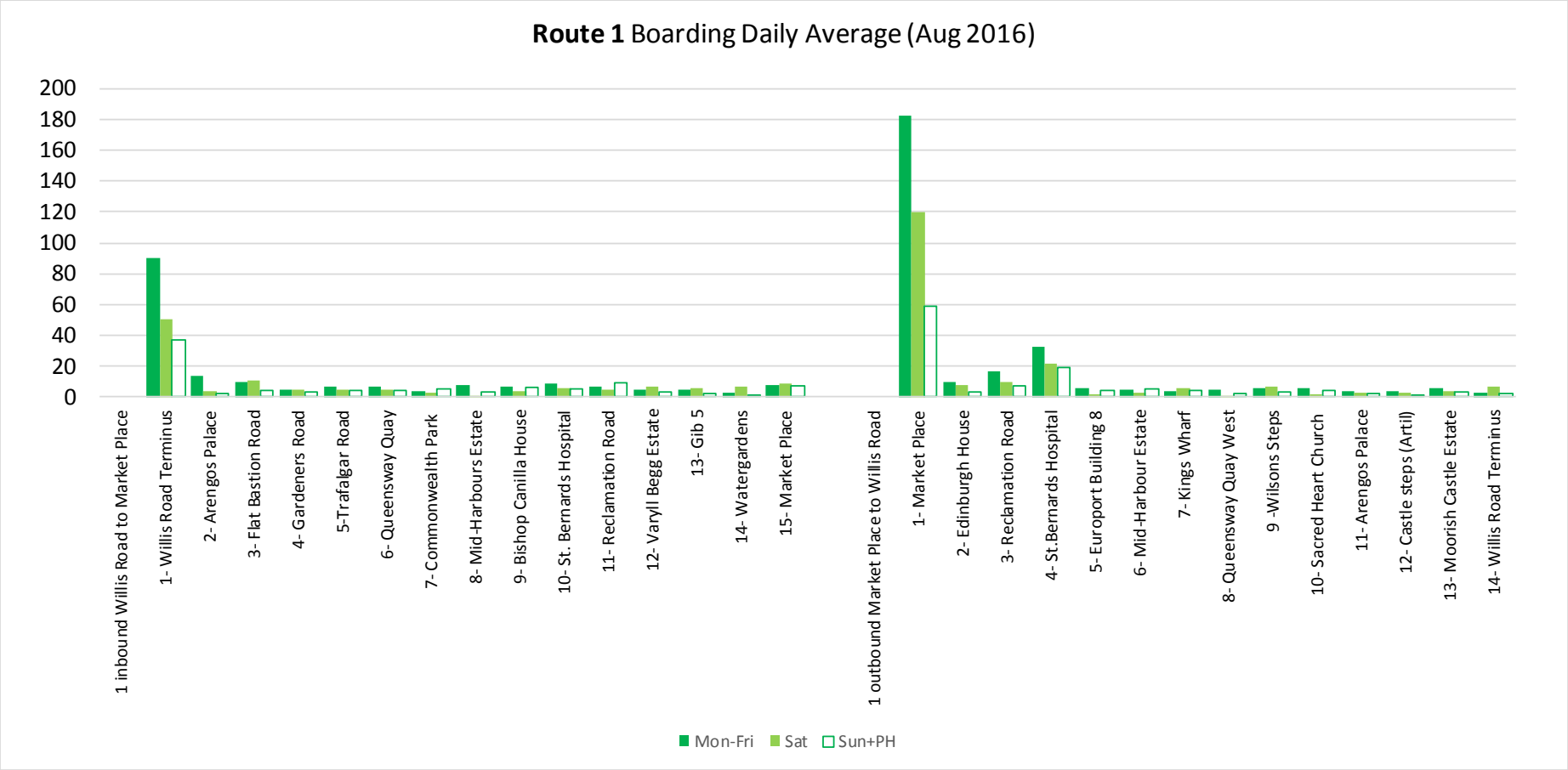
Monday to Friday

07:20	07:45	08:00	08:15	08:45	09:15	09:45
10:15	10:30	10:45	11:15	11:30	11:45	12:15
12:30	12:45	13:15	13:30	13:45	14:15	14:30
14:45	15:15	15:30	15:45	16:15	16:30	16:45
17:15	17:30	17:45	18:15	18:45	19:15	19:45
20:05	20:30	21:00				

Saturdays/Sundays & Public Holidays

08:45	09:45	10:45	11:15	11:45	12:15	12:45
13:15	13:45	14:15	14:45	15:15	15:45	16:15
16:45	17:15	17:45	18:15	18:45	19:15	19:45
20:10	20:30	21:00				

Appendix C1

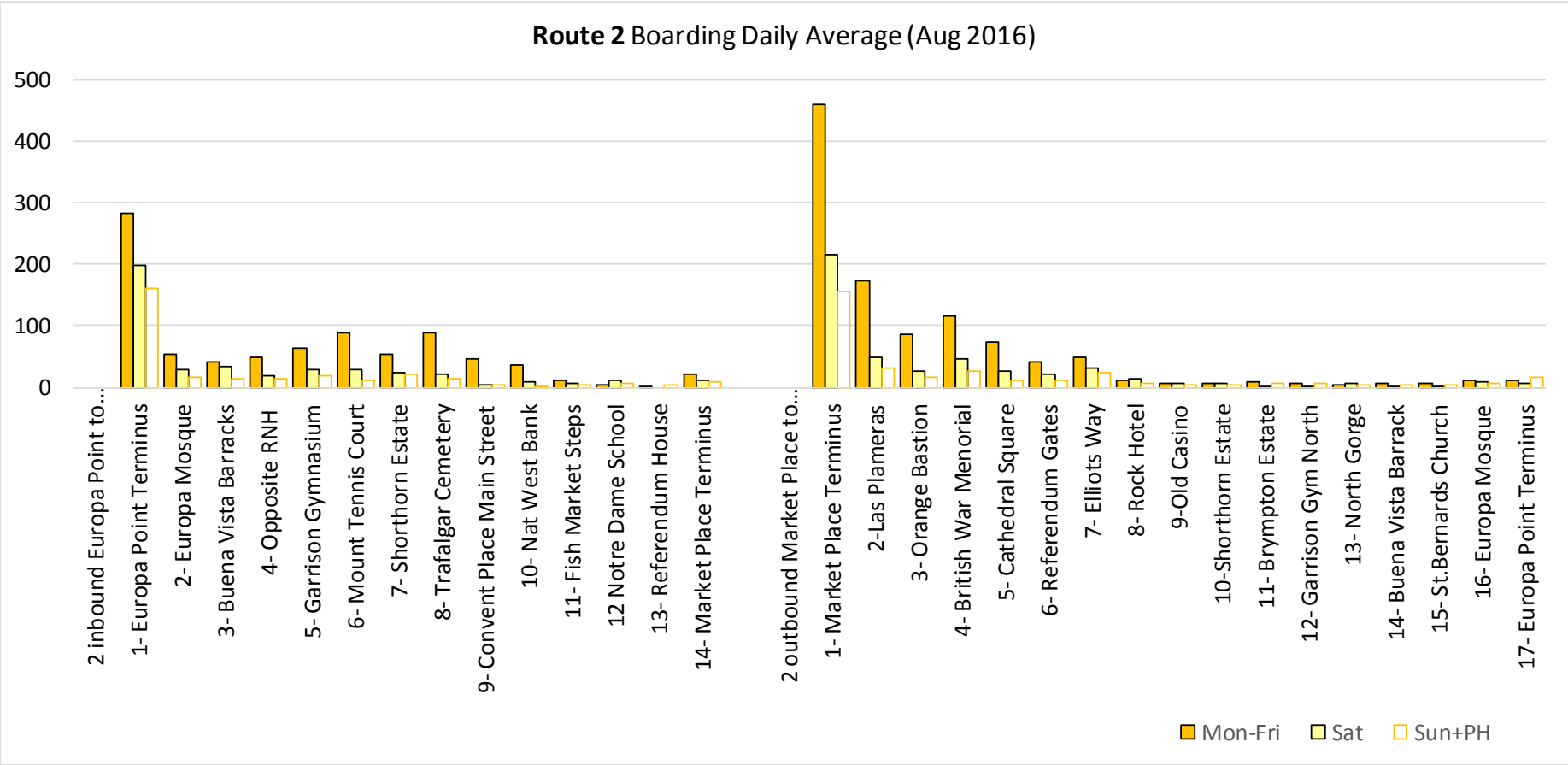

Route 1 Boarding Daily Average (Aug 2016)
200
180
160
140
120
100
80
60
40
20
0
1 inbound Willis Road to Market Place
1- Willis Road Terminus
2- Arengos Palace
3- Flat Bastion Road
4- Gardeners Road
5-Trafalgar Road
6- Queensway Quay
7- Commonwealth Park
8- Mid-Harbours Estate
9- Bishop Canilla House
10- St. Bernards Hospital
11- Reclamation Road
12- Varyll Begg Estate
13- Gib 5
14- Watergardens
15- Market Place
1 outbound Market Place to Willis Road
1- Market Place
2- Edinburgh House
3- Reclamation Road
4- St.Bernards Hospital
5- Europort Building 8
6- Mid-Harbour Estate
7- Kings Wharf
8- Queensway Quay West
9 -Wilsons Steps
10- Sacred Heart Church
11- Arengos Palace
12- Castle steps (Artil)
13- Moorish Castle Estate
14- Willis Road Terminus
Mon-Fri
Sat
Sun+PH

ROUTE 2

Time from Market Place Terminus To Europa Point Terminus						
Monday to Friday						
06:40	06:55	07:10	07:25	07:40	07:55	08:10
08:25	08:40	08:55	09:10	09:25	09:40	09:55
There will be a bus service every 15 mins on the hour 10, 25, 40, 55, up to 21:10hrs						
19:40	19:55	20:10	20:25	20:40	20:55	20:10
Saturdays/Sundays & Public Holidays						
07:15	07:45	08:15	08:45	09:15	09:45	10:15
10:.45	11:15	11:45	12:15	12:45	13:15	13:45
14:15	14:45	15:15	15:45	16:15	16:45	17:15
17:45	18:15	18:45	19:15	19:45	20:10	20:30
21:00						

Time from Europa Point Terminus To Market Place Terminus						
Monday to Friday						
06:40	06:55	07:10	07:25	07:40	07:55	08:10
08:25	08:40	08:55	09:10	09:25	09:40	09:55
There will be a bus service every 15 mins on the hour 10, 25, 40, 55, up to 21:10hrs						
19:40	19:55	20:10	20:25	20:40	20:55	20:10
Saturdays/Sundays & Public Holidays						
07:15	07:45	08:15	08:45	09:15	09:45	10:15
10:45	11:15	11:45	12:15	12:45	13:15	13:45
14:15	14:45	15:15	15:45	16:15	16:45	17:15
17:45	18:15	18:45	19:15	19:45	20:10	20:30
21:00						

Appendix C2


Route 2 Boarding Daily Average (Aug 2016)
500
400
300
200
100
0
2 inbound Europa Point to...
1- Europa Point Terminus
2- Europa Mosque
3- Buena Vista Barracks
4- Opposite RNH
5- Garrison Gymnasium
6- Mount Tennis Court
7- Shorthorn Estate
8- Trafalgar Cemetery
9- Convent Place Main Street
10- Nat West Bank
11- Fish Market Steps
12 Notre Dame School
13- Referendum House
14- Market Place Terminus
2 outbound Market Place to...
1- Market Place Terminus
2-Las Plameras
3- Orange Bastion
4- British War Menorial
5- Cathedral Square
6- Referendum Gates
7- Elliots Way
8- Rock Hotel
9-Old Casino
10-Shorthorn Estate
11- Brympton Estate
12- Garrison Gym North
13- North Gorge
14- Buena Vista Barrack
15- St.Bernards Church
16- Europa Mosque
17- Europa Point Terminus
Mon-Fri
Sat
Sun+PH

ROUTE 3

Time from South Pavilion Steps Terminus To Referendum House Terminus

Monday to Friday

06:30	06:50	07:10	07:30	07:50	08:10	08:30
08:50	09:10	09:30	09:50	10:10	10:30	10:50

There will be a bus service every 20 mins on the hour 10, 30, 50, up to 20:30hrs

18:50	19:10	19:30	19:50	20:10	20:30	21:00

Saturdays

08:00	08:30	09:00	09:30	10:00	10:30	11:00
11:30	12:00	12:30	13:00	13:30	14:00	14:30
15:00	15:30	16:00	16:30	17:00	17:30	18:00
18:30	19:00	19:30	20:00	20:30	21:00	

Sundays & Public Holidays

08:30	09:00	09:30	10:00	10:30	11:00	11:30
12:00	12:30	13:00	13:30	14:00	14:30	15:00
15:30	16:00	16:30	17:00	17:30	18:00	18:30
19:00	19:30	20:00	20:30	21:00		

Time from Referendum House Terminus To South Pavilion Steps Terminus

Monday to Friday

06:40	07:00	07:20	07:40	08:00	08:20	08:40
09:00	09:20	09:40	10:00	10:20	10:40	11:00

There will be a bus service every 20 mins on the hour 20, 40, up to 20:30hrs

19:00	19:20	19:40	20:00	20:20	20:40	21:00

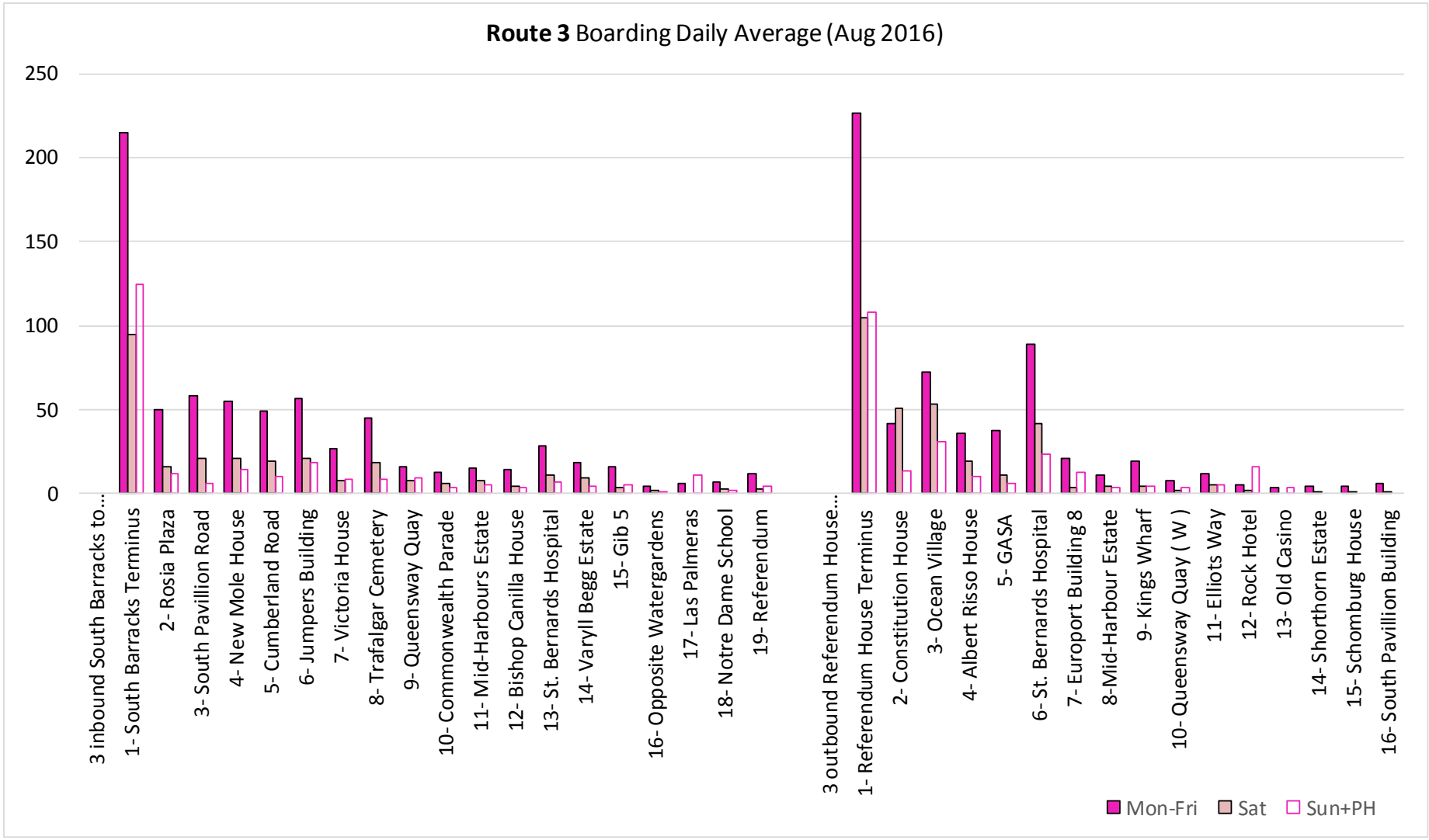
Saturdays

08:30	09:00	09:30	10:00	10:30	11:00	11:30
12:00	12:30	13:00	13:30	14:00	14:30	15:00
15:30	16:00	16:30	17:00	17:30	18:00	18:30
19:00	19:30	20:00	20:30	21:00		

Sundays & Public Holidays

09:00	09:30	10:00	10:30	11:00	11:30	12:00
12:30	13:00	13:30	14:00	14:30	15:00	15:30
16:00	16:30	17:00	17:30	18:00	18:30	19:00
19:30	20:00	20:30	21:00			

Appendix C3

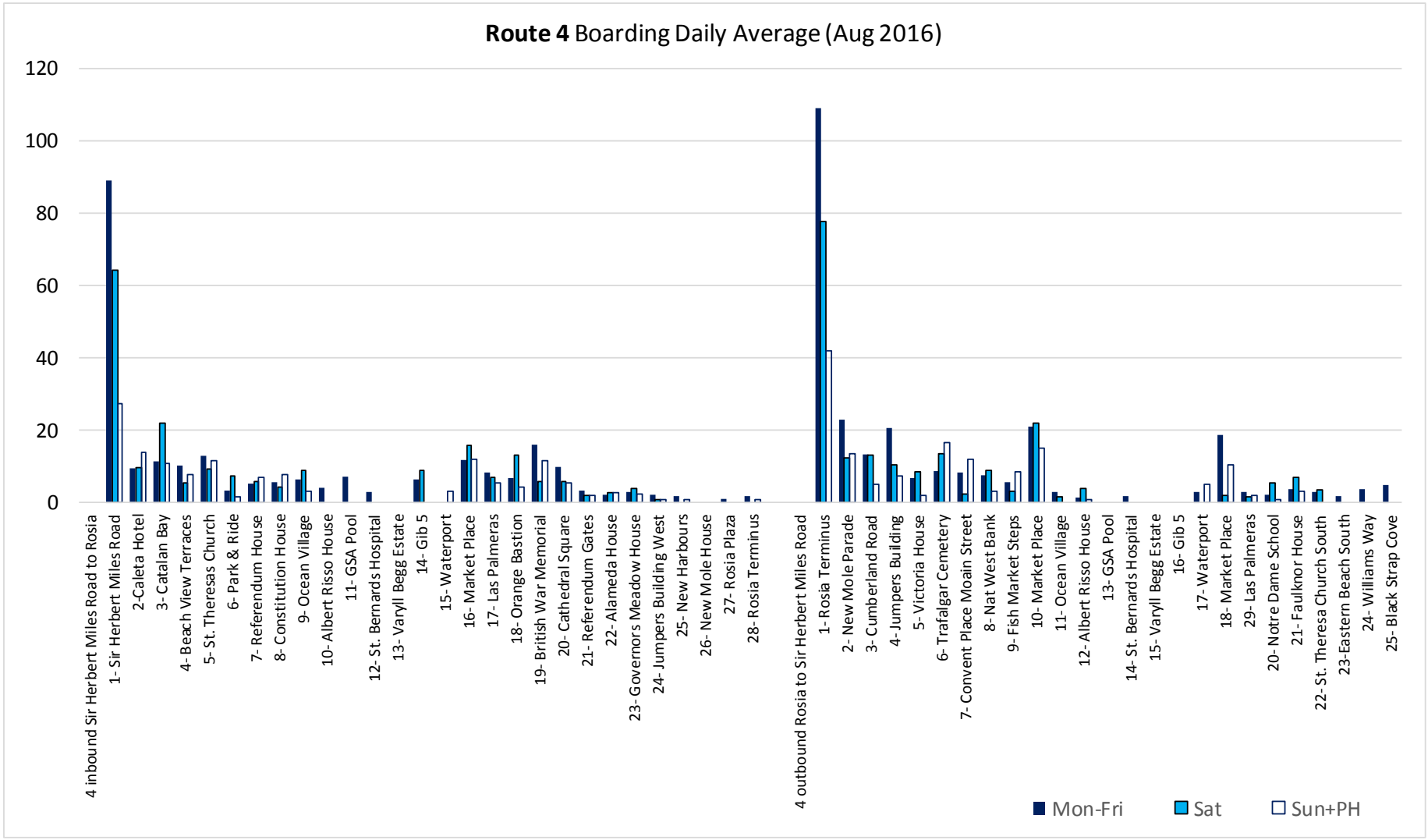

Route 3 Boarding Daily Average (Aug 2016)
250
200
150
100
50
0
3 inbound South Barracks to...
1- South Barracks Terminus
2- Rosia Plaza
3- South Pavillion Road
4- New Mole House
5- Cumberland Road
6- Jumpers Building
7- Victoria House
8- Trafalgar Cemetery
9- Queensway Quay
10- Commonwealth Parade
11- Mid-Harbours Estate
12- Bishop Canilla House
13- St. Bernards Hospital
14- Varyll Begg Estate
15- Gib 5
16- Opposite Watergardens
17- Las Palmeras
18- Notre Dame School
19- Referendum
3 outbound Referendum House...
1- Referendum House Terminus
2- Constitution House
3- Ocean Village
4- Albert Risso House
5- GASA
6- St. Bernards Hospital
7- Europort Building 8
8-Mid-Harbour Estate
9- Kings Wharf
10- Queensway Quay (W)
11- Elliots Way
12- Rock Hotel
13- Old Casino
14- Shorthorn Estate
15- Schomburg House
16- South Pavillion Building
Mon-Fri
Sat
Sun+PH

ROUTE 4

Time from Both Worlds Turnaround To Rosia Terminus						
Monday to Friday						
08:45	09:45	10:45	11:45	12:45	13:45	14:45
15:45	16:45	17:45	18:45			
Saturdays/Sundays & Public Holidays						
08:45	09:45	10:45	11:45	12:45	13:45	14:45
15:45	16:45	17:45	18:45			

Time from Rosia Terminus To Both Worlds Turnaround						
Monday to Friday						
08:45	09:45	10:45	11:45	12:45	13:45	14:45
15:45	16:45	17:45	18:45			
Saturdays/Sundays & Public Holidays						
08:45	09:45	10:45	11:45	12:45	13:45	14:45
15:45	16:45	17:45	18:45			

Appendix C4


Route 4 Boarding Daily Average (Aug 2016)
120
100
80
60
40
20
0
4 inbound Sir Herbert Miles Road to Rosia
1- Sir Herbert Miles Road
2-Caleta Hotel
3- Catalan Bay
4- Beach View Terraces
5- St. Theresas Church
6- Park & Ride
7- Referendum House
8- Constitution House
9- Ocean Village
10- Albert Risso House
11- GSA Pool
12- St. Bernards Hospital
13- Varyll Begg Estate
14- Gib 5
15- Waterport
16- Market Place
17- Las Palmeras
18- Orange Bastion
19- British War Memorial
20- Cathedral Square
21- Referendum Gates
22- Alameda House
23- Governors Meadow House
24- Jumpers Building West
25- New Harbours
26- New Mole House
27- Rosia Plaza
28- Rosia Terminus
4 outbound Rosia to Sir Herbert Miles Road
1- Rosia Terminus
2- New Mole Parade
3- Cumberland Road
4- Jumpers Building
5- Victoria House
6- Trafalgar Cemetery
7- Convent Place Moain Street
8- Nat West Bank
9- Fish Market Steps
10- Market Place
11- Ocean Village
12- Albert Risso House
13- GSA Pool
14- St. Bernards Hospital
15- Varyll Begg Estate
16- Gib 5
17- Waterport
18- Market Place
29- Las Palmeras
20- Notre Dame School
21- Faulknor House
22- St. Theresa Church South
23-Eastern Beach South
24- Williams Way
25- Black Strap Cove
Mon-Fri
Sat
Sun+PH

ROUTE 7

Time From Mount Alvernia Terminus

Monday to Friday

10:00	10:30	11:00	11:30	12:00	12:30	13:00
13:30	14:00	14:30				

There will be no service from 15:00hrs to 16:00hrs

16:00	16:30	17:00	17:30	18:00	18:30	19:00

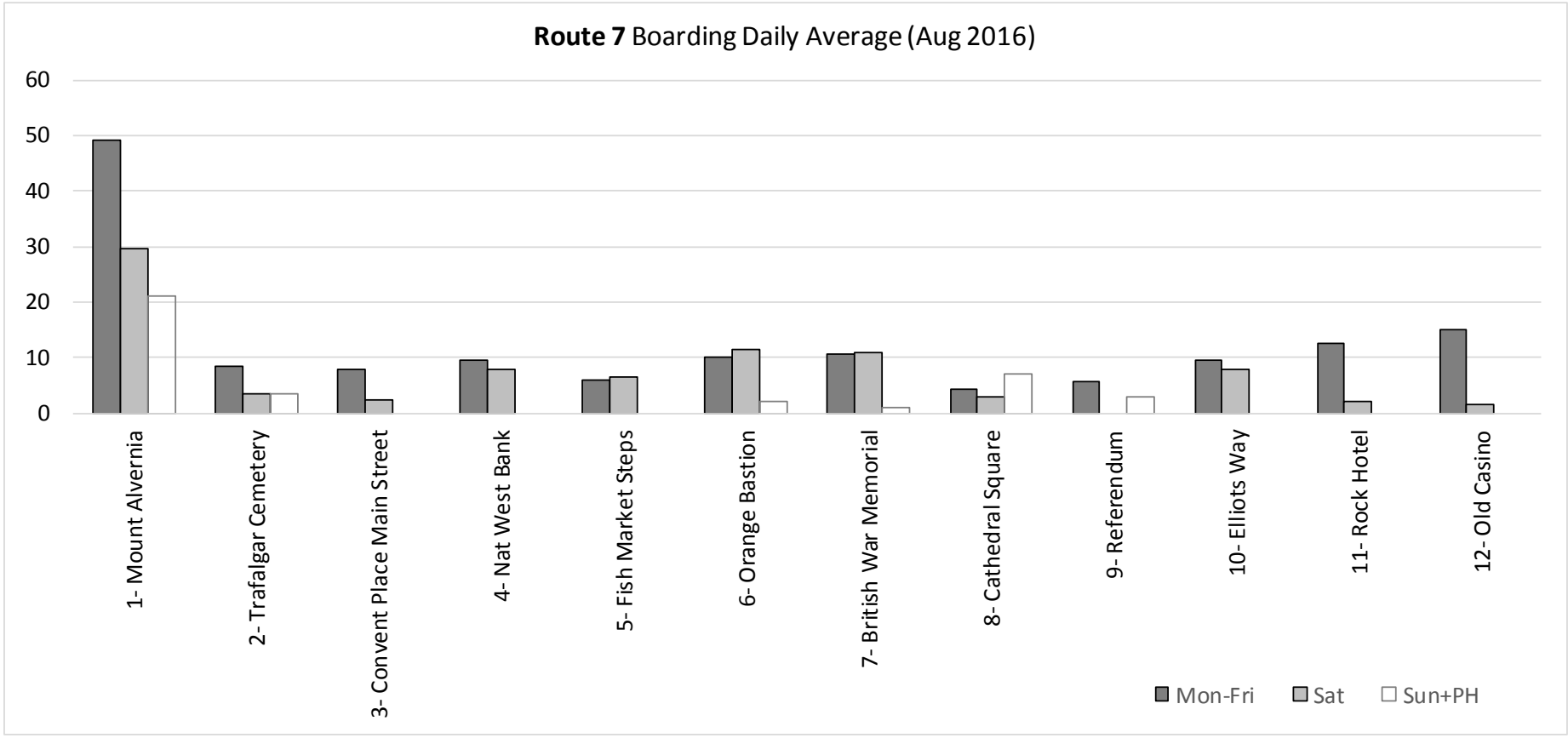
Saturdays/Sundays & Public Holidays

11:00	11:30	12:00	12:30	13:00	13:30	14:00
14:30						

There will be no service from 15:00hrs to 16:00hrs

16:00	16:30	17:00	17:30	18:00	18:30	19:00

Appendix C5


Route 7 Boarding Daily Average (Aug 2016)
60
50
40
30
20
10
0
1- Mount Alvernia
2- Trafalgar Cemetery
3- Convent Place Main Street
4- Nat West Bank
5- Fish Market Steps
6- Orange Bastion
7- British War Memorial
8- Cathedral Square
9- Referendum
10- Elliots Way
11- Rock Hotel
12- Old Casino
Mon-Fri
Sat
Sun+PH

ROUTE 8

Time from Both Worlds Turnaround To Reclamation Road Terminus

Monday to Friday

07:00	07:30	08:00	08:30	09:00	09:30	10:00
10:15	10:30	11:00	11:15	11:30	12:00	12:15
12:30	13:00	13:15	13:30	14:00	14:15	14:30
15:00	15:15	15:30	16:00	16:15	16:30	17:00
17:15	17:30	18:00	18:15	18:30	19:00	19:15
19:30	20:00	20:30	21:00			

Saturdays/Sundays & Public Holidays

07:00	07:30	08:00	08:30	09:00	09:30	10:00
10:30	11:00	11:30	12:00	12:30	13:00	13:30
14:00	14:30	15:00	15:30	16:00	16:30	17:00
17:30	18:00	18:30	19:00	19:30	20:00	20:30
21:00						

Time from Reclamation Road Terminus To Both Worlds Turnaround

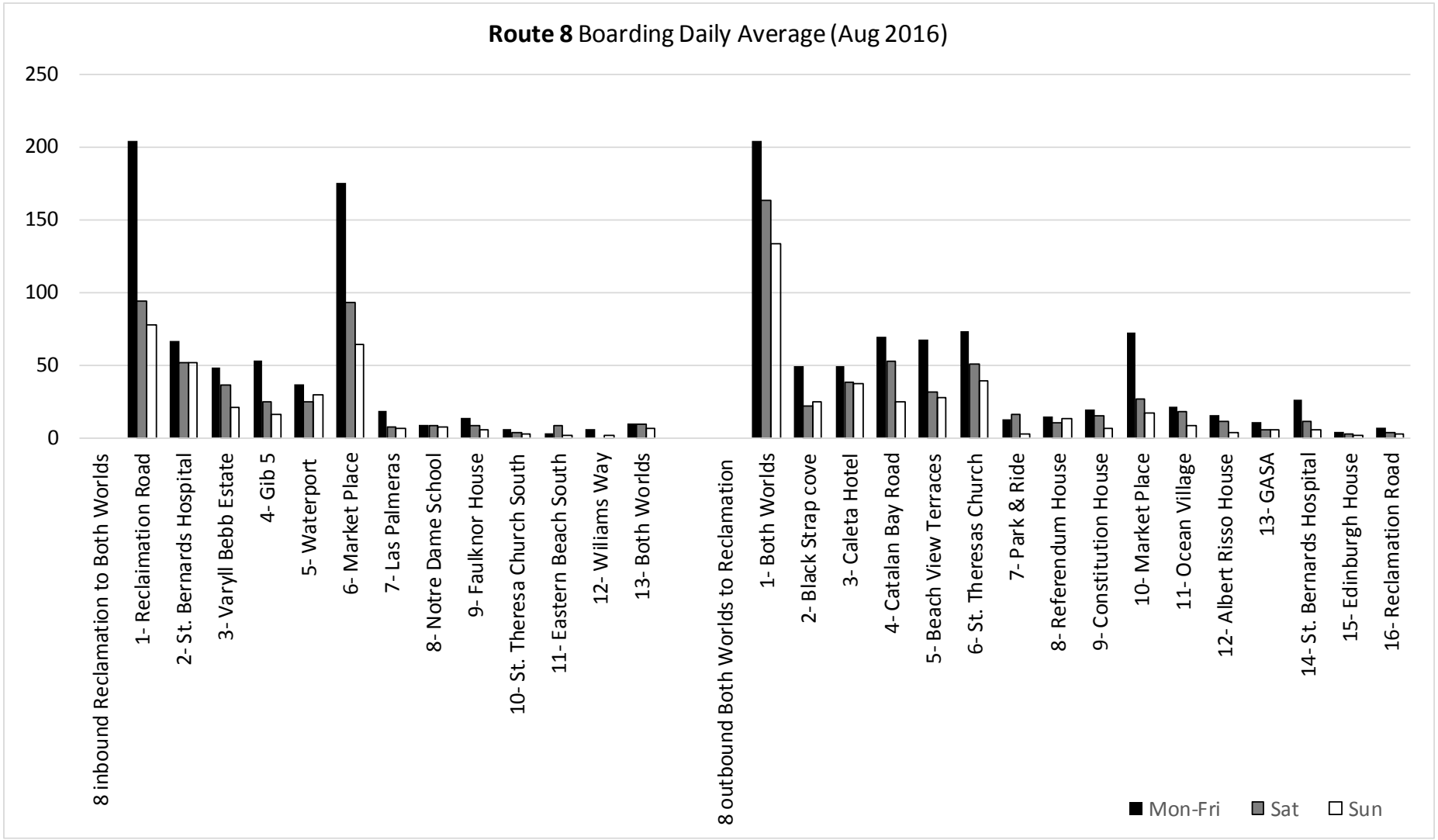
Monday to Friday

07:00	07:30	08:00	08:30	09:00	09:30	10:00
10:30	10:45	11:00	11:30	11:45	12:00	12:30
12:45	13:00	13:30	13:45	14:00	14:30	14:45
15:00	15:30	15:45	16:00	16:30	16:45	17:00
17:30	17:45	18:00	18:30	18:45	19:00	19:30
20:00	20:30	21:00				

Saturdays/Sundays & Public Holidays

07:00	07:30	08:00	08:30	09:00	09:30	10:00
10:30	11:00	11:30	12:00	12:30	13:00	13:30
14:00	14:30	15:00	15:30	16:00	16:30	17:00
17:30	18:00	18:30	19:00	19:30	20:00	20:30
21:00						

Appendix C6


Route 8 Boarding Daily Average (Aug 2016)
250
200
150
100
50
0
8 inbound Reclamation to Both Worlds
1- Reclaimation Road
2- St. Bernards Hospital
3- Varyll Bebb Estate
4- Gib 5
5- Waterport
6- Market Place
7- Las Palmeras
8- Notre Dame School
9- Faulknor House
10- St. Theresa Church South
11- Eastern Beach South
12- Wiliams Way
13- Both Worlds
8 outbound Both Worlds to Reclamation
1- Both Worlds
2- Black Strap cove
3- Caleta Hotel
4- Catalan Bay Road
5- Beach View Terraces
6- St. Theresas Church
7- Park & Ride
8- Referendum House
9- Constitution House
10- Market Place
11- Ocean Village
12- Albert Risso House
13- GASA
14- St. Bernards Hospital
15- Edinburgh House
16- Reclamation Road
Mon-Fri
Sat
Sun

ROUTE 9

Time From Rosia Terminus To EuroTowers Terminus

Monday to Friday

07:00	07:30	08:00	08:30	09:10	09:40	10:10
10:20	10:50	11:20	11:30	12:00	12:30	12:40
13:10	13:40	13:50	14:20	14:50	15:00	15:30
16:00	16:10	16:40	17:10	17:20	17:50	18:20
18:30	19:00	19:30	20:00	20:30	21:00	

Saturdays/Sundays & Public Holidays

07:00	07:30	08:00	08:30	09:00	09:30	10:00
10:30	11:00	11:30	12:00	12:30	13:00	13:30
14:00	14:30	15:00	15:30	16:00	16:30	17:00
17:30	18:00	18:30	19:00	19:30	20:00	20:30
21:00						

Time from EuroTowers Terminus To Rosia Terminus

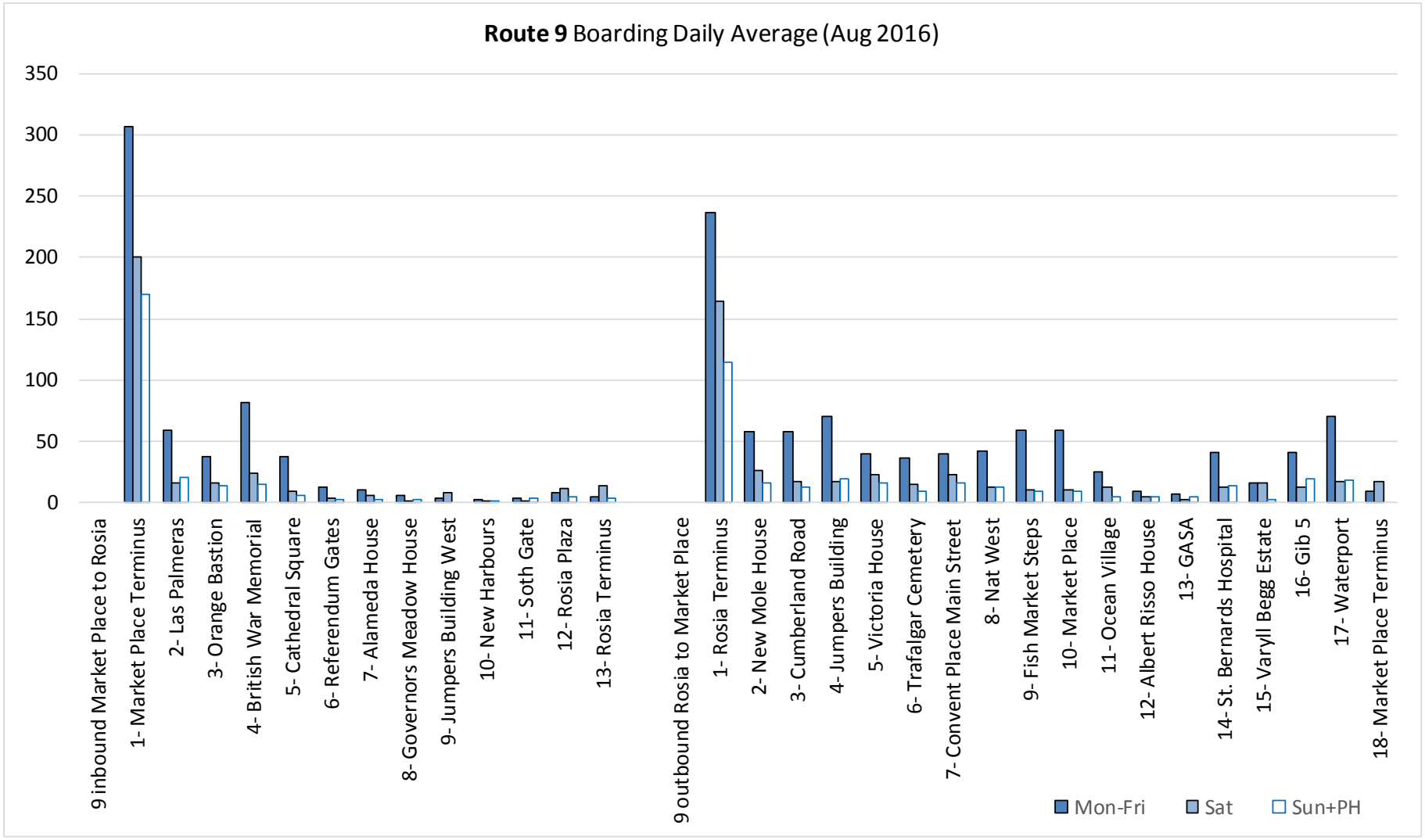
Monday to Friday

07:00	07:30	08:00	08:40	09:10	09:50	10:20
10:50	11:00	11:30	12:00	12:10	12:40	13:10
13:20	13:50	14:20	14:30	15:00	15:30	15:40
16:10	16:40	16:50	17:20	17:50	18:00	18:30
18:50	19:00	19:30	20:00	20:30	21:00	

Saturdays/Sundays & Public Holidays

07:00	07:30	08:00	08:30	09:00	09:30	10:00
10:30	11:00	11:30	12:00	12:30	13:00	13:30
14:00	14:30	15:00	15:30	16:00	16:30	17:00
17:30	18:00	18:30	19:00	19:30	20:00	20:30
21:00						

Appendix C7


Route 9 Boarding Daily Average (Aug 2016)
350
300
250
200
150
100
50
0
9 inbound Market Place to Rosia
1- Market Place Terminus
2- Las Palmeras
3- Orange Bastion
4- British War Memorial
5- Cathedral Square
6- Referendum Gates
7- Alameda House
8- Governors Meadow House
9- Jumpers Building West
10- New Harbours
11- Soth Gate
12- Rosia Plaza
13- Rosia Terminus
9 outbound Rosia to Market Place
1- Rosia Terminus
2- New Mole House
3- Cumberland Road
4- Jumpers Building
5- Victoria House
6- Trafalgar Cemetery
7- Convent Place Main Street
8- Nat West
9- Fish Market Steps
10- Market Place
11- Ocean Village
12- Albert Risso House
13- GASA
14- St. Bernards Hospital
15- Varyll Begg Estate
16- Gib 5
17- Waterport
18- Market Place Terminus
Mon-Fri
Sat
Sun+PH

Gibraltar Sustainable Traffic, Transport and Parking Plan

Appendix D – Survey Data Pedestrian Counts

(Based on results obtained in 2013 through traffic and transport surveys)

November 2016

Mott MacDonald

Site plan for : Site 1 - Pedestrians

Date : Friday 31st May 2013

NORTH

AM	0700 - 1000
IP	1000 - 1600
PM	1600 - 1900

6 All Day: 1107

AM	IP	PM
110	676	321

1 All Day: 2344

AM	IP	PM
570	1367	407

5 All Day: 2251

AM	IP	PM
550	1325	376

Corral Road

2 All Day: 1139

AM	IP	PM
161	689	289

4 All Day: 3268

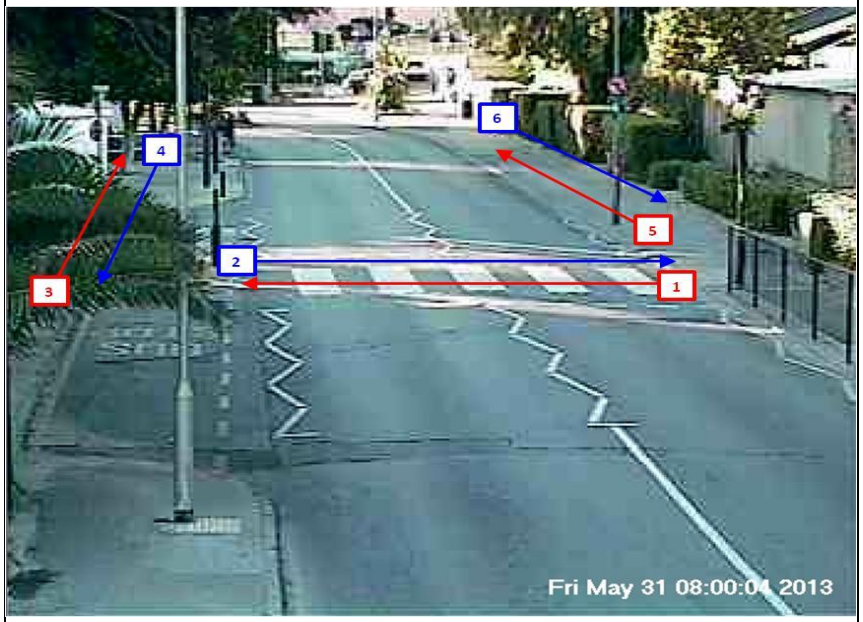
AM	IP	PM
293	1724	1251

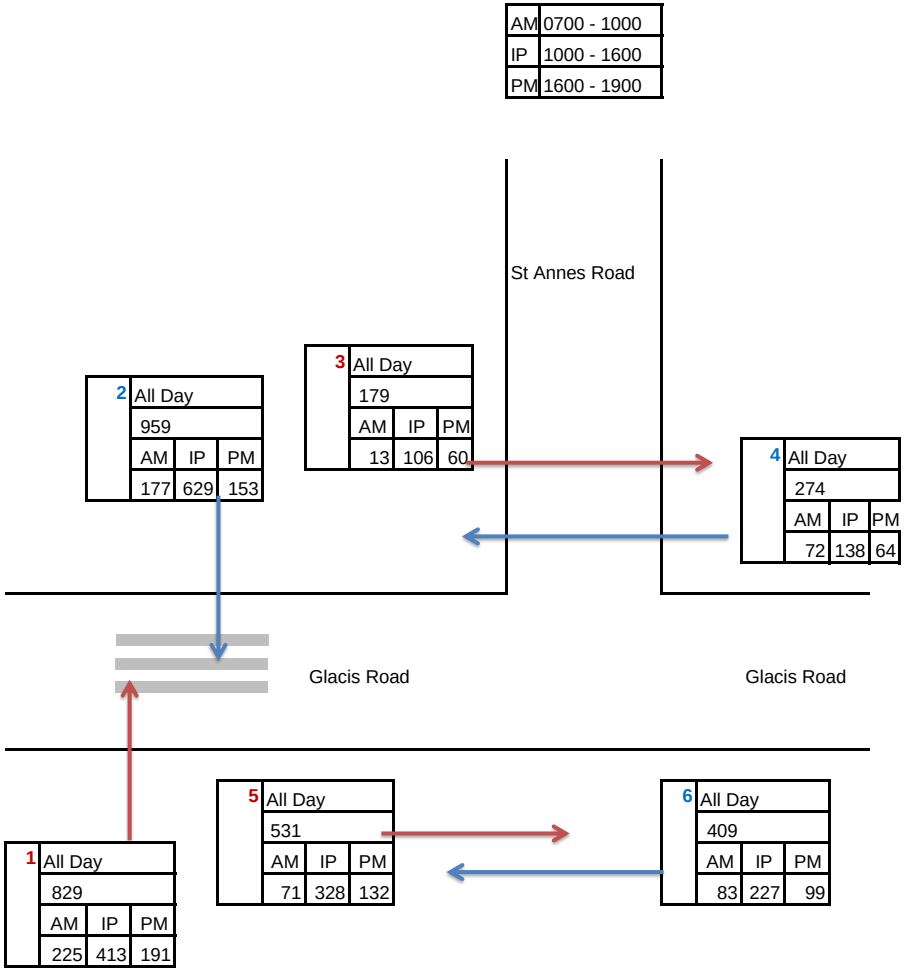
3 All Day: 2532

AM	IP	PM
751	1240	541

Site plan for : Site 2 - Pedestrians

Date : Friday 31st May 2013

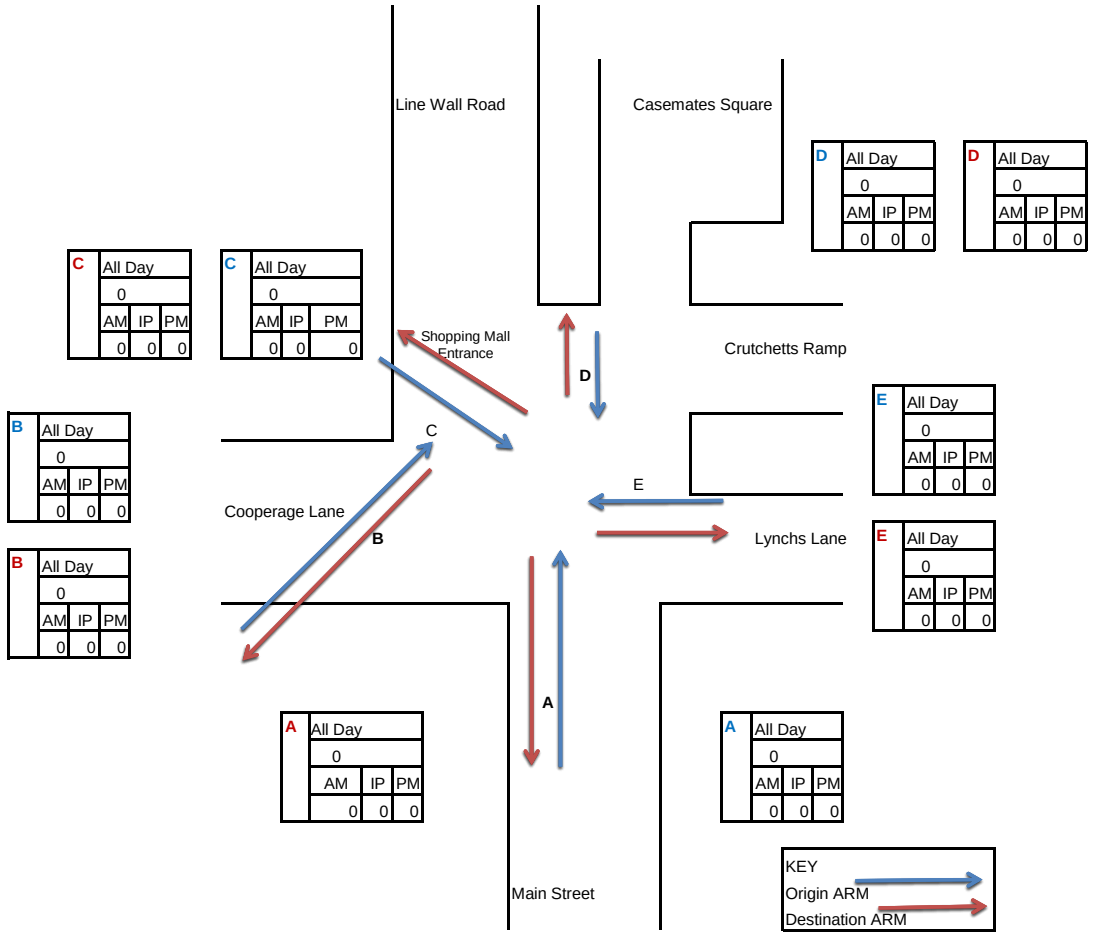




Site plan for : Site 3 - Pedestrians

Date : Friday 31st May 2013

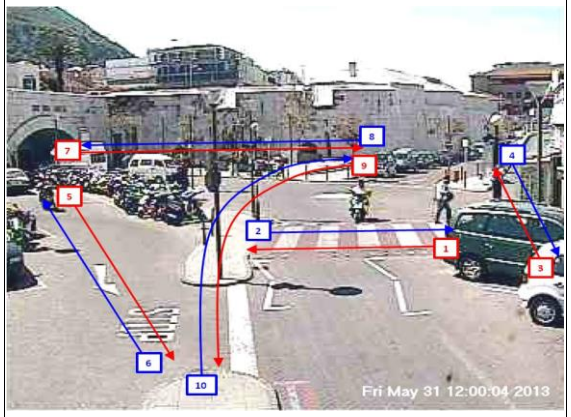
NORTH

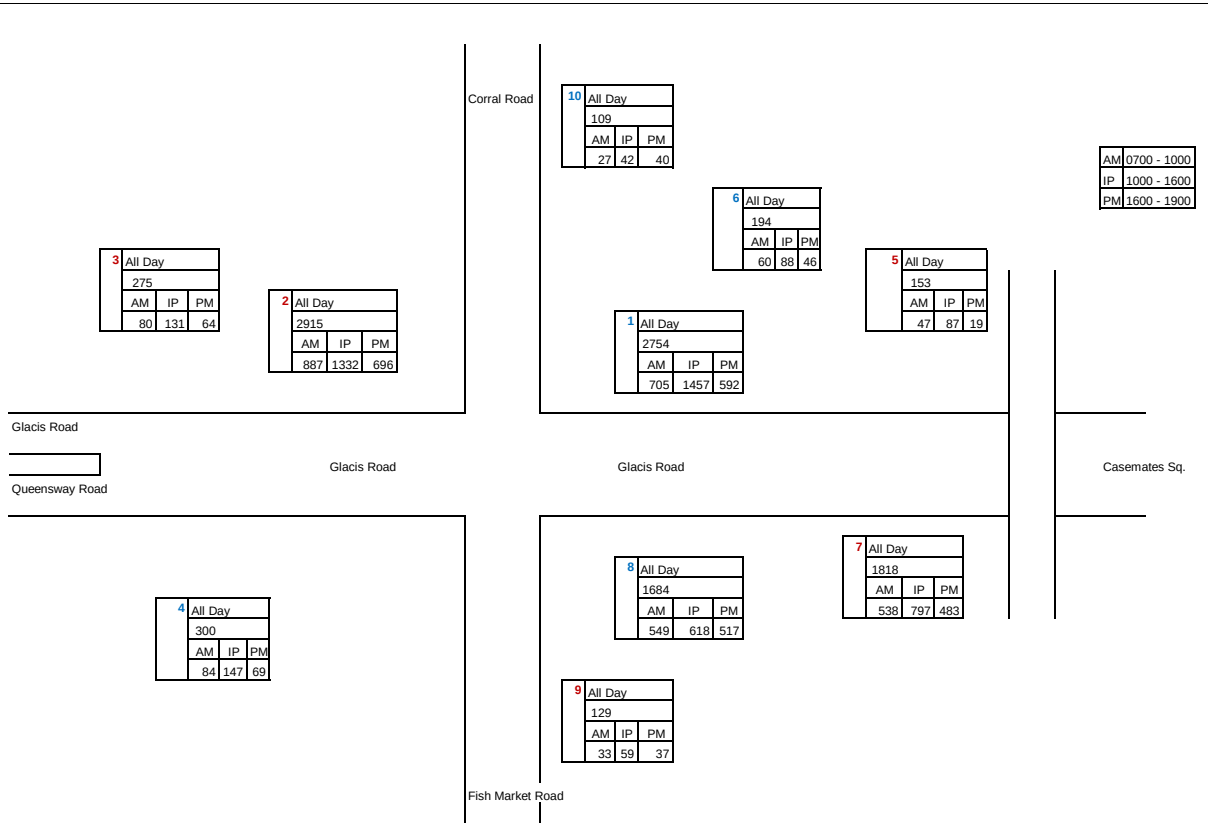


Site plan for : Site 4 - Pedestrians

Date : Friday 31st May 2013

NORTH



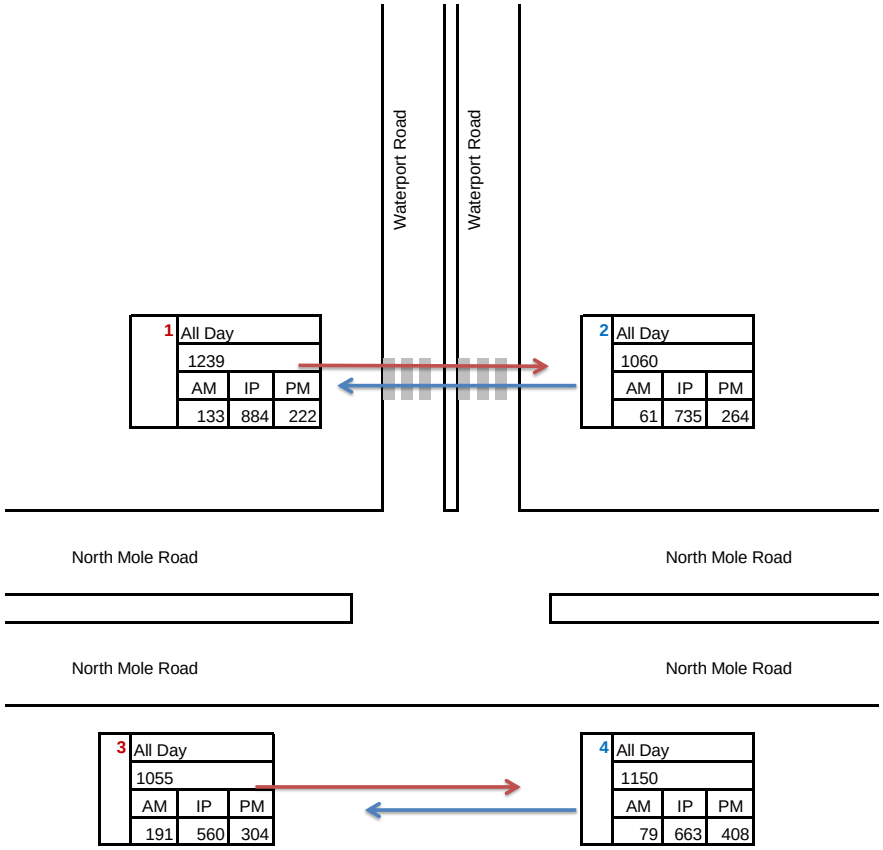


Site plan for : Site 5 - Pedestrians

Date : Friday 31st May 2013

N O R T H

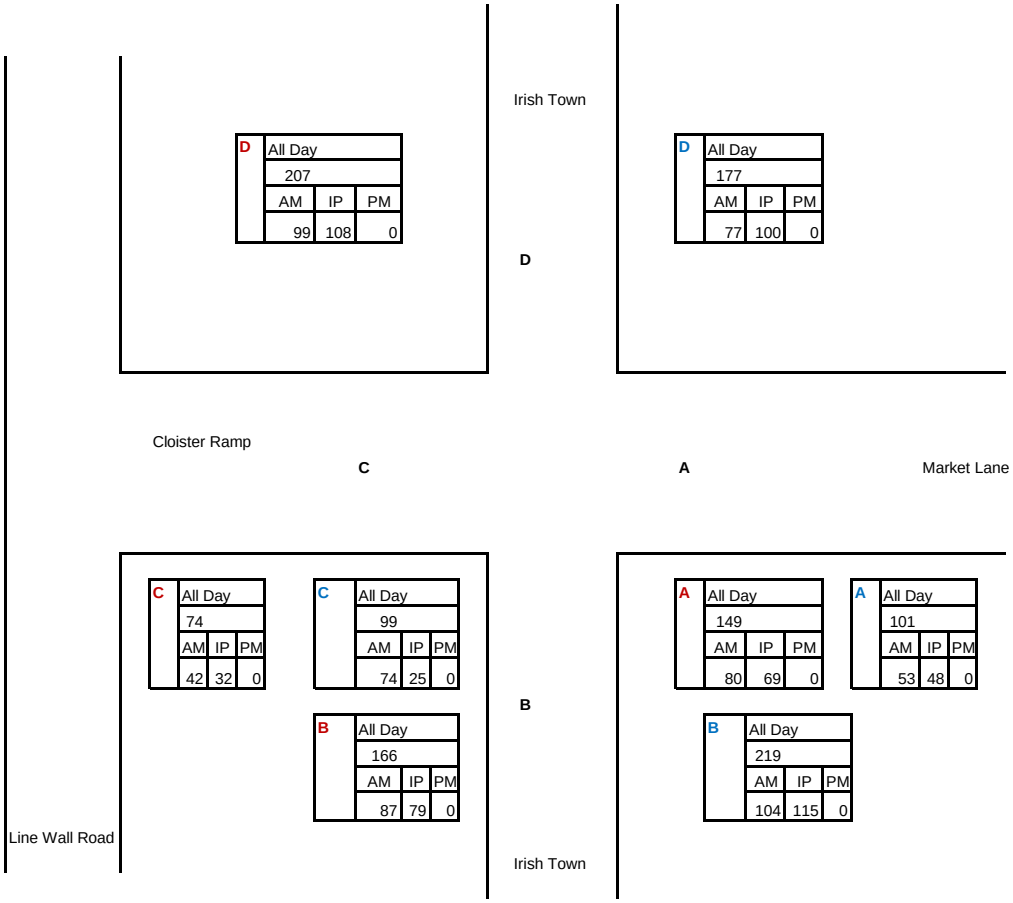
AM	0700 - 1000
IP	1000 - 1600
PM	1600 - 1900



Site plan for : Site 6 - Pedestrians

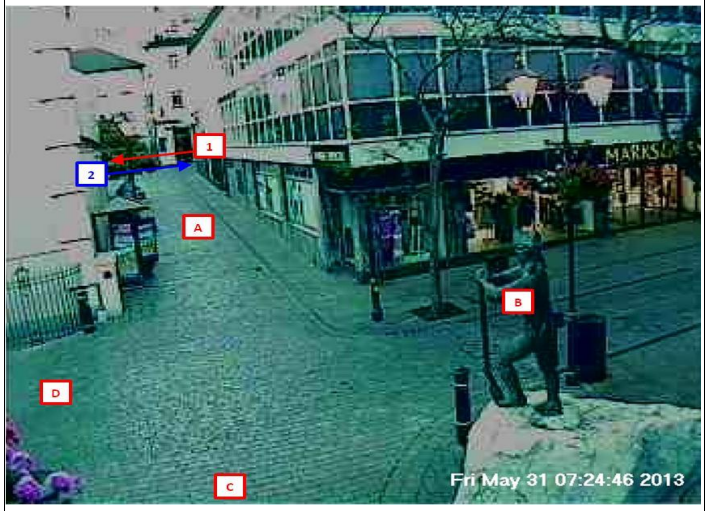
Date : Friday 31st May 2013

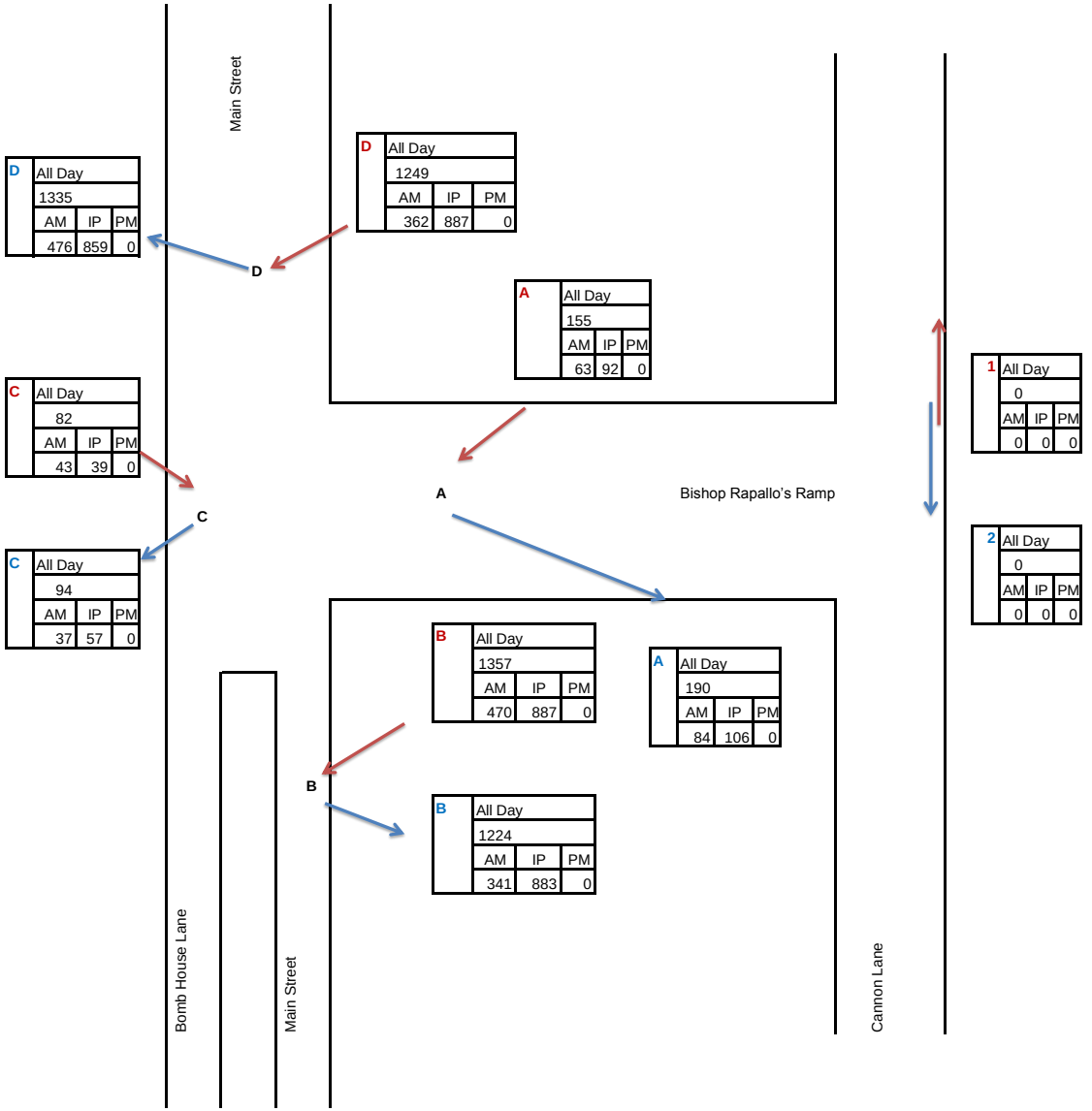
NORTH



Site plan for :	Site 7 - Pedestrians
Date :	Site 7 - Pedestrians

NORTH

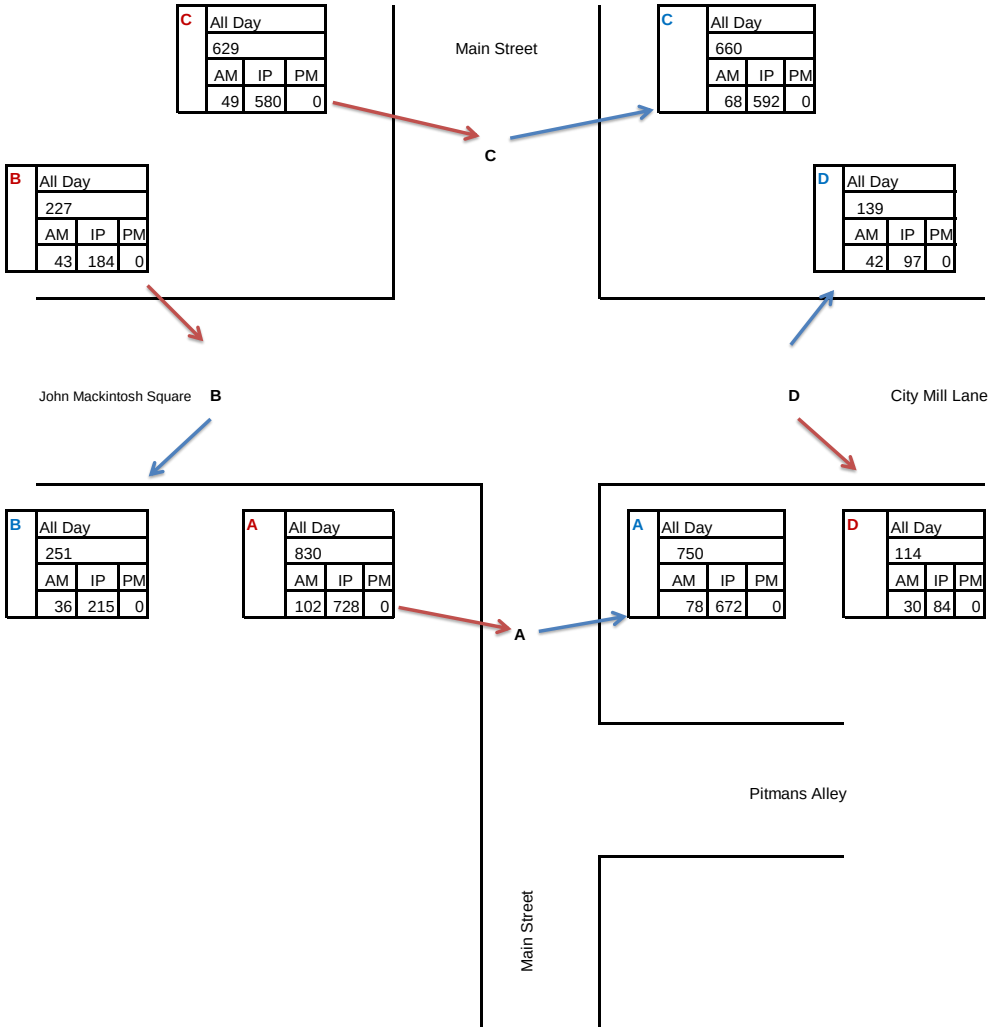




Site plan for : Site 8 - Pedestrians

Date : Friday 31st May 2013

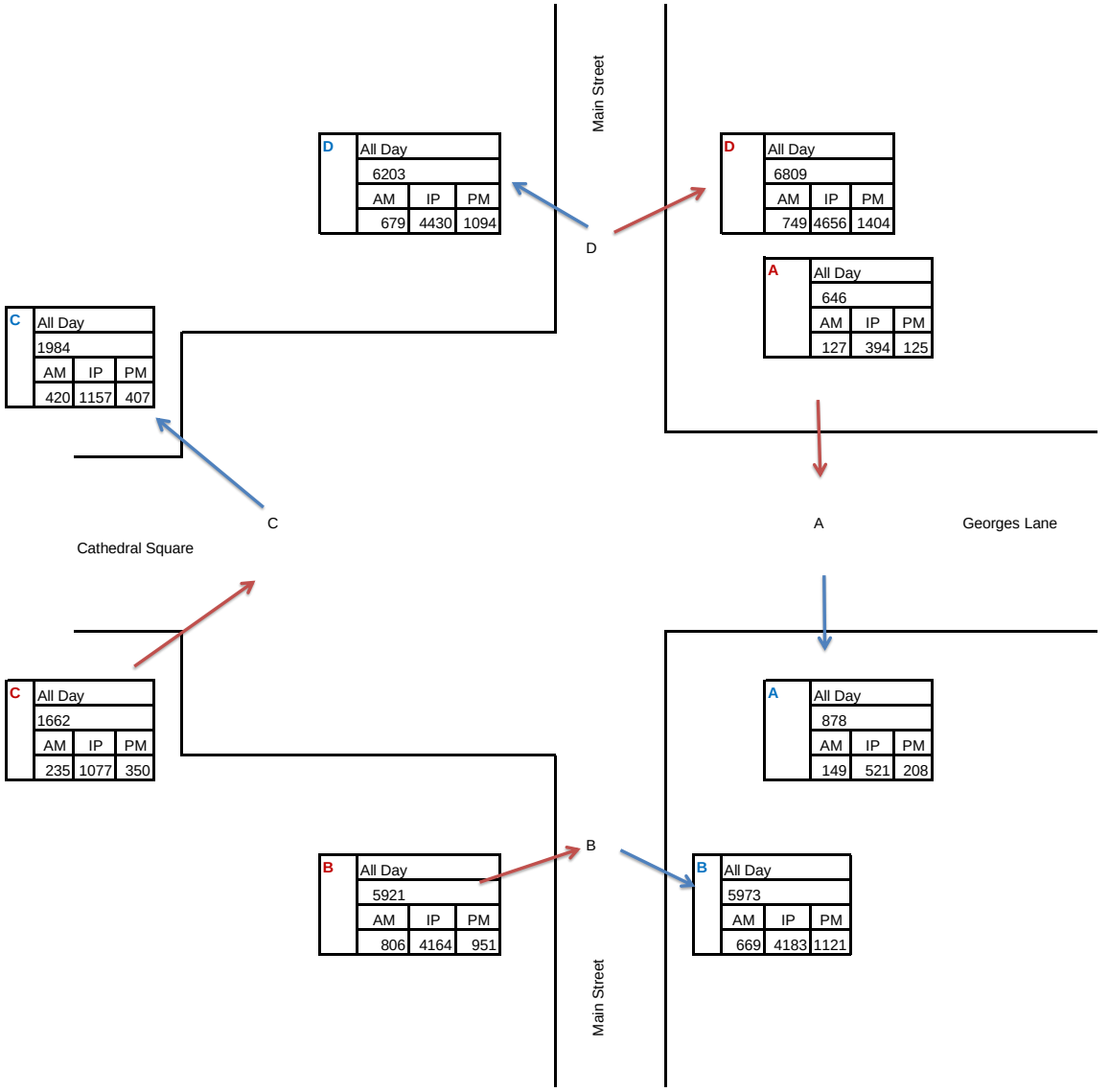
NORTH



Site plan for : Site 9 - Pedestrians

Date : Friday 31st May 2013

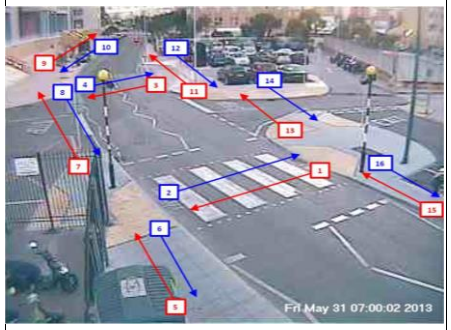
NORTH

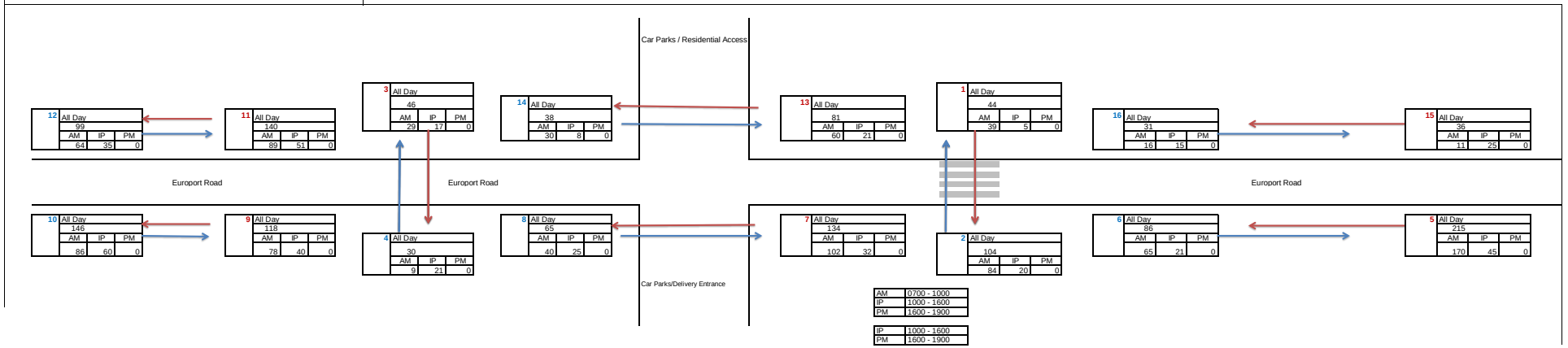


Site plan for : Site 10 - Pedestrians

Date : Friday 31st May 2013

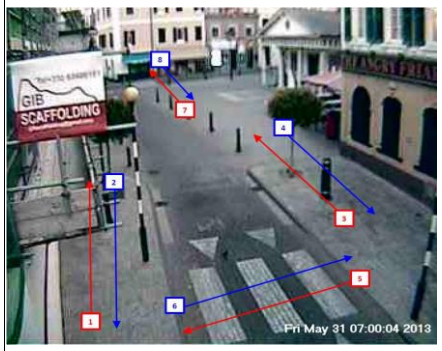
NORTH

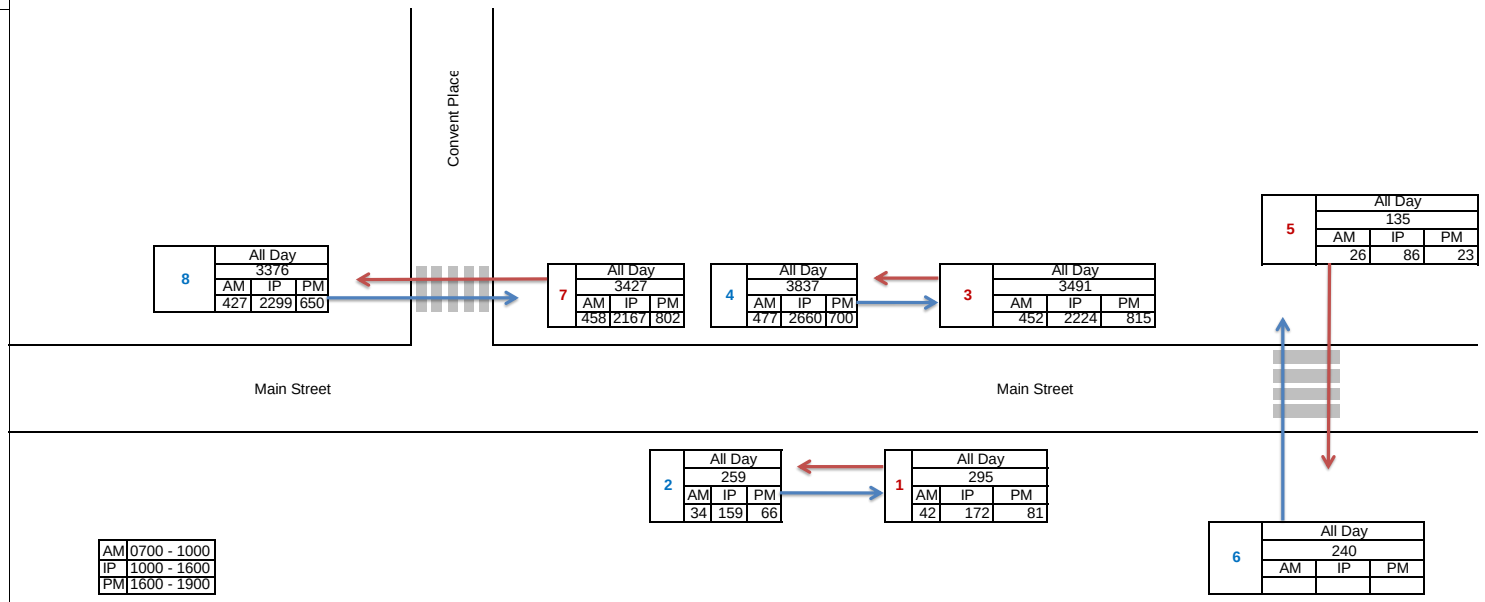




Site plan for : Site 11 Pedestrians
Date : Friday 31st May 2013

NORTH

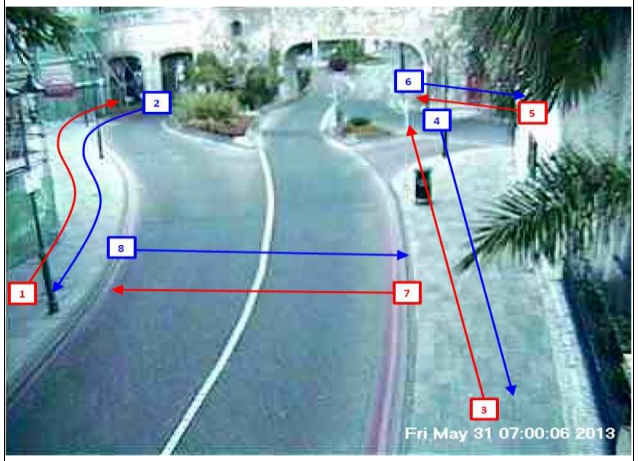


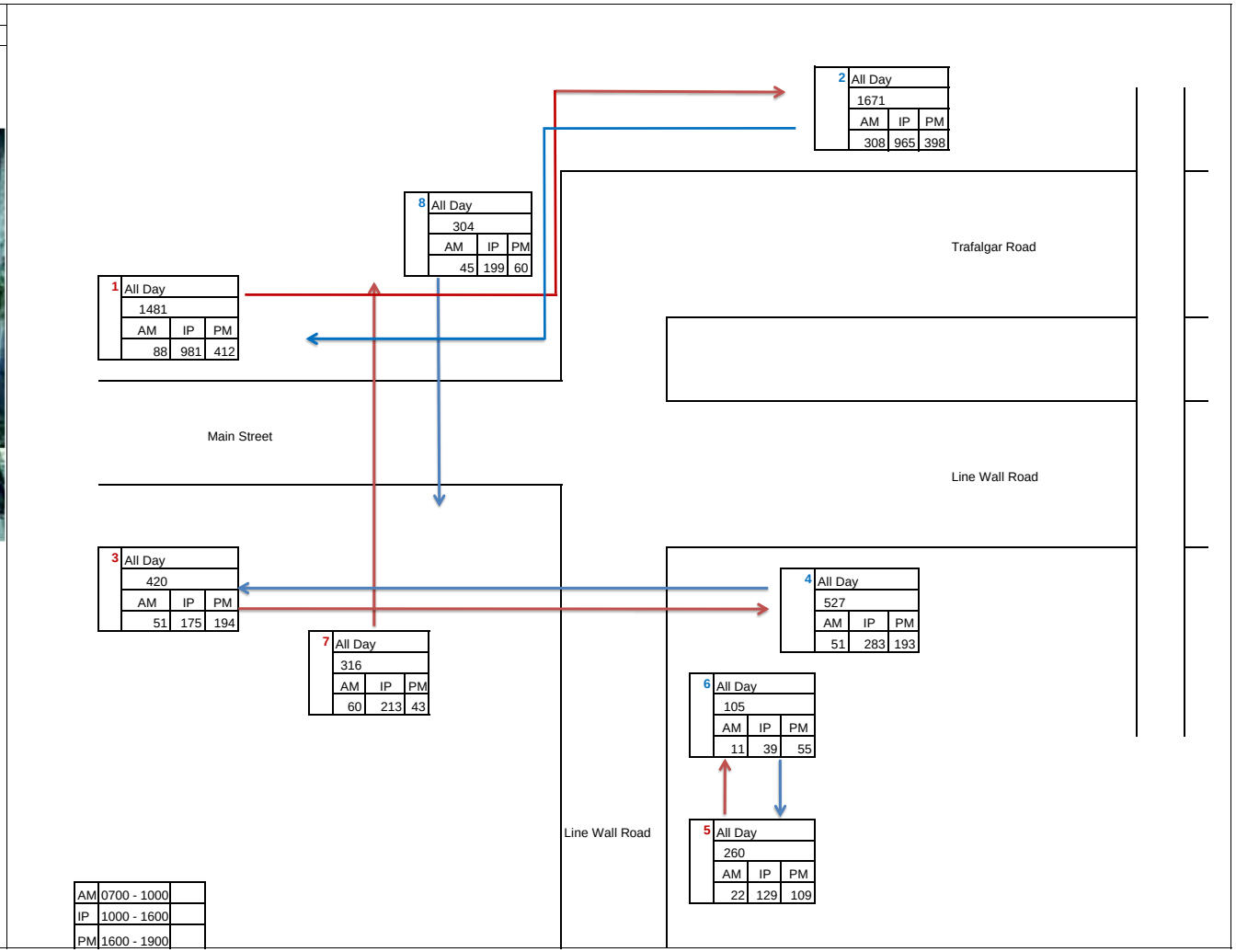


Site plan for : Site 12 - Pedestrians

Date : Friday 31st May 2013

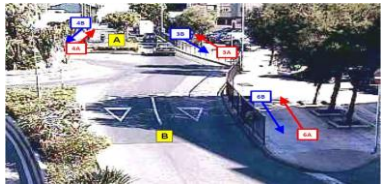
NORTH

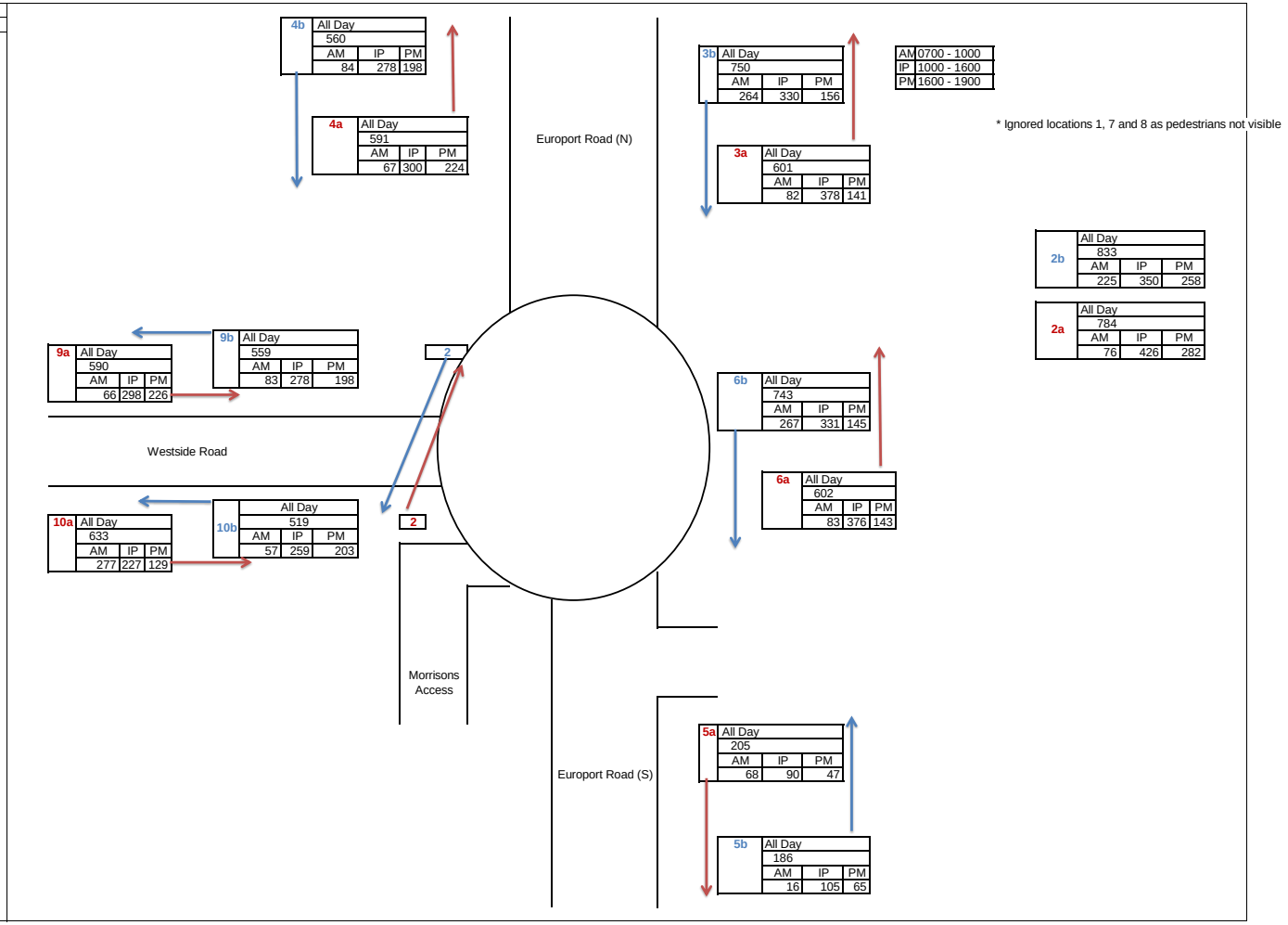




Site plan for : 1 - Morrisons Roundabout

Date : Wednesday 29th May 2013

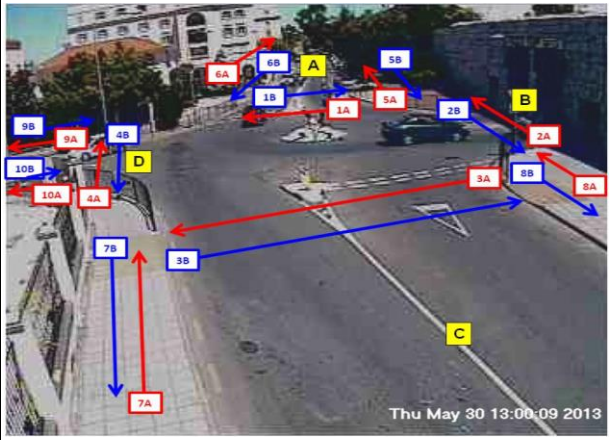


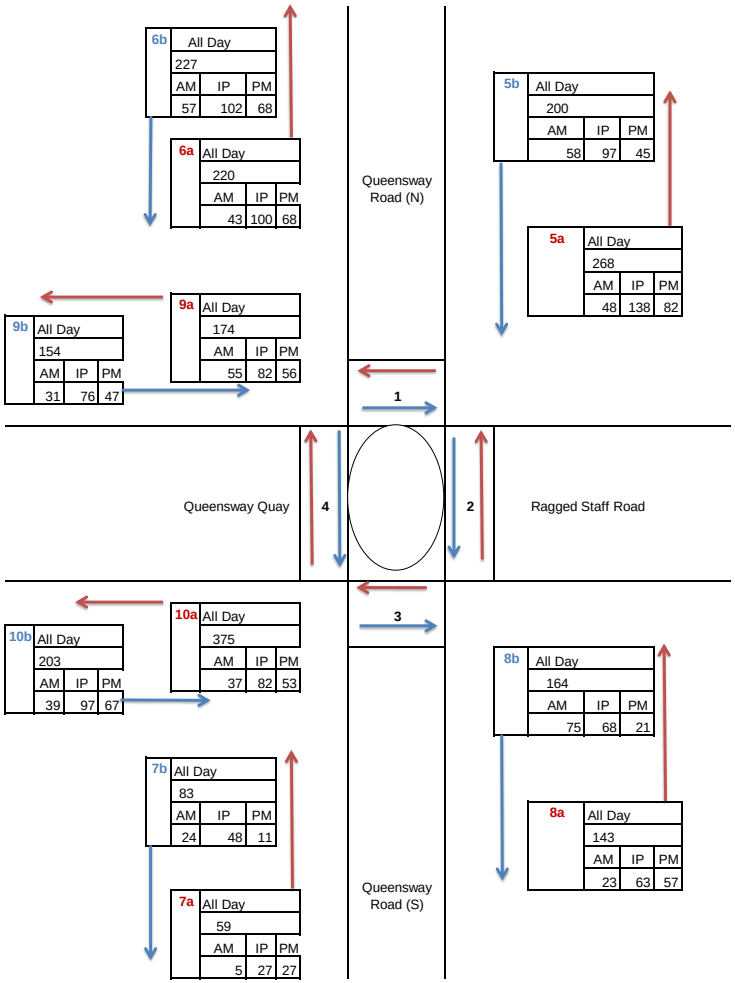


Site plan for : 2 - Ragged Staff Roundabout

Date : Thursday 30th May 2013

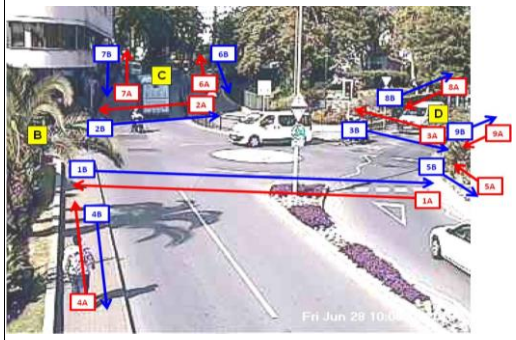
NORTH

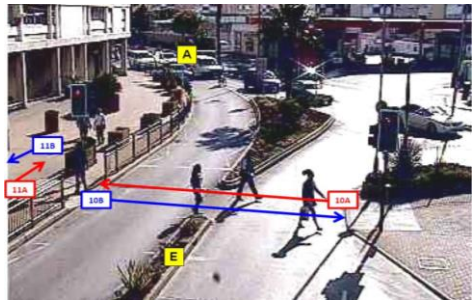


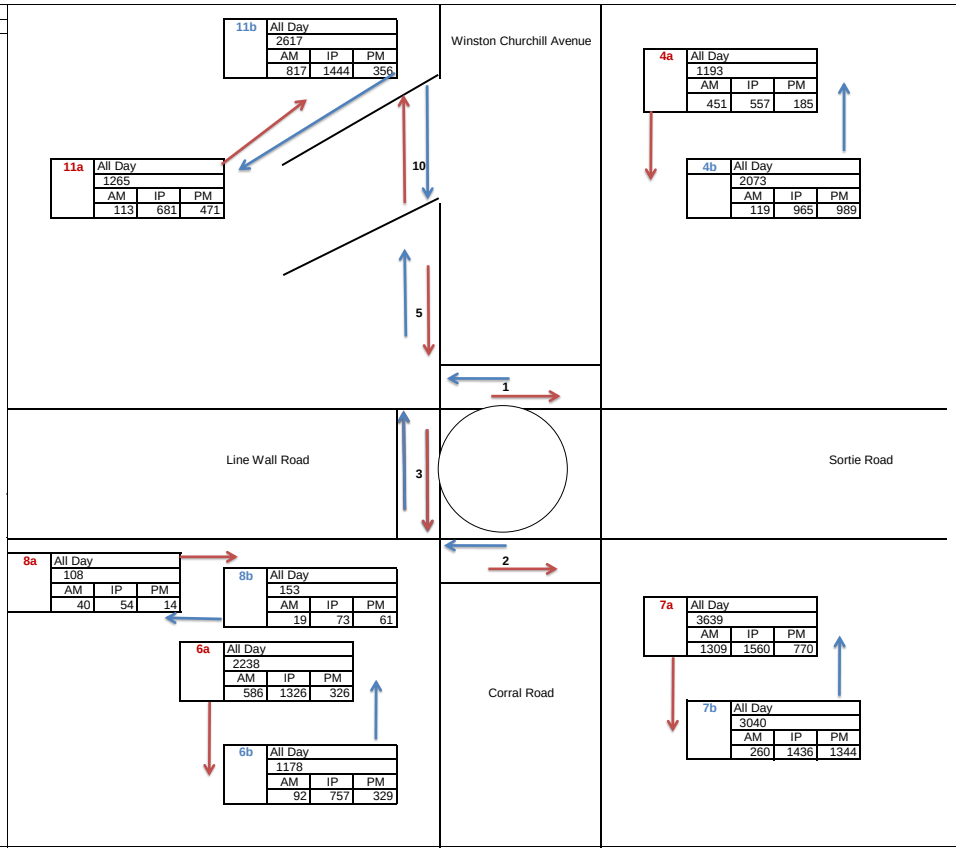


	All Day	AM	IP	PM
1a	0	0	0	0
1b	1	0	1	0
2a	0	0	0	0
2b	0	0	0	0
3a	169	39	63	67
3b	170	45	78	47
4a	156	33	73	50
4b	133	44	70	19

Site Plan for: 3 - Royal Bank of Scotland (3 Palms)
Date: Tuesday 28th May 2013







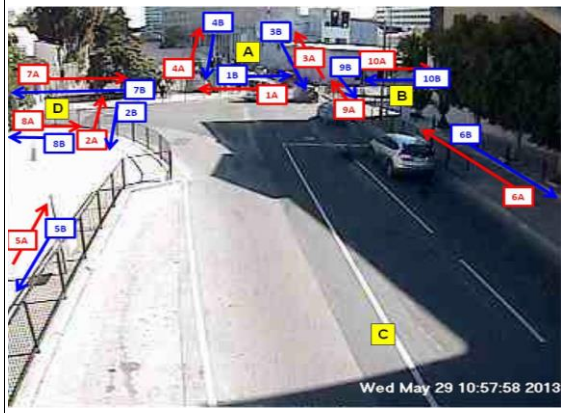
	All Day	AM	IP	PM
1a	11	1	6	4
1b	15	2	12	1
2a	2336	581	1354	401
2b	1306	151	829	326
3a	0	602	1385	337
3b	1292	115	806	371
10a	1073	57	644	372
10b	2291	796	1232	263

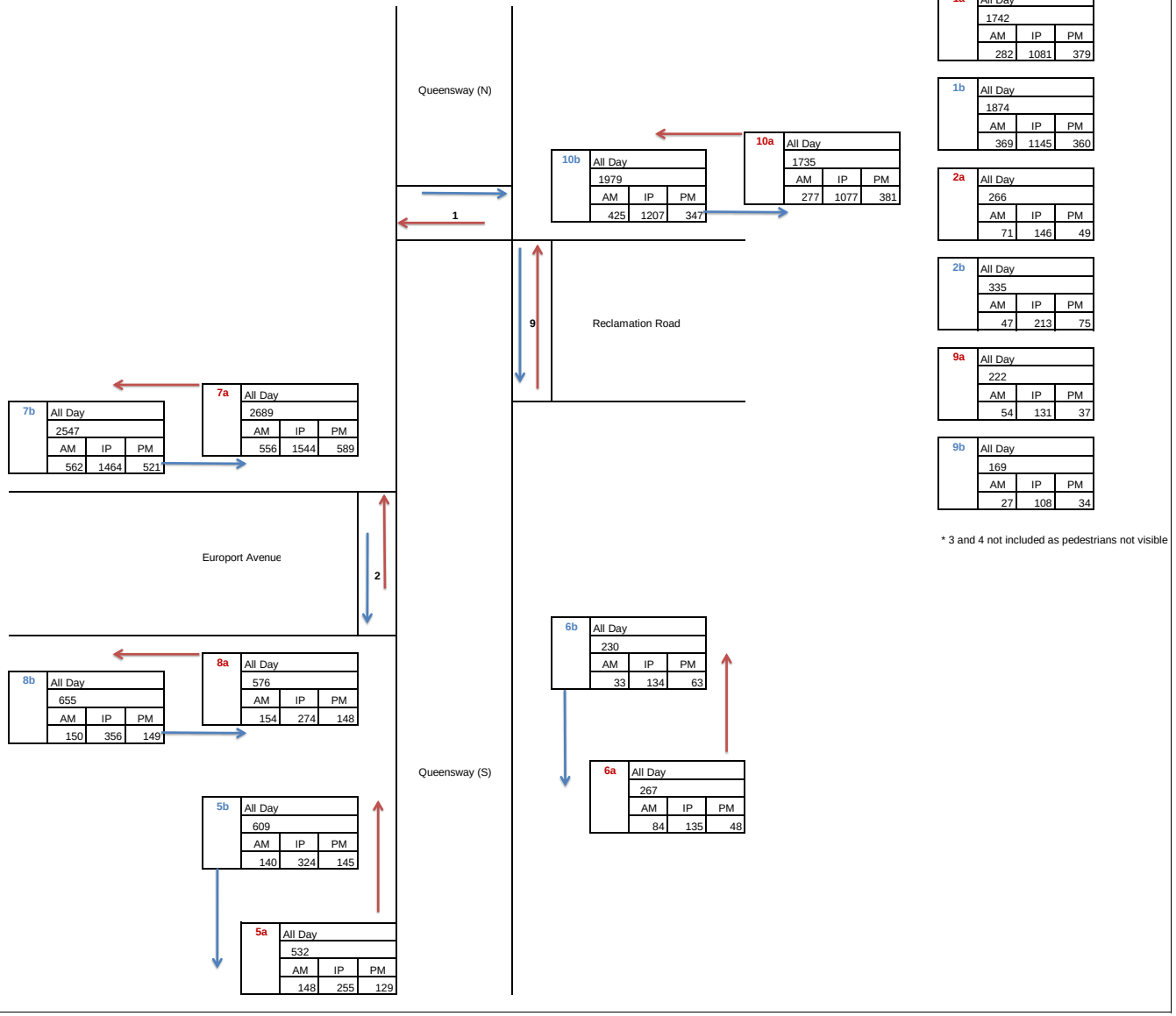
* 5 and 9 excluded as pedestrians not visible

Site plan for : 4 - Regal House Junction

Date : Wednesday 29th May 2013

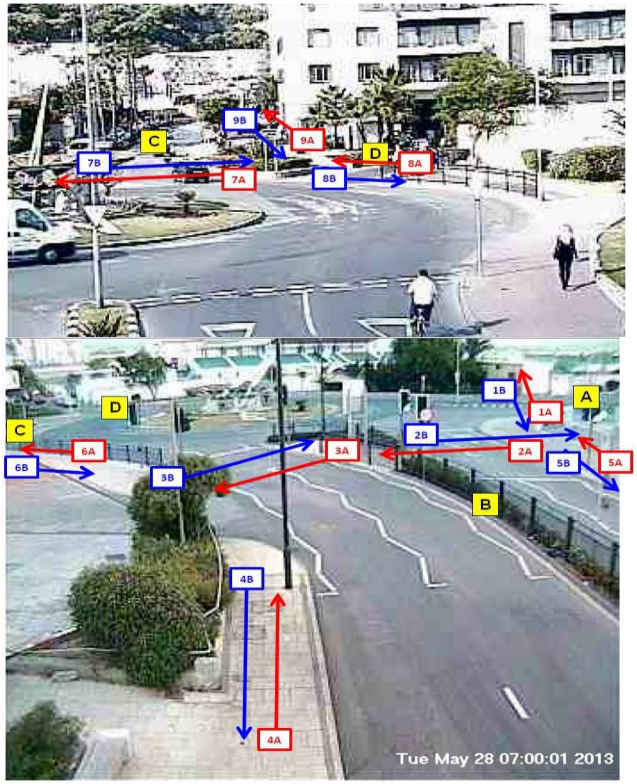
NORTH

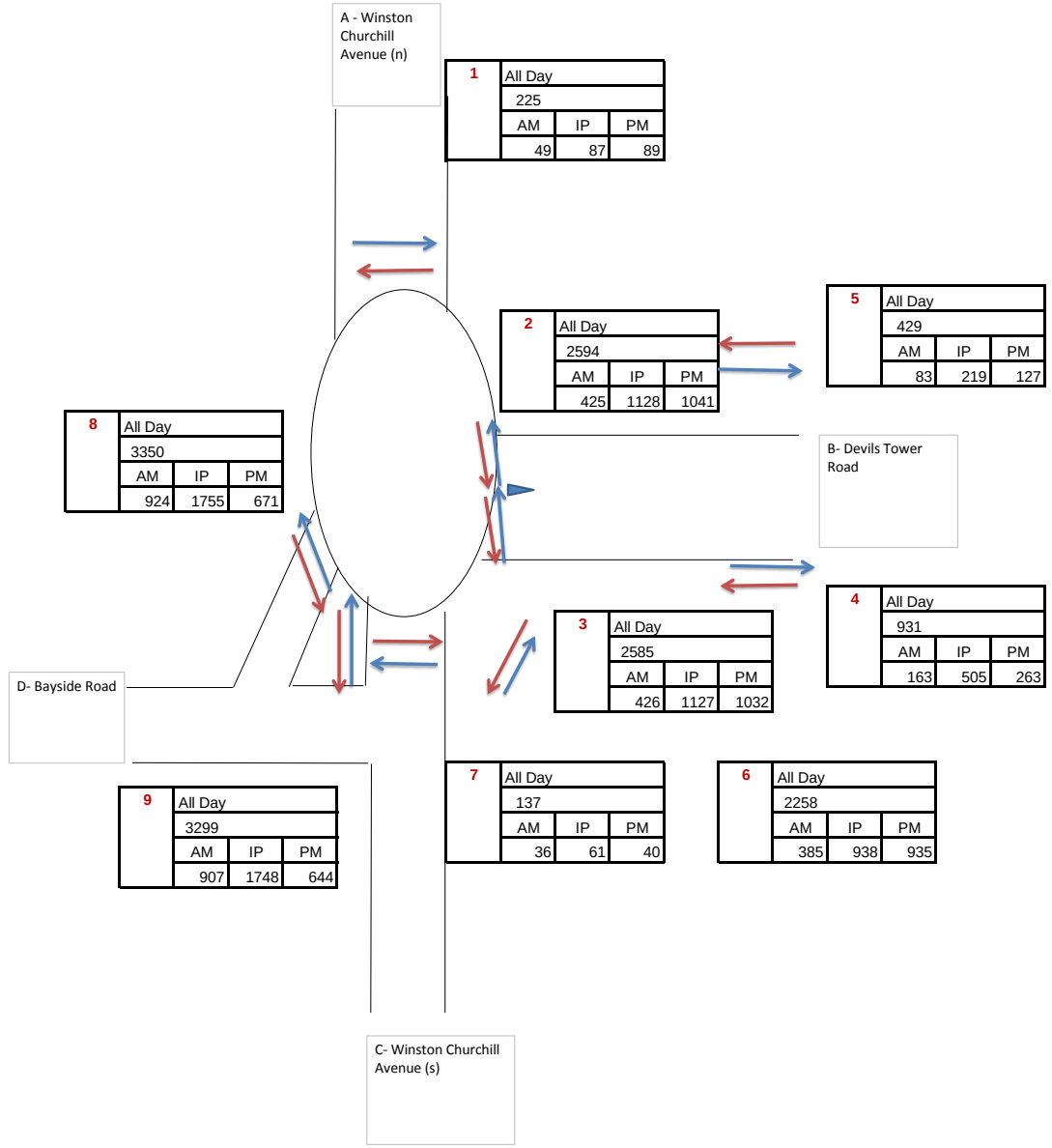




* 3 and 4 not included as pedestrians not visible

Site plan for :	6 - Sun Dial Roundabout
Date :	Tuesday 28th May 2013

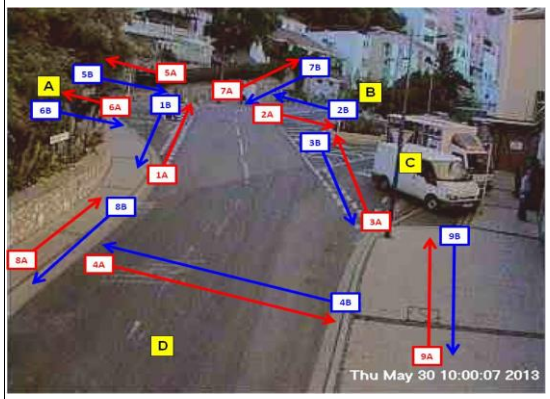


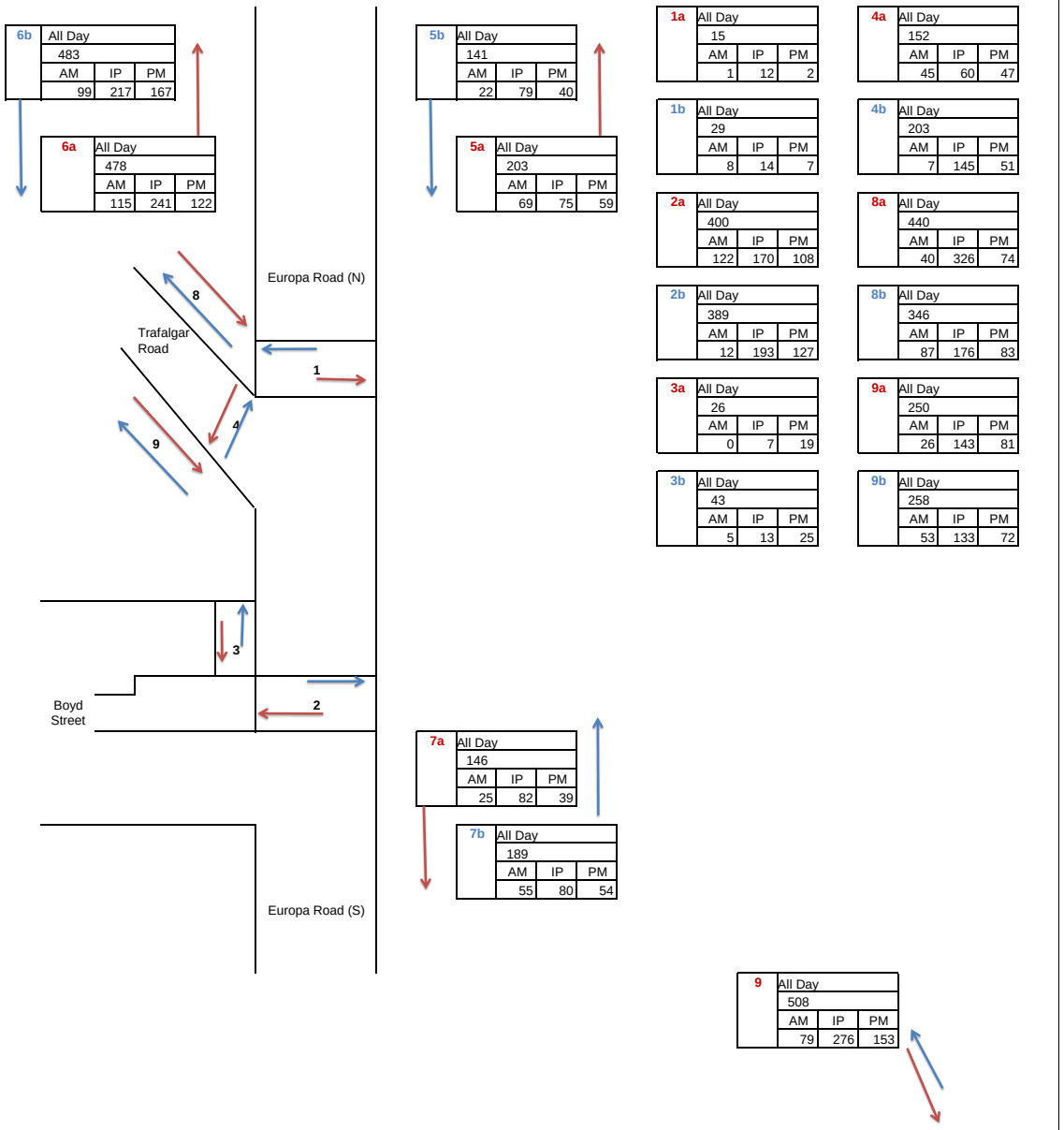


Site plan for 7 - Trafalgar Interchange 1

Date : Thursday 30th May 2013

NORTH





6b	All Day		
	483		
	AM	IP	PM
	99	217	167

6a	All Day		
	478		
	AM	IP	PM
	115	241	122

5b	All Day		
	141		
	AM	IP	PM
	22	79	40

5a	All Day		
	203		
	AM	IP	PM
	69	75	59

1a	All Day		
	15		
	AM	IP	PM
	1	12	2

1b	All Day		
	29		
	AM	IP	PM
	8	14	7

2a	All Day		
	400		
	AM	IP	PM
	122	170	108

2b	All Day		
	389		
	AM	IP	PM
	12	193	127

3a	All Day		
	26		
	AM	IP	PM
	0	7	19

3b	All Day		
	43		
	AM	IP	PM
	5	13	25

4a	All Day		
	152		
	AM	IP	PM
	45	60	47

4b	All Day		
	203		
	AM	IP	PM
	7	145	51

8a	All Day		
	440		
	AM	IP	PM
	40	326	74

8b	All Day		
	346		
	AM	IP	PM
	87	176	83

9a	All Day		
	250		
	AM	IP	PM
	26	143	81

9b	All Day		
	258		
	AM	IP	PM
	53	133	72

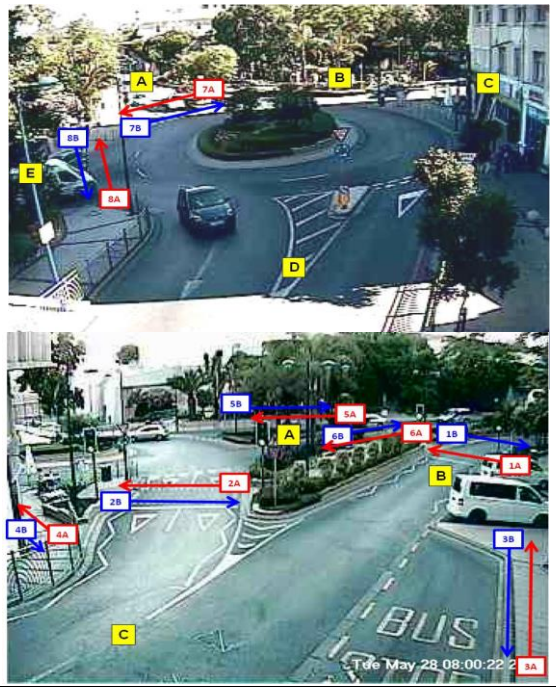
7a	All Day		
	146		
	AM	IP	PM
	25	82	39

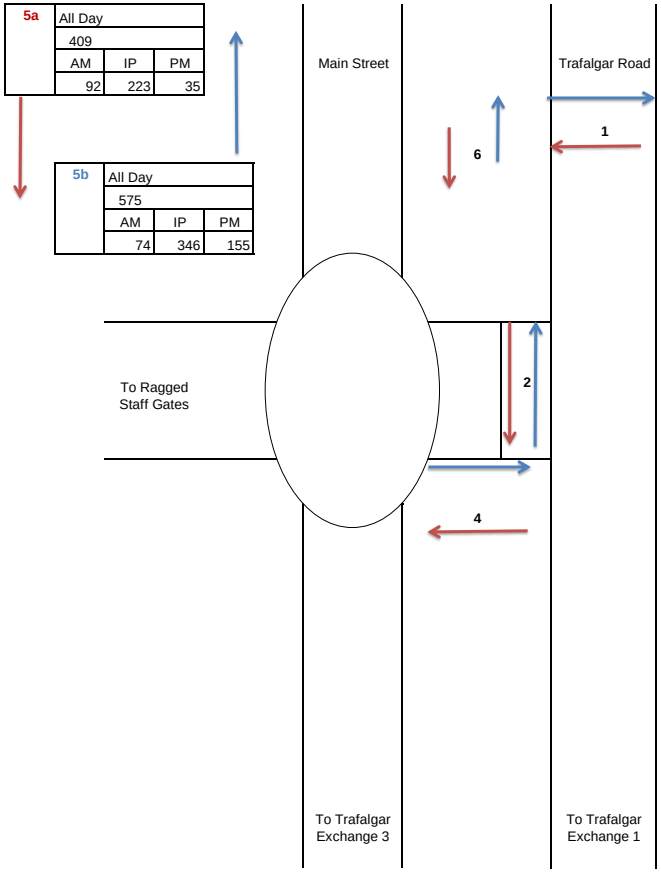
7b	All Day		
	189		
	AM	IP	PM
	55	80	54

9	All Day		
	508		
	AM	IP	PM
	79	276	153

Site plan for : 8 - Trafalgar Interchange 2

Date : Thursday 30th May 2013





5a	All Day		
	409		
	AM	IP	PM
	92	223	35

5b	All Day		
	575		
	AM	IP	PM
	74	346	155

3b	All Day		
	115		
	AM	IP	PM
	3	91	21

3q	All Day		
	0		
	AM	IP	PM
	12	40	16

1q	All Day		
	1306		
	AM	IP	PM
	153	879	274

1b	All Day		
	1451		
	AM	IP	PM
	228	803	420

2a	All Day		
	1388		
	AM	IP	PM
	160	949	279

2b	All Day		
	1475		
	AM	IP	PM
	234	819	422

4q	All Day		
	140		
	AM	IP	PM
	21	84	35

4b	All Day		
	98		
	AM	IP	PM
	11	56	31

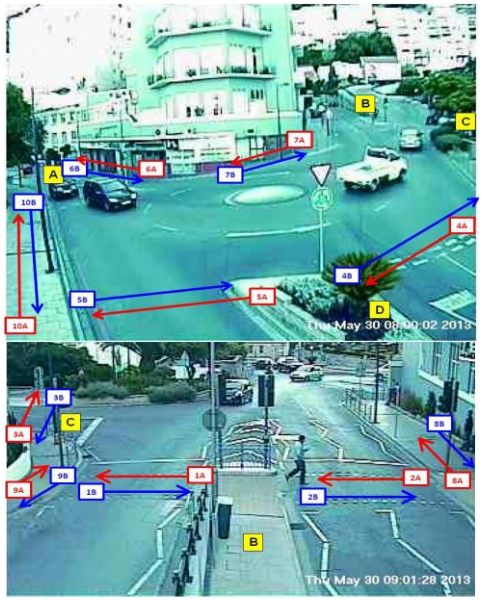
6a	All Day		
	1321		
	AM	IP	PM
	158	891	272

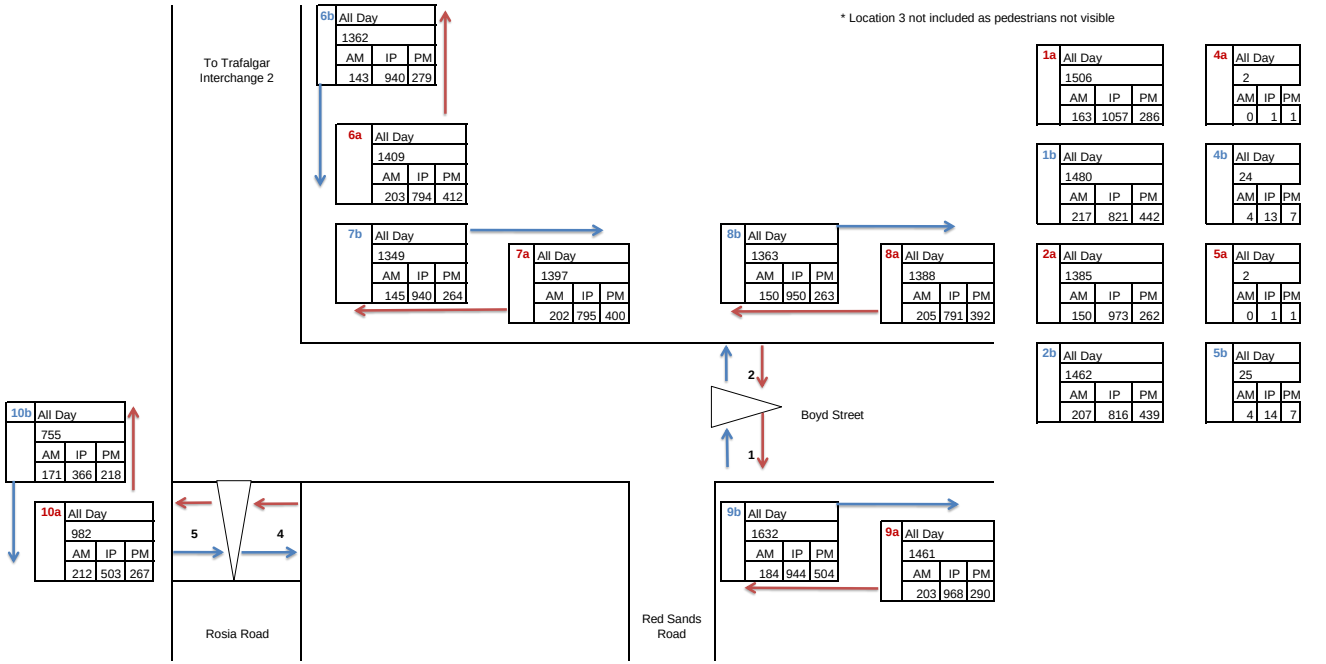
6b	All Day		
	1460		
	AM	IP	PM
	230	810	274

* 7 and 8 not included as pedestrians not visible

Site plan for : 9 - Trafalgar Interchange 3

Date : Thursday 30th May 2013

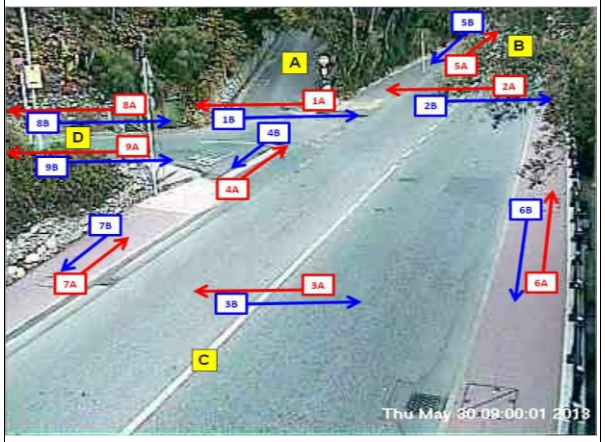


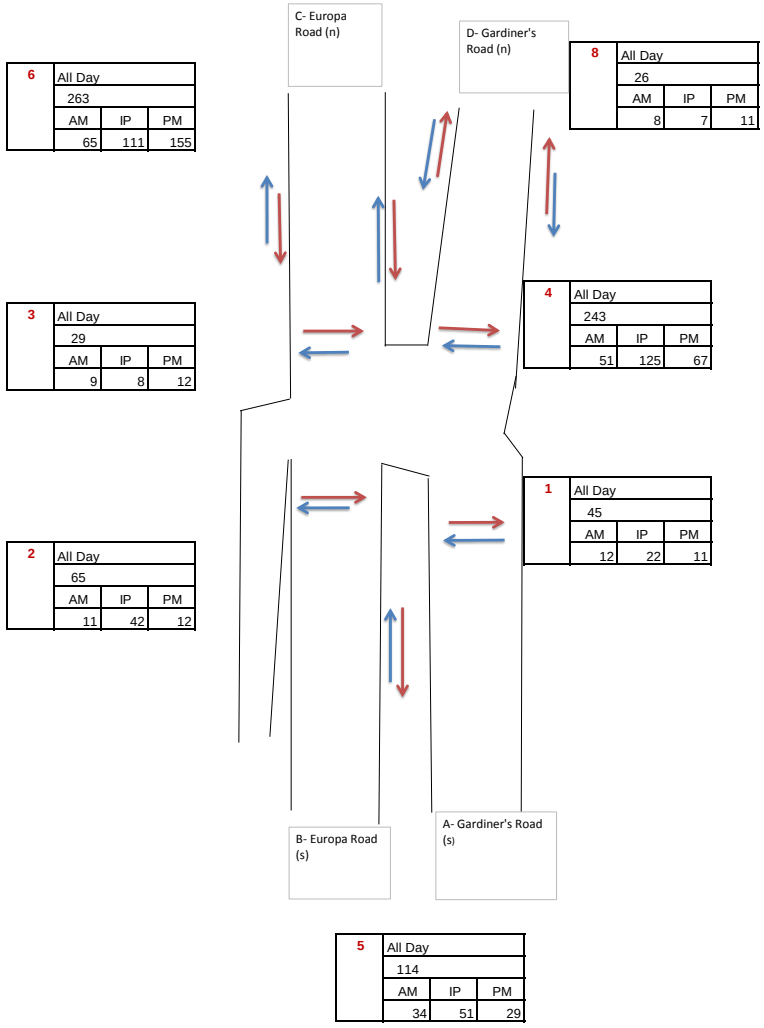


Site plan for : 11 - Gardiner's Rd / Europa Rd Junction

Date : Thursday 30th May 2013

NORTH





7	All Day		
	237		
	AM	IP	PM
	43	132	62

9	All Day		
	160		
	AM	IP	PM
	37	73	50

6	All Day		
	263		
	AM	IP	PM
	65	111	155

8	All Day		
	26		
	AM	IP	PM
	8	7	11

3	All Day		
	29		
	AM	IP	PM
	9	8	12

4	All Day		
	243		
	AM	IP	PM
	51	125	67

1	All Day		
	45		
	AM	IP	PM
	12	22	11

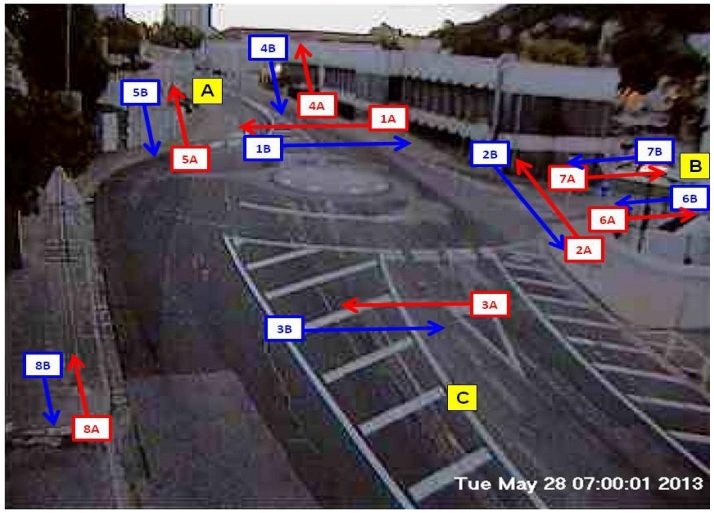
2	All Day		
	65		
	AM	IP	PM
	11	42	12

5	All Day		
	114		
	AM	IP	PM
	34	51	29

Site plan for : 12 - Casemates Hill Roundabout

Date : Tuesday 28th May 2013

NORTH

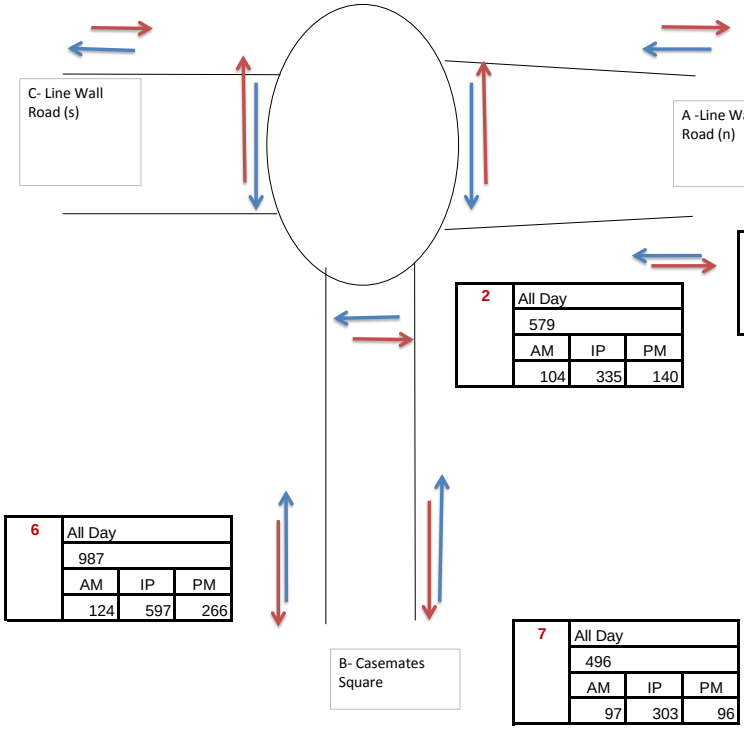


8	All Day		
	254		
	AM	IP	PM
	97	115	42

3	All Day		
	326		
	AM	IP	PM
	101	179	46

1	All Day		
	38		
	AM	IP	PM
	6	22	10

5	All Day		
	181		
	AM	IP	PM
	58	86	37



4	All Day		
	986		
	AM	IP	PM
	184	574	228

2	All Day		
	579		
	AM	IP	PM
	104	335	140

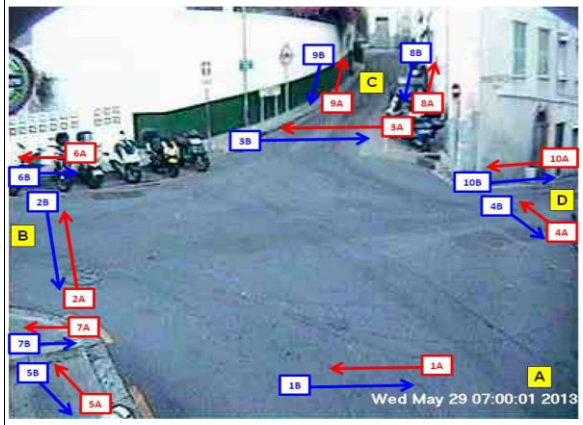
6	All Day		
	987		
	AM	IP	PM
	124	597	266

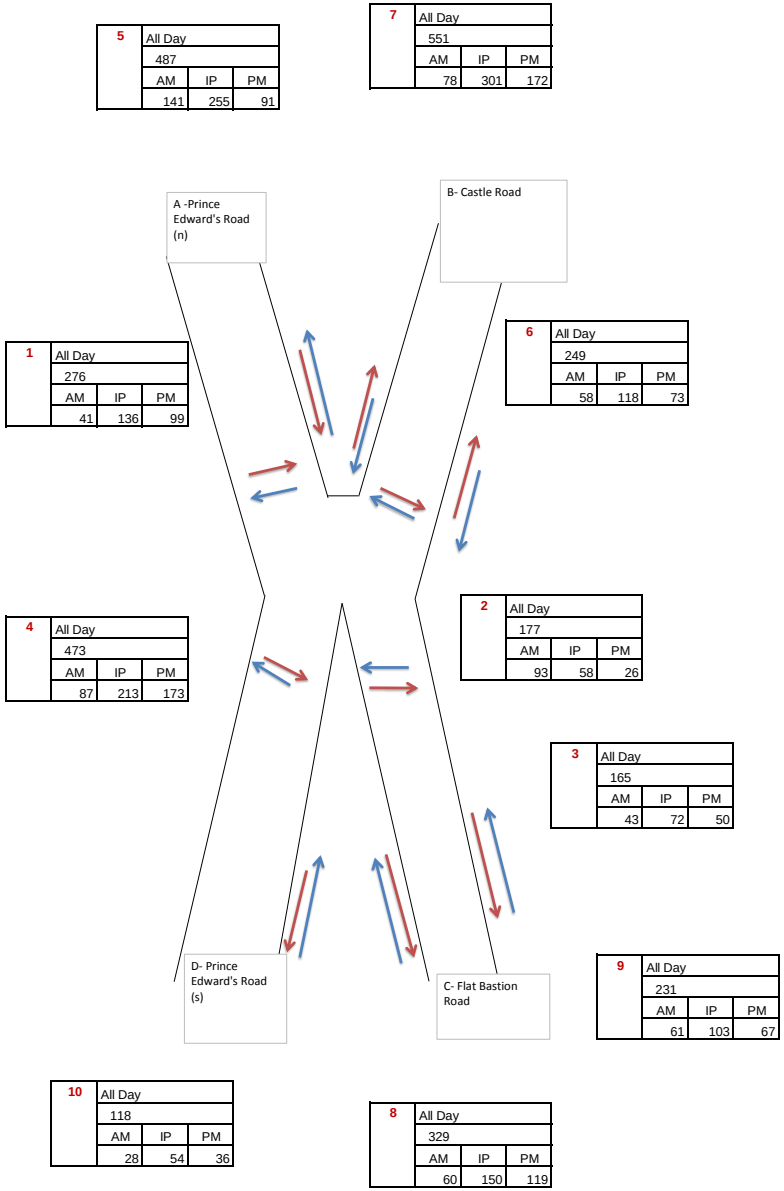
7	All Day		
	496		
	AM	IP	PM
	97	303	96

Site plan for : 13 - Castle Road & Flat Bastion Road

Date : Wednesday 29th May 2013

NORTH





5	All Day		
	487		
	AM	IP	PM
	141	255	91

7	All Day		
	551		
	AM	IP	PM
	78	301	172

1	All Day		
	276		
	AM	IP	PM
	41	136	99

6	All Day		
	249		
	AM	IP	PM
	58	118	73

4	All Day		
	473		
	AM	IP	PM
	87	213	173

2	All Day		
	177		
	AM	IP	PM
	93	58	26

3	All Day		
	165		
	AM	IP	PM
	43	72	50

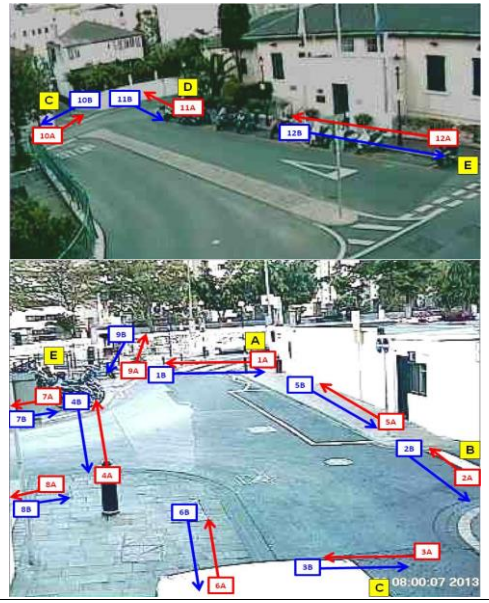
9	All Day		
	231		
	AM	IP	PM
	61	103	67

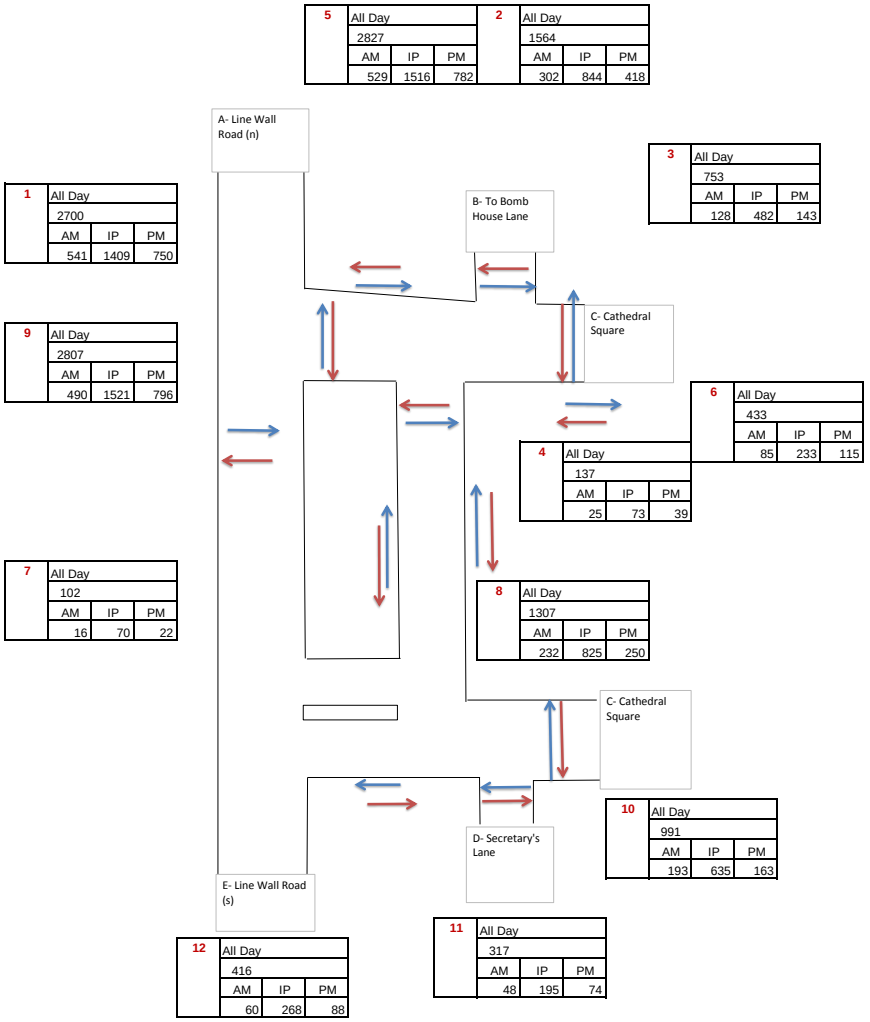
10	All Day		
	118		
	AM	IP	PM
	28	54	36

8	All Day		
	329		
	AM	IP	PM
	60	150	119

Site plan for : 14 - Cathedral Square

Date : Wednesday 29th May 2013

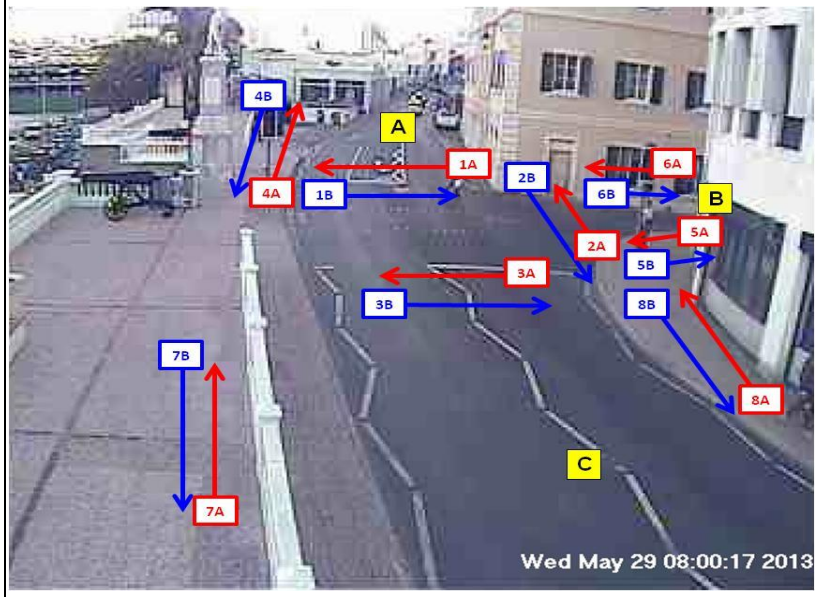




Site plan for : 15 - City Hall / Line Wall Road

Date : Wednesday 29th May 2013

NORTH



Notes:

Totals for flows on stick diagram are combined directions (i.e. 1 = 1a + 1b)

A- Line Wall Road (n)

4a & 4b	All Day		
	1076		
	AM	IP	PM
	157	678	241

2a & 2b	All Day		
	127		
	AM	IP	PM
	32	55	40

6a & 6b	All Day		
	194		
	AM	IP	PM
	54	83	57

1a & 1b	All Day		
	7350		
	AM	IP	PM
	1360	3669	2321

B- City Hall

3a & 3b	All Day		
	243		
	AM	IP	PM
	75	113	55

5a & 5b	All Day		
	7599		
	AM	IP	PM
	1141	4005	2453

7a & 7b	All Day		
	765		
	AM	IP	PM
	89	388	288

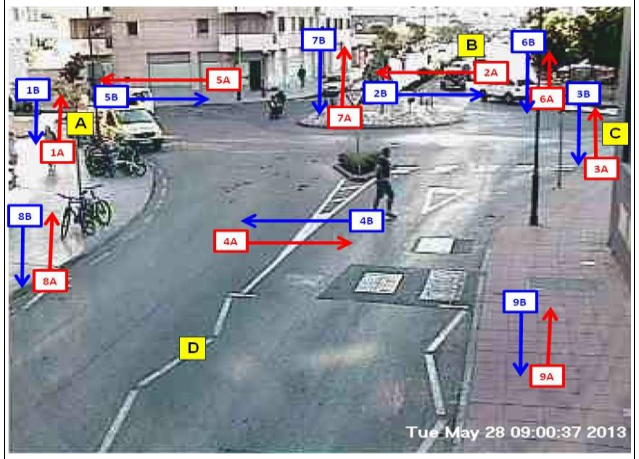
8a & 8b	All Day		
	3648		
	AM	IP	PM
	807	2225	616

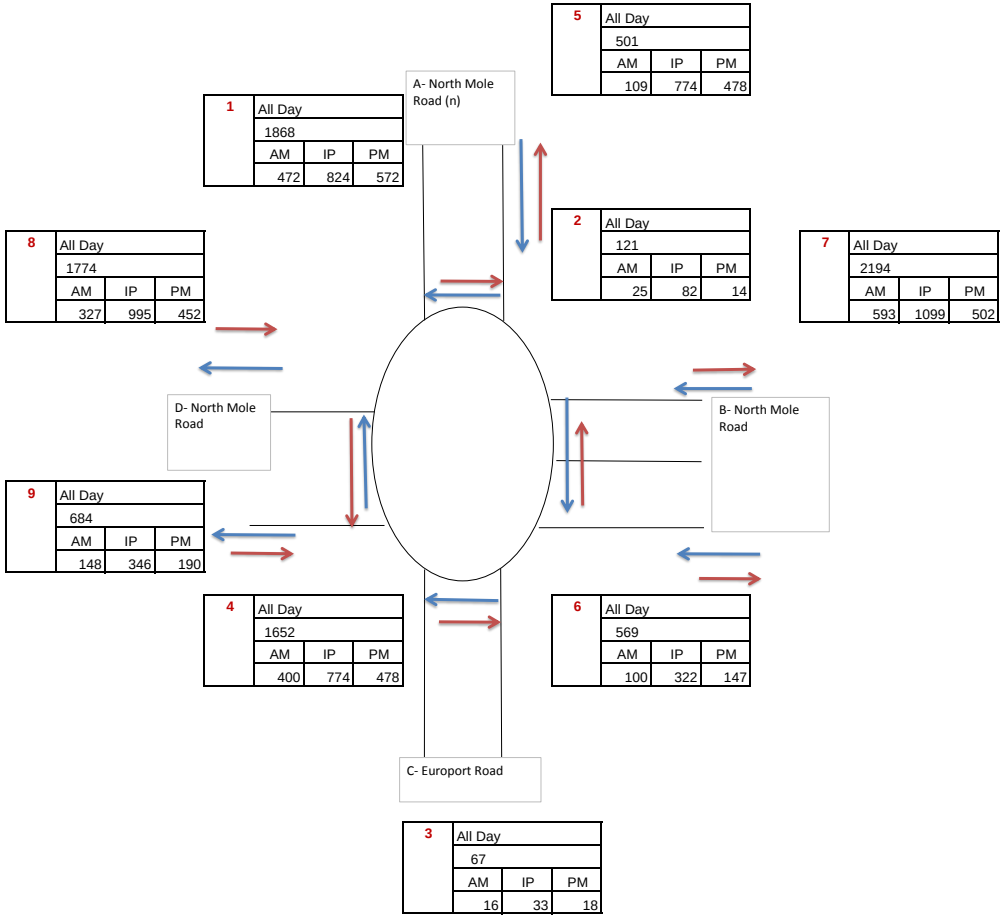
C- Line Wall Road

Site plan for : 16 - Evacuation Roundabout

Date : Tuesday 28th May 2013

NORTH

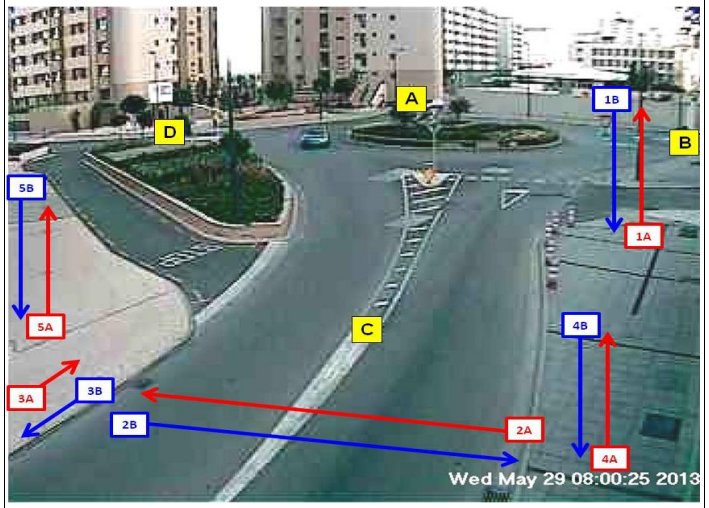


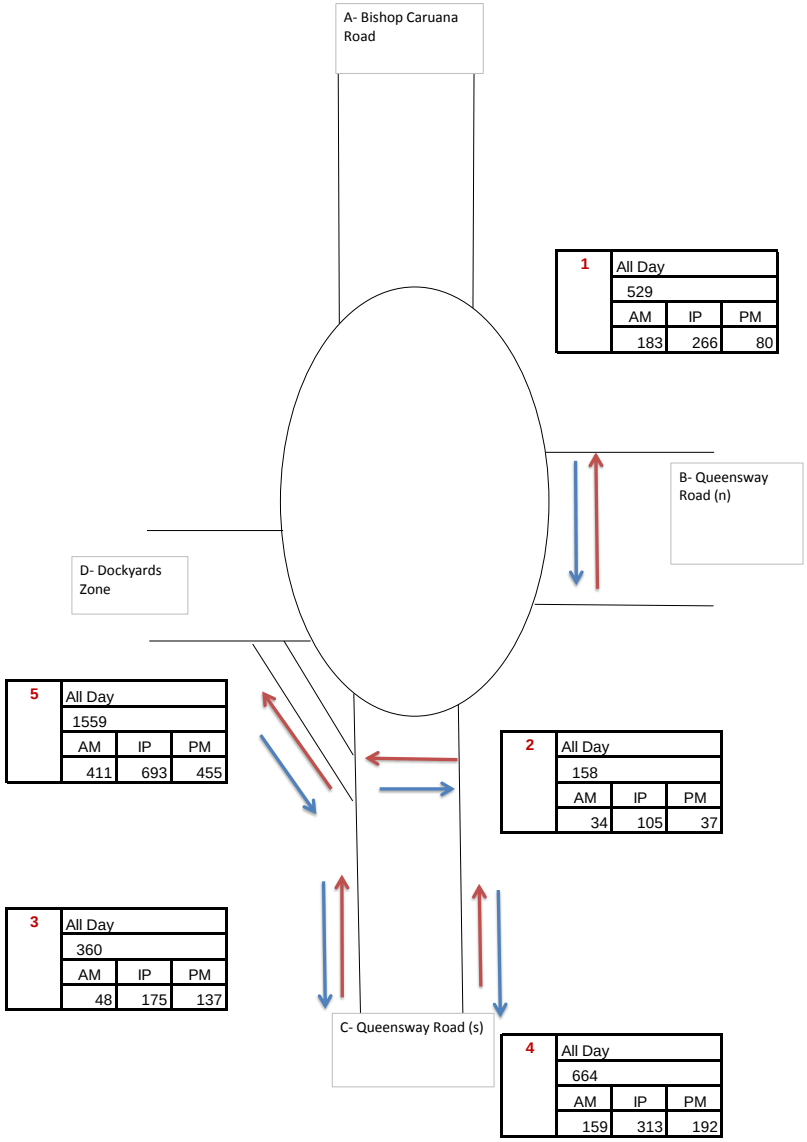


Site plan for : 17 - Coaling Island Roundabout

Date : Wednesday 29th May 2013

NORTH





1	All Day		
	529		
	AM	IP	PM
	183	266	80

2	All Day		
	158		
	AM	IP	PM
	34	105	37

3	All Day		
	360		
	AM	IP	PM
	48	175	137

4	All Day		
	664		
	AM	IP	PM
	159	313	192

5	All Day		
	1559		
	AM	IP	PM
	411	693	455