8.9 TRANSPORT ASSESSMENT & STATEMENT

English Heritage

Marble Hill Park
London Borough of Richmond upon Thames

Transport Assessment

March 2017

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1 INTRODUCTION

1.1 Vectos has been appointed by English Heritage to advise on transport issues related to planning application for proposals at Marble Hill Park within the London Borough of Richmond upon Thames.

1.2 The site is situated to the south of St Margarets and is bordered by Richmond Road to the north and the River Thames to the south. The location of the site is shown in **Figure 1**.

1.3 The site is set in 26.7 hectares of parkland known as Marble Hill Park, within which Marble Hill House is situated. Also within the grounds are leisure facilities, including numerous sports pitches, a nursery/playground area and the Coach House café.

1.4 It is proposed to undertaken the following works at Marble Hill Park:

- refurbishment and extension of the existing café;
- installation of a new interpretation to Marble Hill House;
- altering the opening hours of Marble Hill House from 2 days per week to 5 days per week; and
- improving the quality of the sports facilities.

1.5 This Transport Assessment (TA) has been prepared in support of the planning application and considers the potential transport implications of the proposed improvements. It has been prepared based upon our experience of working in LB Richmond upon Thames and the Greater London region.

1.6 Following this introduction section, the remainder of the TA report is structured as follows:

- **Section 2: Existing Conditions** – A review of transport conditions at the site and surrounding area;
- **Section 3: Policy Context** – A review of key current and emerging transport and land use planning policy at national, regional and local level;
- **Section 4: Development Proposals** – A description of the Proposed Development;
- **Section 5: Effect of Development Proposals** – An assessment of anticipated trip generation of the development proposals; and
- **Section 6: Summary & Conclusions** – A review of the key points described in this report.

2 EXISTING CONDITIONS

Site Context

2.1 Marble Hill Park is a public park located within the East Twickenham area of the London Borough of Richmond upon Thames. Located on the north bank of the River Thames, the site is bound by Richmond Road to the north, residential dwellings to the east and Orleans Park School to the west. Further to the south of the site sits Ham House and Gardens and Petersham Meadows with Richmond Park beyond.

2.2 Marble Hill House stands alone towards the centre of Marble Hill Park. A wide range of both formal and informal recreation spaces are provided across the park including football, cricket and rugby pitches as well as tennis courts and practice cricket nets. Changing room facilities are provided towards the northeast corner of the site.

2.3 Marble Hill Playcentre, which is also situated towards the northeast corner of Marble Hill Park, provides nursery facilities and a large playground area for children. Towards the west of the park, the Coach House café provides an opportunity for visitors to purchase food and drinks. The upper floor of the Coach House café building currently houses English Heritage personnel to oversee Marble Hill Park and the Marble Hill House attraction.

2.4 The location of the site is shown in a strategic context and a local context within **Figure 1** and **Figure 2** respectively.

Access and Parking

2.5 A total of six pedestrian/cyclist access points are provided around the perimeter of Marble Hill Park; three direct accesses onto Richmond Road to the north, two access points shared with Orleans Road to the west and a further access leading to the River Thames to the south. All of these access points connect with the internal network of footways provided within Marble Hill Park. **Figure 3** shows these points of access.

2.6 The principle vehicular access point to the site is located to the north and comprises a simple priority junction with Richmond Road. The site access connects with a short access road that leads towards the Marble Hill Park car parking area situated within the northeast corner of the site.

2.7 A secondary access is provided towards the northwest of the site via Richmond Road. This access is retained for use by delivery and servicing vehicles only and connects with an internal road providing onwards access towards the Coach House café and Marble Hill House. The access is signed as 'No Entry' from Richmond Road and is not available for use by visitors to Marble Hill Park.

2.8 The car park provides a total of 76 parking spaces, including 3 disabled parking bays. The car park operates a 'Pay & Display' system, the costs of which are shown below in **Table 2.1**.

Table 2.1: Marble Hill Park Car Park Charges

Duration	Parking Charges
Up to 2 hours	£2.50
Up to 3 hours	£3.50
Each additional hour	£3.50

2.9 There is a significant amount of additional on-street parking provision along Richmond Road. To the west of the site access, Controlled Parking Zone (CPZ) 'S' parking restrictions apply with the option to 'Pay & Display' for non-permit holders. The 'Pay & Display' facilities are subject to fees between the hours of 10:00 – 16:30, Monday to Friday, with a maximum duration of stay of 6.5 hours.

2.10 To the east of the vehicular access, further parking is provided for CPZ 'S' permit holders. The on-street parking bays can also be used by holders of valid 'vouchers' for parking Zone F. This parking scheme allows users to park in accordance with the costs and durations, up to a maximum of 4 hours, as outlined in **Table 2.2** below.

Table 2.2: Voucher Parking Zone F Costs

Time	Type of voucher
Up to 30 minutes	1 x £0.65 voucher
Up to 1 hour	1 x £1.25 voucher
Up to 2 hours	1 x £2.50 voucher
Up to 3 hours	1 x £2.50 voucher and 1 x £0.65 voucher
Up to 4 hours	2 x £2.50 vouchers

2.11 To the west of the site, both Montpelier Row and Orleans Road form part of CPZ 'S1'. Within this zone, parking restrictions apply from Monday to Friday (as well as Saturday and Sunday from April to October) between the hours of 10:00-16:30.

2.12 A short section of CPZ 'S' is provided towards the southern end of Orleans Road where the same restrictions described previously apply.

2.13 **Figure 4** shows the location of the CPZs in the vicinity of the site.

Local Highway Network

2.14 Richmond Road is subject to a 20mph speed limit and has a good widths and visibility throughout. Footways are present on both sides of the road within the vicinity of the site, whilst street lighting is present at regular intervals.

2.15 To the east of the site access, Richmond Road provides connectivity towards Richmond, Ham and the wider area. Towards the west, onwards connectivity is provided to Twickenham, Hampton and Kingston upon Thames.

Pedestrian Accessibility

2.16 Government research suggests that for distances of less than 2km, there is potential for walking to replace car trips. Similarly, The Institution of Highways and Transportation (IHT) guidelines suggest a maximum 'acceptable' walking distance for pedestrians without a mobility impairment of 2km.

2.17 Marble Hill Park provides a network of footways which connect the numerous access points provided around the site perimeter with Marble Hill House itself as well as the other facilities provided within the park.

2.18 Towards the north of the site, the footways along Richmond Road are of reasonable width, lit and generally well maintained. Dropped kerbs are provided at every minor road crossing location, and a number of strategic crossings across Richmond Road also exist with dropped kerbs. These strategic crossings take a variety of forms from uncontrolled crossings, with pedestrian refuge islands, to zebra and signalised crossings. The crossings points are located at frequent intervals along Richmond Road, with the closest to the access comprising an uncontrolled pedestrian refuge island crossing with dropped kerbs approximately 15m to the west.

2.19 A wide footpath is provided to the south of the site along the north bank of the River Thames. It enables onwards pedestrian connectivity in both directions following the alignment of the river.

2.20 A ferry crossing over the River Thames to the south of the site provides a connection to Ham House and residential areas south of the River Thames. The ferry operates between the hours of 10:00 and 18:00 weekdays and 10:00 and 18:30 weekends and bank holidays, with prices of £1 for an adult and 50p for a child.

Cycling Accessibility

2.21 Government guidelines suggest that "cycling has potential to substitute for short car trips, particularly those less than 5km and to form part of a longer journey by public transport".

2.22 Whilst no formal cycle facilities exist within the immediate vicinity of the site, the general conditions of the majority of the local highway network, especially Richmond Road, offer options for on-carriageway cycling due to good widths, low speed limits and street lighting throughout.

2.23 Route 4 of the National Cycle Network can be joined south of the River Thames, via the river crossing which links with a short off-road cycle route passing through Ham House and eventually joins Route 4. Route 4 provides onwards connectivity to a number of local destinations including Teddington to the southwest and both Putney and Fulham to the northeast.

Public Transport Accessibility

Public Transport Accessibility Level (PTAL)

2.24 Public Transport Accessibility Levels (PTALs) are a measure of the accessibility of a given point to the public transport network, taking into account walk accesses time and service availability. This method is a way of measuring the density of the public transport network at a particular point.

2.25 A PTAL assessment of the centre of the site has been undertaken and a score is given based on:

- Bus stops within 640 metres of the site (an eight minute walk at an average speed of 4.8 kph);
- Rail and underground stations within 960 metres of the site (a twelve minute walk at 4.8 kph); and
- Frequency of bus services between 08:15 and 09:15 on a weekday.

2.26 Due the expansive area that Marble Hill Park covers, it has a varying PTAL rating. However, the northern perimeter of the site, adjacent to Richmond Road, is considered as having a PTAL rating of 4 (good) and this is due to the close proximity of the park to numerous bus services, St Margarets Railway Station and Richmond Underground Station.

Bus Services

2.27 The closest bus stops to the site are located on Richmond Road, approximately 150m west of the principle access location. **Table 2.3** provides a summary of the bus routes serving these stops. Average frequencies have been taken from the assumed peak daytime periods.

Table 2.3: Local Bus Services

Service	Route	Weekday			Saturday		
		First Bus	Last Bus	Freq.	First Bus	Last Bus	Freq.
33	Hammersmith – Barnes – Richmond - Twickenham – Fulwell	00:16	23:57	Every 8 minutes	00:16	23:57	Every 8 minutes
490	Heathrow – Feltham – Fulwell – Twickenham - Richmond	00:13	23:54	Every 12 minutes	00:14	23:53	Every 12 minutes
H22	Richmond – Twickenham – Fulwell – Whitton - Hounslow	00:24	23:44	Every 12 minutes	00:24	23:44	Every 12 minutes
N22	Piccadilly Circus – Chelsea – Richmond – Twickenham - Fulwell	00:16	23:47	*Every 30 minutes	00:07	23:47	*Every 20 minutes
R68	Kew – Richmond – Twickenham – Teddington - Hampton	00:14	23:57	Every 15 minutes	00:14	23:57	Every 15 minutes
R70	North Sheen – Richmond – Twickenham - Hampton	00:20	23:46	Every 10 minutes	00:20	23:48	Every 10 minutes

* Service doesn't run between 06:23 and 23:47

Rail Services

2.28 The closest railway station to the site is St Margarets Railway Station, approximately 750m north of the site. St Margarets Railway Station operates on the Waterloo to Windsor line. Notable destinations from that are served from the station include London Waterloo, Clapham Junction, Richmond, Twickenham, Wimbledon and Hounslow.

London Underground

2.29 Richmond Underground station is located approximately 1.7km to the northeast of the site. District Line trains originate from here, offering direct eastbound services to destinations such Ealing Broadway, Acton Town, Hammersmith, Earl's Court and Victoria.

2.30 A summary of the available services from Richmond Underground Station are provided in **Table 2.4** below.

Table 2.4: Summary of London Underground Services from Richmond Underground Station

Direction	Service Frequency (per Hour)		
	Weekday AM	Weekday PM	Weekend
Eastbound (District Line)	7	6	6

London Overground Services

2.31 A number of London Overground stations also originate from Richmond Station. Richmond forms the westernmost destination on the Richmond-Stratford branch of the London Overground system. A summary of the services available from here is provided below in **Table 2.5**.

Table 2.5: Summary of London Overground Services from Richmond Station

Direction	Service Frequency (per Hour)		
	Weekday AM	Weekday PM	Weekend
Eastbound (Richmond-Stratford Branch)	4	4	4

Personal Injury Accidents

2.32 Personal Injury Accident (PIA) data has been obtained from Transport for London for the most recently available five year period, up to July 2016. A summary of the accident data is shown below in **Table 2.6**. The raw accident data, as well as a plot of the accident data, can be found in **Appendix A**.

Table 2.6: Summary of Accident Data

Location	Severity			Total
	Slight	Serious	Fatal	
Richmond Road	3	0	0	4
Richmond Road/Montpelier Row	1	0	0	1
Richmond Road/Crown Road	2	0	0	2
Richmond Road/St Margarets Road	2	0	0	2
Richmond Road/Orleans Road	1	0	0	1
Richmond Road/Sandycoombe Road	1	0	0	1
Richmond Road/Cambridge Park	1	0	0	1
Richmond Road/St Stephen's Gardens	0	1	0	1
St Margarets Road	0	1	0	1
Total	11	2	0	13

2.33 The records show that there have been 13 accidents during this period, comprising 11 slight accidents and 2 serious accidents. There were no fatal accidents recorded during the five year period.

2.34 The first serious accident took place in July 2014 and occurred when a motorcyclist, who was travelling in a southwest direction along St Margarets Road, collided with the front of a parked car. Contributory factors cited included a failure to look properly and a failure to judge another person's path or speed.

2.35 The second serious accident took place at the Richmond Road/St Stephens Gardens junction to the northeast of the site. The accident took place as the motorcyclist was travelling in a southbound direction along the main carriageway and lost control whilst moving around the bend. Contributory factors including loss of control, exceeding the speed limit, driving carelessly and poor turn/manoeuvre were cited in relation to the accident. Road layout was also cited as a causation factor as the driver was travelling around a bend.

2.36 Both of the serious accidents that have been recorded were as a result of causes that were not due to highway conditions and could not typically be mitigated against.

2.37 Of the remaining 11 slight accidents, 3 occurred along Richmond Road. The first of these involved a car losing control whilst travelling at speed in a southwest direction along Richmond Road. A number of contributory factors were cited in relation to the accident including exceeding the speed limit, losing control and undertaking a poor turn or manoeuvre. Road layout was also cited as a causation factor as the driver was travelling around a bend.

2.38 The second slight accident along Richmond Road took place when a pedestrian attempted to cross the road, away from a designated crossing point, and stepped into the path of an oncoming car. This resulted in the car swerving to avoid the pedestrian causing the driver to lose control and leave the carriageway. Contributory factors included a failure to look properly and travelling too fast for conditions. The third accident involved a rear-end collision between a car and a bus in slow moving traffic. The main contributory factor was cited as the car following the bus too closely.

2.39 A single slight accident occurred at the Richmond Road/Montpelier Row junction. The accident took place when a car turned right into Montpelier Row and failed to notice that a motorcyclist was attempting to overtake on their offside. Contributory factors included a failure to signal, poor turn/manoeuvre and a failure to judge the other person's path or speed.

2.40 Two slight accidents were recorded at the Richmond Road/Crown Road junction to the northwest of the site. The first accident occurred when a car failed to give way to a cyclist already on the roundabout resulting in a collision. Contributory factors included the car driver disobeying give way markings and a failure to look properly. The second accident took place when a car rear-ended a goods vehicle that it believed was moving off onto the mini-roundabout.

2.41 A further two slight accidents took place at the Richmond Road/St Margarets Road junction to the northeast of the site. The first of these took place when a car disobeyed a red traffic light and collided with a child who was using the crossing point. Contributory factors included disobeying an automatic traffic signal and a failure to look properly. The remaining accident occurred as a cyclist was moving off at the signal crossing and was struck by a car attempting to change lanes. Failure to judge other person's path or speed was cited as the main contributory factor.

2.42 A single slight accident, which took place at the Richmond Road/Orleans Road junction, occurred when two cars were involved in a rear-end collision. Slippery road conditions due to the wet weather, as a well as alcohol impairment, were cited as contributory factors.

2.43 A further slight accident occurred at the Richmond Road/Sandycoombe Road junction to the north of the site. An infant on a bus fell out of their buggy as the vehicle was moving off and accelerating.

2.44 The remaining slight accident took place at the Richmond Road/Cambridge Park junction to the northeast of Marble Hill Park. It took place when a car attempted to pull into the left lane and collided with a pedal cyclist overtaking on its nearside. Contributory factors included the cyclist exceeding the speed limit and the car driver failing to look properly.

2.45 The accidents that have been recorded were attributed to human error with likely causes including a failure to look properly, exceeding the speed limit and loss of control. In summary, none of the accidents were as a result of causes relating to highway conditions and therefore could not typically be mitigated against.

Summary

2.46 The site has a 'good' level of public transport accessibility (PTAL 4), particularly due to its proximity to a number of frequent bus services as well as National Rail services available from St Margarets Station and both Underground and Overground services available from Richmond Station.

3 POLICY CONTEXT

National Policy

National Planning Policy Framework (NPPF)

3.1 The National Planning Policy Framework sets out the Government's planning policies for England and how these are expected to be applied.

3.2 One of the 12 core land-use principles within the NPPF includes:

"[to] actively manage patterns of growth to make the fullest possible use of public transport, walking and cycling, and focus significant development in locations which are or can be made sustainable."

3.3 Section 4 of the NPPF deals with 'Promoting sustainable transport.' Paragraph 29 states that:

"the transport systems needs to be balanced in favour of sustainable transport modes, giving people a real choice about how they travel."

3.4 Paragraph 32 sets out the transport issues which should be addressed within Development Plans and decisions. These are:

- *"the opportunities for sustainable transport modes have been taken up depending on the nature and location of the Site, to reduce the need for major transport infrastructure;*
- *safe and suitable access to the Site can be achieved for all people; and*
- *improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development. Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe."*

Regional Policy

The London Plan

3.5 The London Plan, Spatial Development Strategy for Greater London was adopted in July 2011 and has been subject to several alterations since.

3.6 The Revised Early Minor Alterations to the London Plan was published in October 2013 which aimed to ensure that the London Plan is fully consistent with NPPF. Following this, The Draft Further Alterations to the London Plan was adopted in March 2015 to address key housing and employment issues emerging from analysis of Census 2011 data. In March 2016, the Mayor published the Housing Standards and the Parking Standards Minor Alterations to the London Plan (MALPs) to form the consolidated version. From this date, these alterations are operative as formal alterations to the London Plan and form part of the development plan for London.

3.7 The London Plan sets out an integrated economic, environmental, transport and social framework for the development of London over the next 20-25 years.

3.8 One of the Mayor's six objectives for London is:

"A city where it is easy, safe and convenient for everyone to access jobs, opportunities and facilities with an efficient and effective transport system which actively encourages more walking and cycling, makes better use of the Thames and supports delivery of all the objectives of this Plan."

3.9 Policy 6.1 establishes the Mayor's strategic approach to transport. Of relevance it states that the Mayor will encourage the closer integration of transport and development by:

"a. encouraging patterns and nodes of development that reduce the need to travel, especially by car;

b. seeking to improve the capacity and accessibility of public transport, walking and cycling;

g. supporting measures that encourage shifts to more sustainable modes and appropriate demand management; and

i. promoting walking by ensuring an improved urban realm".

3.10 Within the consolidated London Plan document, the Mayor notes that transport infrastructure will: *"have a vital part to play in supporting the capital's success...The planning of transport services and the physical infrastructure they require will need to be carefully coordinated with the growth and development envisaged by this Plan" (para. 1.39).*

3.11 The Mayor states that the London Plan will have a new focus on quality of life and transport provision will play a part in this: *"ensuring Londoners in all parts of the city have adequate efficient transport networks and services, and the support for cycling and walking, to enable them to access job, social and other life opportunities while minimising any adverse impacts on the environment or quality of life"* (para. 1.44).

3.12 The Mayor's target for cycling is that it accounts for at least a five per cent modal share by 2026. Specifically, the Mayor will (Policy 6.9):

- *Identify promote and implement a network of cycle routes across London which will include Cycle Superhighways and Quietways;*
- *Continue to operate and improve the cycle hire scheme; and*
- *Fund the transformation of up to four outer London borough town centres into cycle friendly 'mini Hollands'.*
- *Among other things, development should, among other things, (Policy 6.9B):*
- *Contribute positively to an integrated cycling network for London by providing infrastructure that is safe, comfortable, attractive, coherent, direct and adaptable; and*
- *Provide links to existing and planned cycle infrastructure projects including Cycle superhighways, Quiet-ways, the Central London Grid and the 'mini-Hollands'.*

The Mayor's Transport Strategy (MTS) (2010)

3.13 The Mayor's Transport Strategy (MTS) was published in May 2010 and was developed in conjunction with the London Plan and the Economic Development Strategy as part of a strategic policy framework to support the development of London over the next 20 year period. The MTS outlines the Mayor's vision and how TfL and its partners aim to achieve this.

3.14 The Mayor's vision states that:

"London's transport system should excel among those of global cities, providing access to opportunities for all its people and enterprises, achieving the highest environmental standards and leading the world in its approach to tackling urban transport challenges of the 21st Century."

3.15 The MTS sets out six goals which are designed to achieve the vision. These are as follows:

- Support economic development and population growth

- Enhance the quality of life of all Londoners
- Improve the safety and security of all Londoners
- Improve transport opportunities for all Londoners
- Reduce transport's contribution to climate change, and improve its resilience
- Support delivery of the London 2012 Olympic and Paralympic Games and its legacy

3.16 The MTS stresses the importance of integrating development with transport infrastructure and locating development in areas that are highly accessible to sustainable travel modes.

Local Policy

London Borough of Richmond upon Thames Core Strategy

3.17 The LBRT Core Strategy sets out the long term spatial visions and strategic objectives for future development in the area.

3.18 Policies relating to transport are detailed in Core Strategy Policy CP5, Sustainable Travel. Policy CP5 seeks to:

- *Protect and enhance local facilities and employment to reduce the need to travel.*
- *Require developments which would generate significant amounts of travel to be located on sites well served by public transport.*

London Borough of Richmond upon Thames Development Management Plan (DMP)

3.19 The DMP was adopted in November 2011 and contains detailed policies to be used when considering future development in the borough. The policies take forward the strategic objectives set out in the Core Strategy.

3.20 The Development Management policies for transport and parking are designed to take forward Core Policy 5 of the Core Strategy, which seeks to promote the use of sustainable modes of travel. Those relevant to the site are listed below.

3.21 **Policy DM TP 3** - 'Enhancing Transport Links.' Policy DM TP 3 states that all new development must be designed to improve accessibility. Developments should maximise permeability, with safe, convenient, accessible and appropriate road, cycle and pedestrian

routes, both within and within the immediate vicinity of the site. Appropriate links should also be provided to public transport nodes and key land uses.

3.22 **Policy DM TP 6** - 'Walking and the Pedestrian Environment' states that "*the Council will ensure that development protects, maintains and, where appropriate, improves the existing pedestrian infrastructure. Development should not adversely impact in the pedestrian environment and should provide appropriate pedestrian access*."

3.23 **Policy DM TP 7** 'Cycling' states that the Council will ensure that development does not adversely impact on the cycling network or cyclists and provides appropriate cycle access and sufficient, secure cycle parking facilities

London Borough of Richmond upon Thames Local Plan Review

3.24 The borough is currently preparing a new Local Plan, which will eventually replace the existing policies contained within the Core Strategy and the Development Management Plan. The Plan will set out policies and guidance for the development of the borough over the next 15 years. It is hoped that the Local Plan will be adopted by spring 2018.

Summary

3.25 The development proposals accord with policy requirements. As set out in detail in this report, the site is located in an accessible location for ease of access by walking, cycling and public transport. This supports national, regional and local governmental aspirations for encouraging sustainable travel behaviour.

4 DEVELOPMENT PROPOSALS

4.1 This section of the report describes the development proposals, including details of access, parking and servicing.

The Development

4.2 It is proposed to undertaken the following works at Marble Hill Park:

- refurbishment and extension of the existing café;
- installation of a lift and new interpretation to Marble Hill House;
- altering the opening hours of Marble Hill House from 2 days per week to 5 days per week and removing entry charges to the house; and
- improving the quality of the sports facilities.

Coach House Café

4.3 The Coach House café currently provides a combined total of approximately 30 covers, both internally and externally. As part of the proposals to provide an enhanced offer at the Coach House café, up to 60 covers will be provided internally and a further 80 covers will be provided externally. Currently the café opens 7 days a week between 10:00-16:00 in winter and 10:00 to 17:00. The new café will also be open 7 days a week between 08:00 to 18:00 during main season and 08:00 to 16:00 during winter season.

Marble Hill House

4.4 The existing Marble Hill House attraction is currently open by guided tour only on Saturdays and Sundays from March to October. At all other times the attraction is closed to visitors. As part of the proposals, the opening hours will be altered to 10am to 6pm, 5 days per week from March to November, with the exception of two half-term weeks in October and February respectively.

Sports Facilities

4.5 The development proposals will also include improvements to the existing sports facilities provided within Marble Hill Park – both in terms of upgrading the changing facilities and increasing the quality of the sports pitches. It should be noted that no additional facilities will be provided and so at peak times, there will be no increase in useage, but the improved

quality of the sports pitches will mean that it is possible to increase the usage of the pitches over the course of any week through more intensive use than is currently possible.

Annual Events

4.6 Separate large annual events, such as the House Festival, are at Marble Hill Park and operate under separate planning permissions and, as such, do not form part of this assessment.

Site Access

4.7 Both of the existing priority junction accesses via Richmond Road to the north of the site will be retained. No amendments to either of the existing junction arrangements are proposed.

Car Parking

4.8 The car parking provision is proposed to remain as existing. A total of 76 parking spaces, including 3 disabled parking bays will continue to be provided. The car park will continue to operate a 'Pay & Display' system, the costs of which were discussed previously within **Section 2** of this report.

Coach Parking

4.9 It is expected that a small proportion of visitors to Marble Hill Park will arrive via coach. As such, a suitable pick-up/drop-off location within close proximity to the site has been identified and will need to be agreed with the local planning authority. A location on Richmond Road, approximately 10m to the east of its junction with Montpelier Row, has been identified as being potentially suitable for this purpose. The location of this is shown in **Figure 5**.

Delivery and Servicing

4.10 The secondary access, located towards the northwest of the site and accessed via Richmond Road, will be retained for delivery and servicing purposes only. This is the current arrangement and allows direct access from Richmond Road onto the internal Marble Hill Park access road leading towards the Coach House café and Marble Hill House. The access is signed as 'No Entry' from Richmond Road and is not available for use by visitors to Marble Hill Park. Access for service vehicles will continue to be via prior appointment as at present and as such will be restricted to set times.

5 EFFECT OF THE DEVELOPMENT PROPOSALS

Introduction

5.1 This section will provide details of the methodology used to quantify the effects of the proposed development.

Existing Visitor Numbers

5.2 It is understood that Marble Hill Park currently attracts 695,000 annual visitors. In June 2015, English Heritage commissioned a number of survey counts to establish the number of daily visitors to the park. Cameras were placed at each of the six pedestrian access points and the main vehicle access. The number of people and vehicles entering and exiting the park were then counted for a two full days; Saturday 20th June and Monday 22nd June 2015.

5.3 These dates represented normal operating conditions for both a weekend and a weekday. The weather on the day of the surveys was fair and generally representative of early summer. The raw data showed that, on Saturday 20th, a total of 3,072 people entered the park whilst a total of 2,137 people arrived on Monday 22nd.

5.4 These daily totals were then used to estimate the total visitor numbers for the month of June. This was achieved by calculating the average number of weekdays and weekends in June and multiplying the figures by the recorded totals. This calculation placed the estimate for the total number of visitors to Marble Hill Park in June 2015 at 73,126. The calculations are shown in **Table 5.1** below.

Table 5.1: Marble Hill Baseline Month Based on June 2015 Survey Data

Average days in a month	30.42
Average weeks in a month	4.35
Average number weekends in a month	8.69
Average number weekdays in a month	21.73
Weekend visitor numbers per day	3,072
Weekday visitor numbers per day	2,137
Total number visitors in June weekends	26,697
Total number visitors in June weekdays	46,429
Estimated monthly total	73,126

5.5 Taking June as a baseline month, an annual figure was estimated by looking at the recorded visitation numbers to three other London Parks: Bushy Park, Primrose Hill and Greenwich

Park. Using June as the baseline in each park, the percentage change between each month was calculated. The mean average of the recorded changes was then calculated for each month. Further details on the calculations are contained at **Appendix B**. The resulting monthly profile of visitors to Marble Hill House is shown in **Table 5.2** below.

Table 5.2: Estimated Annual Visitation to Marble Hill Park by Month

Month	Average % Change Compared to June	Marble Hill Count Using Average Change
January	42%	30,713
February	79%	57,770
March	51%	37,294
April	76%	55,576
May	88%	64,351
June	100%	73,126
July	120%	87,751
August	166%	121,389
September	105%	76,782
October	52%	38,026
November	38%	27,788
December	29%	21,207
Total		**691,772**

5.6 In addition to the estimated 691,772 Marble Hill Park visitors shown in **Table 5.2**, approximately 2,900 visitors to Marble Hill House itself are also recorded annually. Therefore, the total number of visitors to Marble Hill Park is considered to be 694,672. For the purposes of the remainder of this assessment, this figure has been rounded up to 695,000.

Future Visitor Numbers

5.7 In order to derive estimates for future visitor numbers, data for comparative UK park sites has been used. The full methodology for calculating future visitor numbers has been produced by Jura Consultants Ltd and is contained at **Appendix C**.

5.8 **Table 5.3** below shows the anticipated number of annual visitors to both Marble Hill Park and Marble Hill House. Further details on the numbers contained within the table are provided below the table.

Table 5.3: Marble Hill Park and House Annual Visitor Numbers

Year	Park High Season	Park Low Season	Total Park Visitors	House Visitors (% of High Season)	Daily House Visitors
2016/2017	463,333	231,667	695,000	2,940	47*
2017/2018	421,212	210,606	631,818	2,940	47*
2018/2019	421,212	210,606	631,818	22,565	148
2019/2020	537,467	268,733	806,200	67,183	442
2020/2021	528,200	264,100	792,300	52,820	348
2021/2022	518,933	259,467	778,400	51,893	341
2022/2023	509,667	254,833	764,500	50,967	335
2023/2024	519,860	259,930	779,790	51,986	342
2024/2025	530,257	265,129	795,386	53,026	349
2025/2026	540,863	270,431	811,294	54,086	356

*Based on 2016 opening dates (25/03/16 – 30/10/16, weekends only): 63 days

5.9 Whilst there is a previous understanding of visitor numbers from 2015, detailed patterns of previous visits are not available. An assumption has therefore been made that the high season (6 months) achieves two thirds of total visitor numbers, with the remaining one third visiting in the low season (6 months).

5.10 The house will be open for an approximate 7 month period from April until October for 5 days each week, resulting in a total of 152 days open. It has been deemed robust to base visitors to the house on the high season visitors to the park. The year-on-year visitor numbers, to both the park and the house, have then been calculated as follows:

- **2017/18:** Depending on when work starts on site an approximate 10% decrease in visitors is predicted for the park whilst work is carried out. It is assumed that the house will remain open and delivering guided tours whilst the capital works team are mobilised which will allow for a full season at current levels.
- **2018/19:** Whilst work is taking place further disruption to visitor numbers will be experienced and a continuation of the 10% decrease in numbers is predicted for the park. On the basis that the house reopens in August 2018 it is assumed that there will be three full months of opening with the new offer achieving visitor numbers of 22,565.
- **2019/20:** A 16% uplift on previous visitor figures signified by the first full year of the re-opening of a much improved Marble Hill Park, with a reinstated historic landscape, new facilities and the implementation of a new and innovative activity plan. There is likely to be considerable interest in the house offer and it is anticipated that there will be a

12.5% conversion from the high season park visitors to achieve approximately 67,000 visitors to the house and a total of 806,200 visitors to the Park

- **2020/21:** For the park, a 14% uplift on pre-restoration visitor figures reflects a likely drop from the first year peak of interest. Visitors to the house also make a modest reduction falling to a steady state 10% conversion from high season visitor numbers.
- **2021/22:** A 12% increase in park visitors from pre-restoration visitor figures with visitors to the house remaining at a conversion rate of 10% from park visitors.
- **2022/23:** A steady state year with visitors to the park as a 10% increase from pre-restoration visitor figures.
- **2023/24 onwards:** A 1% increase in visitors to the park for each subsequent year.

Trip Generation

Marble Hill Park and Marble Hill House

5.11 In order to quantify the impact of altering the opening hours of the Marble Hill House attraction, a trip generation assessment has been undertaken. The daily future visitor numbers, for both the park and the house, are presented below in **Table 5.4** and have formed the basis of this assessment.

5.12 In order to ensure that the visitors to the house are not double-counted, in Table 5.4 shown below, the projected visitor numbers to the House contained in the Business Plan have been subtracted from the 'Annual Park High Season Visitor Numbers' contained in the Business Plan which do include House visitors . With regards to the house, the same assumptions have been used before; the attraction is open for 63 days in 2018/19 and 152 days from 2019/20 onwards. The daily park visitors have been calculated on the assumption that the high season lasts for 6 months (183 days).

Table 5.4: Visitors to Marble Hill Park Only and Marble Hill House (Annual and Daily)

Year	Annual Park (only) High Season Visitors	Daily Park (only)Visitors	Annual House Visitors	Daily House Visitors
2016/2017	460,393	2,523	2,940	47
2017/2018	418,272	2,292	2,940	47
2018/2019	398,647	2,184	22,565	148
2019/2020	470,283	2,577	67,183	442
2020/2021	475,380	2,605	52,820	348
2021/2022	467,040	2,559	51,893	341
2022/2023	458,700	2,513	50,967	335
2023/2024	467,874	2,564	51,986	342
2024/2025	477,232	2,615	53,026	349
2025/2026	486,776	2,667	54,086	356

5.13 Using the previous survey data analysis (shown in **Appendix B**), it has been possible to derive a split between pedestrians and car drivers. Of the total weekday and weekend visitor counts undertaken in June 2015, 650 people arrived by car out of a total of 5,209 total visitors. This represents a car driver proportion of 12.5% for the existing uses.

5.14 This proportion has been applied to the 'Daily Park Visitors' numbers shown above as it is anticipated that the proportion of trips to Marble Hill Park and 'pre-improvements' Marble Hill House (i.e. 2016/2017 and 2017/2018) will remain the same as existing. In order to be robust in assessing the improved offer at the Marble Hill House attraction (from 2019 onwards), a car driver proportion of 50% has been assumed for robustness (4 times the existing proportion). This is considered an over-estimate of the likely proportion of trips undertaken by car but allows for a robust assessment.

5.15 As the numbers shown above in **Table 5.4** only indicate the number of people that are likely to arrive by car, rather than number of vehicles, a car occupancy rate of 1.5 people per car has been assumed. This is also considered to be a robust estimate as people are considered likely to visit an attraction such as Marble Hill House with at least one additional passenger (i.e. car occupancy rate of 2 people per vehicle).

5.16 Applying the above assumptions to the daily visitor trips shown in **Table 5.4**, **Table 5.5** outlines the quantum of future trips that could be undertaken to Marble Hill Park and Marble Hill House via car on a daily basis.

Table 5.5: Daily Vehicle Trip Generation

Year	Marble Hill Park		Marble Hill House		Total	
	Arrivals via Car	Total Vehicles	Arrivals via Car	Total Vehicles	Arrivals via Car	Total Vehicles
2016/2017	303	202	6	4	308	206
2017/2018	275	183	6	4	281	187
2018/2019	262	175	74	49	336	224
2019/2020	309	206	221	147	530	353
2020/2021	313	208	174	116	486	324
2021/2022	307	205	171	114	478	319
2022/2023	302	201	168	112	469	313
2023/2024	308	205	171	114	479	319
2024/2025	314	209	174	116	488	325
2025/2026	320	213	178	119	498	332

5.17 It can be seen from **Table 5.5** that the maximum number of daily vehicle arrivals is likely to be 353 in 2019/2020. This is accordance with the earlier assumptions that there is likely to be considerable interest in the improved Marble Hill House offer in the opening year, with visitor numbers reducing slightly in subsequent years.

5.18 Using the maximum value of 353 total vehicle arrivals in a day, it has been possible to undertake a parking accumulation exercise. In order to do this, a parking profile has been derived from the June 2015 survey data which provides a breakdown of vehicle arrivals and departures at the Marble Hill Park car park by hour. The raw data is contained at **Appendix D**. The parking profile and subsequent accumulation are shown below in **Table 5.6**.

Table 5.6: Parking Accumulation

Time	Arrivals (%)	Departures (%)	Arrivals	Departures	Accumulation	Occupancy (%)
06:00	0%	0%	0	1	0*	0%
07:00	3%	1%	10	3	6	8%
08:00	10%	4%	34	13	28	37%
09:00	16%	13%	57	45	39	52%
10:00	7%	8%	26	30	36	47%
11:00	15%	15%	54	52	37	49%
12:00	11%	12%	37	43	32	42%
13:00	11%	8%	40	30	42	55%
14:00	4%	4%	14	16	40	53%
15:00	4%	6%	15	23	33	43%
16:00	4%	6%	12	21	24	31%
17:00	5%	4%	19	16	27	36%
18:00	3%	4%	11	14	24	32%
19:00	5%	8%	19	27	17	22%
20:00	1%	6%	4	20	1	1%
Total	100%	100%	353	353	-	-

*Starting occupancy of 1 vehicle has been assumed.

5.19 It can be seen from **Table 5.6** above that the maximum parking occupancy, as a result of the Marble Hill House improvements, would be 42 vehicles; a 55% occupancy rate based on the existing provision of 76 car parking spaces. This would leave a minimum of 34 vacant parking spaces throughout the day.

Coach House Café

5.20 The Coach House café currently provides a combined total of approximately 30 covers, both internally and externally. As part of the proposals to provide an enhanced offer at the Coach House café, up to 60 covers will be provided internally and a further 80 covers will be provided externally.

5.21 It is hoped that Marble Hill Café will be of sufficiently high quality that it will become a "Destination Café". This means that it does represent an additional incentive to visit Marble Hill and contribute to the growth in visitor numbers which are projected for this project (listed in section 5.10 of this report). However, it will almost certainly be the case that the vast majority of café users will be repeat visitors who live locally and therefore walk to Marble Hill. For everyone else, it is considered likely that the café will continue to operate as an ancillary offer to the wider attraction of Marble Hill Park. Visitors are therefore unlikely to

make a dedicated trip by car just to visit the Coach House café; as a result, the proposed improvements at the Coach House café would generate only a small number of additional vehicle trips to Marble Hill.

5.22 As noted above, additional trips to the café are included in the projected visitor numbers set out in the tables above.

Sports Facilities

5.23 The development proposals will also include improvements to the existing sports facilities provided within Marble Hill Park. However, no additional facilities or pitch space will be provided.

5.24 The existing facilities will have a finite capacity for users at any given time and, due to the fact that no additional facilities will be provided, it is expected that this finite capacity will remain the same following the implementation of the improvements.

5.25 However, the proposals may result in an increased number of sports matches taking place in a given week due to the same number of sports pitches being used more intensively, As such, it is considered that whilst this increased concentration of use may result in additional vehicle trips to Marble Hill, these would not add to the existing peak levels of usage (on weekends) but would instead take place at times when lower levels of vehicle trips were taking place to and from Marble Hill.

5.26 Again, any increase in pitch usage is included in the projected visitor numbers.

Summary

5.27 A robust assessment has been undertaken of the potential trip generation of Marble Hill Park following the alterations to the opening hours of the Marble Hill House attraction. This assessment demonstrates that, although there will be a minor increase in vehicle trips when compared with the existing baseline, the existing car parking provision will be suitable to accommodate this additional demand with reserve capacity.

5.28 Therefore, the proposed development will not result in a material impact on the surrounding highway network in terms of either vehicle trips or parking demand.

6 SUMMARY AND CONCLUSIONS

6.1 Vectos has been appointed by English Heritage to advise on transport issues related to planning application for proposals at Marble Hill Park within the London Borough of Richmond upon Thames.

6.2 Marble Hill Park is situated to the south of St Margarets and is bordered by Richmond Road to the north and the River Thames to the south. The site is set in 26.7 hectares of parkland known as Marble Hill Park, within which Marble Hill House is situated. Also within the grounds are leisure facilities, including numerous sports pitches, a nursery/playground area and the Coach House café.

6.3 It is proposed to undertake a number of improvements and refurbishment works at Marble Hill Park inclusive of extending the existing Coach House café, installing a new interpretation at Marble Hill House, altering the opening hours of Marble Hill House and improving the sports facilities.

6.4 The site has a 'good' level of public transport accessibility (PTAL 4), particularly due to its proximity to a number of frequent bus services as well as National Rail services available from St Margarets Station and both Underground and Overground services available from Richmond Station.

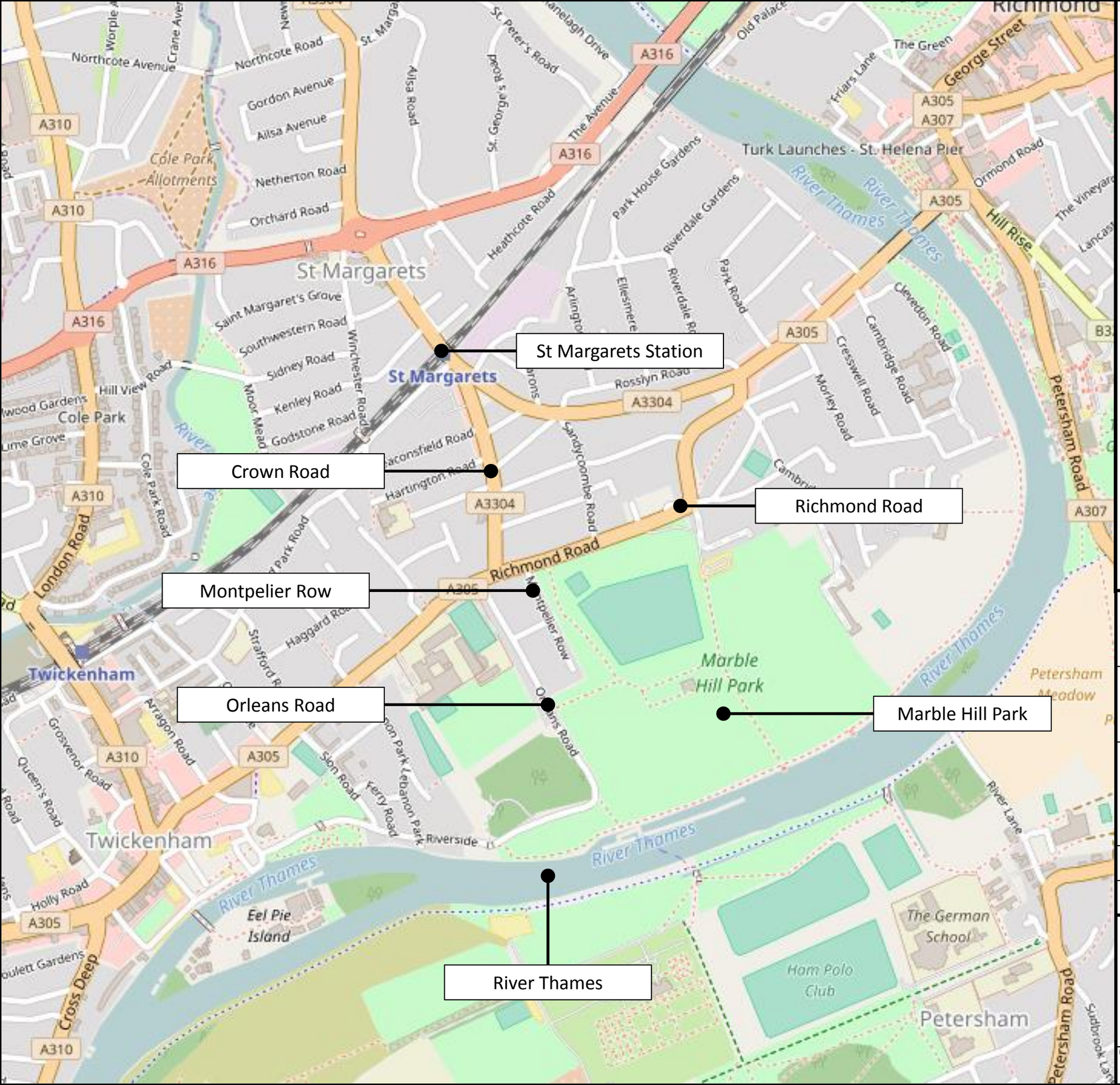
6.5 The car parking provision is proposed to remain as existing with a total of 76 parking spaces, including 3 disabled parking bays. The car park will continue to operate a 'Pay & Display' system.

6.6 A robust assessment has been undertaken of the potential trip generation of Marble Hill Park following the alterations to the opening hours of the Marble Hill House attraction. This assessment demonstrates that, although there will be a minor increase in vehicle trips when compared with the existing baseline, the existing car parking provision will be suitable to accommodate this additional demand with reserve capacity.

6.7 Therefore, the proposed development will not result in a material impact on the surrounding highway network in terms of either vehicle trips or parking demand.

6.8 In conclusion, it is considered that the proposed development is acceptable in transport and traffic terms.

FIGURES



Key

English Heritage

Marble Hill Park

Site Location Plan
(Strategic Context)

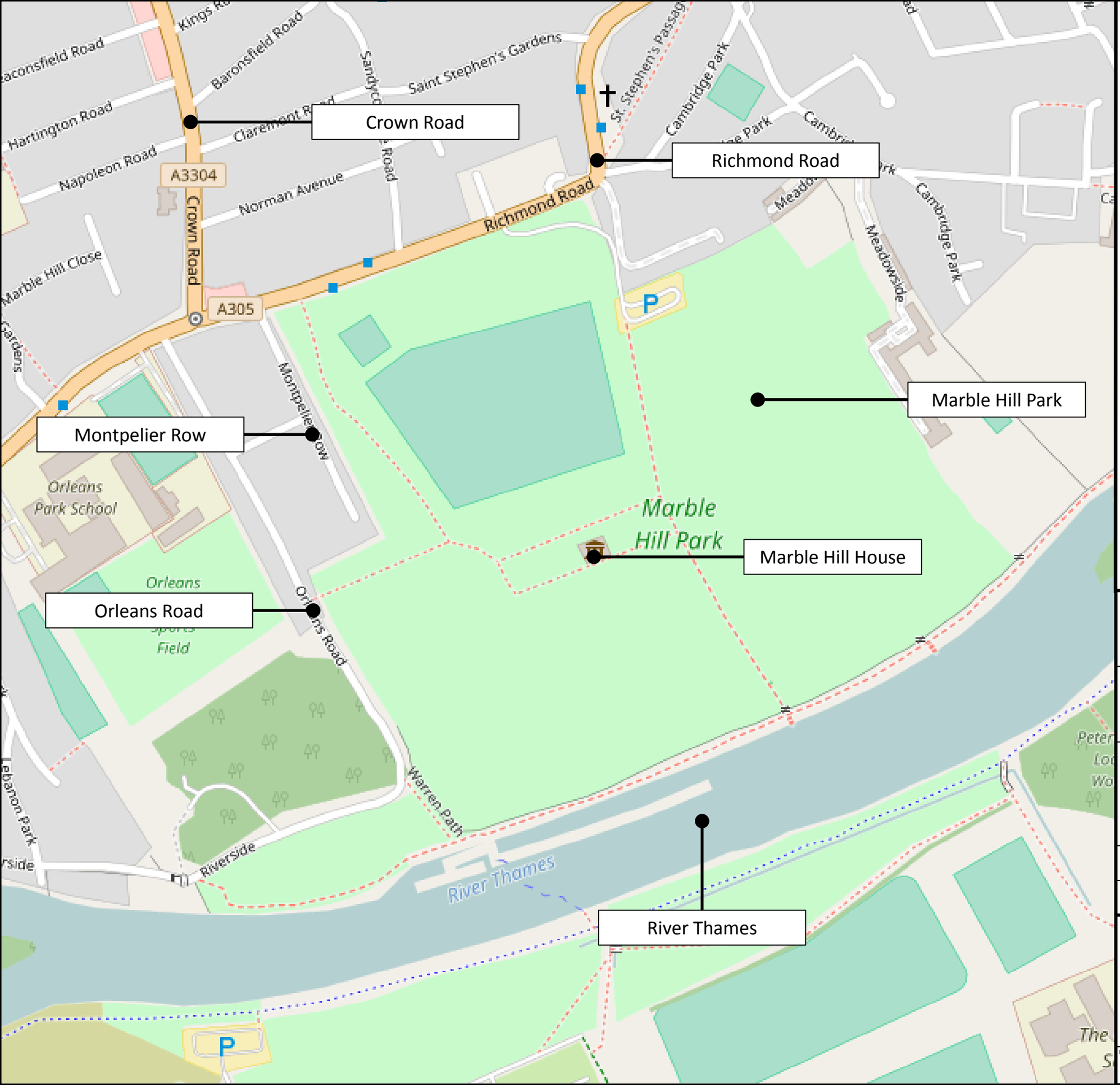
SCALES:	NTS		
DRAWN:	CHECKED:	DATE:	REVISION: ·

vectos
transport planning specialists

Network Building, 97 Tottenham Court Road, London W1T 4TP
Tel: 020 7580 7373 Email: london@vectos.co.uk www.vectos.co.uk

DRAWING REFERENCE:

Figure 1



Key

English Heritage

Marble Hill Park

Site Location Plan
(Local Context)

SCALES:	NTS		
DRAWN:	CHECKED:	DATE:	REVISION:
			.

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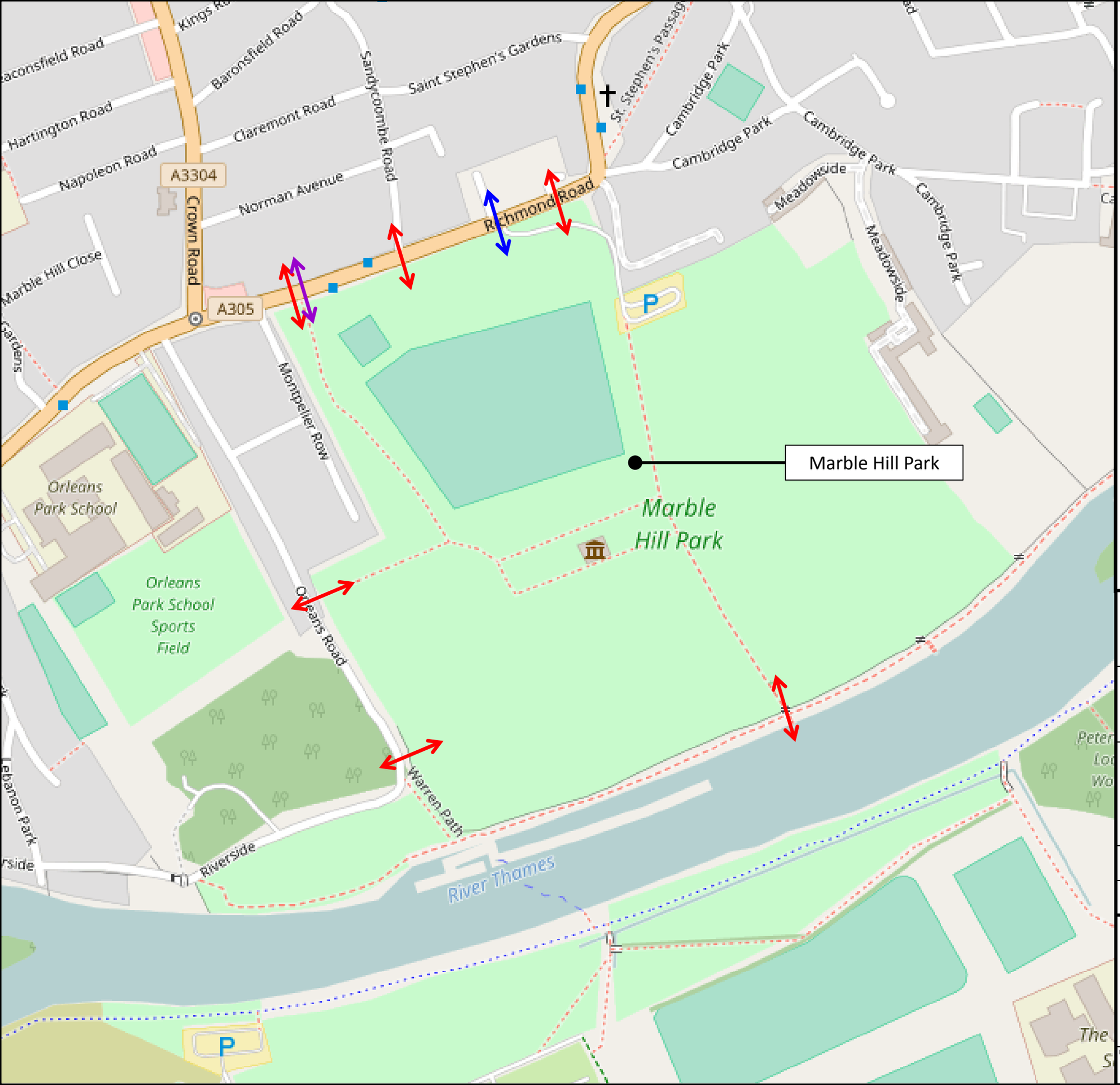
DRAWING REFERENCE:

Figure 2



Key

Pedestrian/Cyclist Access Points

Primary Vehicle Access

Secondary (Limited) Vehicle Access

English Heritage

Marble Hill Park

Site Access Locations

SCALES:	NTS		
DRAWN:	CHECKED:	DATE:	REVISION:
			.

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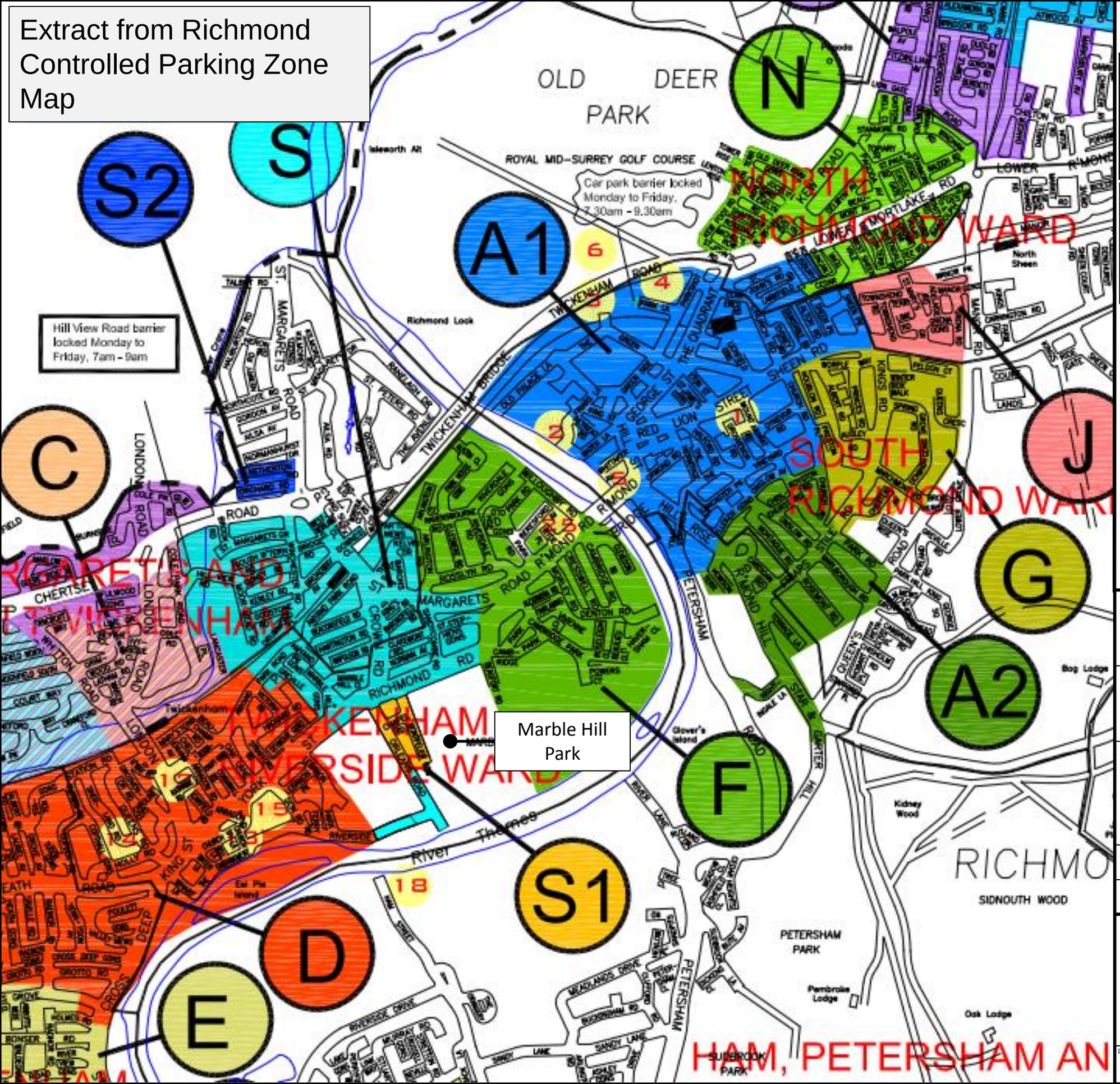
DRAWING REFERENCE:

Figure 3

Extract from Richmond Controlled Parking Zone Map



Key

S	ST MARGARETS SOUTH				Implemented Feb 1997
Operational Days	Monday to Friday				
Operational Hours	10.00am to 4.30pm				
Base Price for Resident parking Permits	3 Months £24	6 Months £40	12 Months £68	24 Months n/a	
Base price for business parking permits (3 months)	First Permit £54	Subsequent permits (resident or business) subject to 50% additional charge			
On-street parking (standard charge)	20 pence for 12 minutes	Equivalent hourly rate £1.00 per hour	Maximum stay (varies in Zone) 2 Hrs	4 Hrs	6.5 Hrs

S1	ORLEANS				Implemented June 2009
Operational Days	Monday to Friday (+ Saturday and Sunday, April to October)				
Operational Hours	10.00am to 4.30pm (see note 5)				
Base Price for Resident parking Permits	3 Months £24	6 Months £40	12 Months £68	24 Months n/a	
Base price for business parking permits (3 months)	First Permit £54	Subsequent permits (resident or business) subject to 50% additional charge			
On-street parking (standard charge)	n/a	Equivalent hourly rate n/a	Maximum stay (varies in Zone)		

English Heritage

Marble Hill Park

LB Richmond-upon-Thames Controlled Parking Zones

SCALES: NTS

DRAWN:	CHECKED:	DATE:	REVISION:
			-

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DRAWING REFERENCE: Figure 4

Key

Proposed Coach Pick-up/Drop-off Location

English Heritage

Marble Hill Park

Proposed Coach Pick-up/Drop-off Location

SCALES: NTS

DRAWN:	CHECKED:	DATE:	REVISION:
			.

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DRAWING REFERENCE: Figure 5

APPENDIX A

St Margarets area - personal injury collisions - 5 years to 31 July 2016 (provisional)

Summary of Accidents Selected

Site Reference and Description (zero accident counts shown in bold)	Date Period	Accidents
SC01 GIS AREA B24 St Margarets Area (P)	60 MTS TO JUL-2016	13

The description of how the accident occurred and the contributory factors are the reporting officer's opinion at the time of reporting and may not be the result of extensive investigation

St Margarets area - personal injury collisions - 5 years to 31 July 2016 (provisional)

SC01 GIS AREA B24 St Margarets Area (P) — 60 MTS TO JUL-2016 SORTED BY DATE

1 0111TW60272 SAT 10/09/11 01:34 DARK RICHMOND ROAD 38M SOUTH WEST J/W CAMBRIDGE PARK 24 LINK 137-147 517350 / 174150

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M

V1 POSSIBLY TRAVELLING @ SPEED LOST CONTROL ON BEND IN ROAD MOUNTED THE KERB & HIT A GARDENS WALL

CASUALTY 001 (001) (29 Yrs - M TW14) SLIGHT PASSENGER FRONT SEAT

CASUALTY 002 (001) (28 Yrs - F TW13) SLIGHT PASSENGER BACK SEAT

VEHICLE 001 (000) CAR (32 Yrs - M TW14) GOING AHEAD RIGHT BEND N TO SW
BT - NEGATIVE SKIDDED FRONT HIT FIRST
LEFT CWY NEARSIDE HIT KERB HIT OTH OBJECT

V001 A 108 (ROAD LAYOUT (EG BEND, HILL, NARROW CARRIAGEWAY))
V001 B 306 (EXCEEDING SPEED LIMIT)
V001 A 405 (FAILED TO LOOK PROPERLY)
V001 A 410 (LOSS OF CONTROL)

---

2 0111TW60314 THU 13/10/11 13:45 LIGHT RICHMOND ROAD J/W MONTPELIER ROW 24 LINK 137-147 516970 / 173840

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M

V1 TURNED RIGHT WITHOUT INDICATING & COLLIDED WITH V2 WHO WAS OVERTAKING ON OFFSIDE IN V1'S BLIND SPOT

CASUALTY 001 (002) (29 Yrs - M UB3) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (78 Yrs - M TW1) TURNING RIGHT SW TO SE JCT MID
BT - NEGATIVE O/S HIT FIRST

VEHICLE 002 (001) M/C 50-125CC (29 Yrs - M UB3) OVERTAKE MOVE VEH O/S SW TO NE JCT MID
BT - NEGATIVE FRONT HIT FIRST

V001 A 403 (POOR TURN OR MANOEUVRE)
V001 A 404 (FAILED TO SIGNAL/ MISLEADING SIGNAL)
V001 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)
V001 A 710 (VISION AFFECTED - VEHICLE BLIND SPOT)

---

3 0112TW60208 THU 14/06/12 15:45 LIGHT RICHMOND ROAD 42M SW OF J/W SANDYCOOMBE ROAD 24 LINK 137-147 517070 / 173880

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M

C1 PED CROSSED INTO PATH OF V1 CAUSING V1 TO SWERVE AND LOSE CONTROL

CASUALTY 001 (001) (82 Yrs - F TW1) SLIGHT PEDESTRIAN CROSSING ROAD (NOT ON XING) SE BOUND FROM DRIVERS N/SIDE

VEHICLE 001 (000) CAR (32 Yrs - M TW2) GOING AHEAD OTHER SW TO NE
BT - NOT REQUESTED N/S HIT FIRST

V001 A 409 (SWERVED)
V001 A 307 (TRAVELLING TOO FAST FOR CONDITIONS)
V001 A 405 (FAILED TO LOOK PROPERLY)
C001 A 802 (FAILED TO LOOK PROPERLY)
C001 A 808 (CARELESS/RECKLESS/IN A HURRY)

St Margarets area - personal injury collisions - 5 years to 31 July 2016 (provisional)

SC01 GIS AREA B24 St Margarets Area (P) — 60 MTS TO JUL-2016 SORTED BY DATE

4 0112TW60215 WED 27/06/12 13:00 LIGHT RICHMOND RD J/W CROWN RD 24 NODE 137 516920 / 173830
POLICE - AT SCENE ROAD-DRY WEATHER-FINE ROUNDABOUT MINI GIVE WAY/UNCONT NO XING FACILITY IN 50M
V2 DID NOT GIVE WAY AND HIT V1

CASUALTY 001 (001) (43 Yrs - M TW1) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) PEDAL CYCLE (43 Yrs - M TW1) TURNING RIGHT N TO W JCT MID
BT - NOT APPLICABLE FRONT HIT FIRST

VEHICLE 002 (001) CAR (63 Yrs - M ME16) GOING AHEAD OTHER E TO W JCT MID
BT - NEGATIVE O/S HIT FIRST

V002 A 302 (DISOBEYED GIVE WAY OR STOP SIGN OR MARKINGS) V002 A 405 (FAILED TO LOOK PROPERLY)

---

5 0112TW60232 TUE 10/07/12 19:20 LIGHT ST MARGARET'S ROAD J/W RICHMOND ROAD 24 NODE 147 517390 / 174220
POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY CROSSROADS AUTO SIG PEDN PHASE AT ATS
V1 DISOBEYED RED ATS AND COLLIDED WITH CHILD WHO WAS CROSSING THE ROAD. 6

CASUALTY 001 (001) (4 Yrs - F TW1) SLIGHT PEDESTRIAN CROSSING ROAD ON PED XING NW BOUND FROM DRIVERS N/SIDE

VEHICLE 001 (000) CAR (43 Yrs - M TW1) MOVING OFF NE TO SW COMM TO/FROM WORK JCT MID
BT - DRV NOT CONTACTED FRONT HIT FIRST

V001 A 301 (DISOBEYED AUTOMATIC TRAFFIC SIGNAL) V001 A 402 (JUNCTION RESTART)
V001 A 510 (DISTRACTION OUTSIDE VEHICLE) V001 A 405 (FAILED TO LOOK PROPERLY)

---

6 0113TW60070 MON 04/03/13 14:30 LIGHT RICHMOND ROAD 20M EAST J/W CROWN ROAD 24 NODE 137 516940 / 173830
POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M
V1 RAN INTO REAR OF V2 IN SLOW MOVING TRAFFIC

CASUALTY 001 (002) (31 Yrs - M TW3) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (? Yrs - M TW8) GOING AHEAD OTHER NE TO SW JCT APP
BT - DRV NOT CONTACTED FRONT HIT FIRST

VEHICLE 002 (001) BUS/COACH (31 Yrs - M TW3) GOING AHEAD OTHER NE TO SW JCT APP
BT - NOT REQUESTED BACK HIT FIRST

V001 A 308 (FOLLOWING TOO CLOSE) V001 A 405 (FAILED TO LOOK PROPERLY)
V001 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

St Margarets area - personal injury collisions - 5 years to 31 July 2016 (provisional)

SC01 GIS AREA B24 St Margarets Area (P) — 60 MTS TO JUL-2016 SORTED BY DATE

7 0113TW60381 FRI 11/10/13 21:10 DARK RICHMOND ROAD J/W ST MARGARET'S ROAD 24 NODE 147 517370 / 174220

POLICE - OVER COU ROAD-DRY WEATHER-FINE SINGLE CWY CROSSROADS AUTO SIG PEDN PHASE AT ATS

V1 BORE TO LEFT MOVING OFF AT ATS; V2 INSIDE V1 CHANGED LANE WHEN ALONGSIDE V1 AND COLLIDED

CASUALTY 001 (001) (27 Yrs - M TW12) SLIGHT DRIVER/RIDER

VEHICLE	001 (002)	PEDAL CYCLE (27 Yrs - M TW12) BT - NOT APPLICABLE	GOING AHEAD LEFT BEND	SE TO W N/S HIT FIRST	COMM TO/FROM WORK	JCT MID	
VEHICLE	002 (001)	CAR (? Yrs - F SM2) BT - DRV NOT CONTACTED	CHANGE LANE TO RIGHT	SE TO W O/S HIT FIRST		JCT MID	

V002 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)
V002 A 403 (POOR TURN OR MANOEUVRE)
V002 A 405 (FAILED TO LOOK PROPERLY)

---

8 0114TW60082 MON 24/02/14 11:01 LIGHT RICHMOND ROAD J/W CROWN ROAD 24 NODE 137 516920 / 173830

POLICE - AT SCENE ROAD-DRY WEATHER-FINE ROUNDABOUT MINI GIVE WAY/UNCONT NO XING FACILITY IN 50M

AT MINIRDABT V1 BELIEVED V2 AHEAD WAS MOVING OFF, HAD PEDAL CONFUSION AND SHUNTED V2

CASUALTY 001 (002) (43 Yrs - M SM1) SLIGHT DRIVER/RIDER

VEHICLE	001 (002)	CAR (57 Yrs - F TW1) BT - NEGATIVE	MOVING OFF	W TO E FRONT HIT FIRST		JCT MID	
VEHICLE	002 (001)	GDS =< 3.5T (43 Yrs - M SM1) BT - NOT PROVD (MEDCL REASONS)	SLOWING OR STOPPING	W TO E BACK HIT FIRST	JNY PART OF WORK	JCT MID	

---

9 0114TW60328 SUN 13/07/14 04:40 DARK NFL: ST MARGARET'S ROAD 57M W J/W ROSSLYN ROAD 24 LINK 146-147 517330 / 174208

POLICE - AT SCENE ROAD-WET WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M

SW-BD V1 ON MAIN ROAD RODE STRAIGHT INTO FRONT OF V2 PARKED ON HIS N/S

CASUALTY 001 (001) (35 Yrs - M TW7) SERIOUS DRIVER/RIDER

VEHICLE	001 (002)	M/C 50-125CC (35 Yrs - M TW7) BT - NOT PROVD (MEDCL REASONS)	GOING AHEAD OTHER HIT PARKED VEH	NE TO SW FRONT HIT FIRST			
VEHICLE	002 (001)	CAR (? Yrs - M TW1) BT - DRV NOT CONTACTED	PARKED	P TO P BACK HIT FIRST			

V001 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)
V001 A 405 (FAILED TO LOOK PROPERLY)

St Margarets area - personal injury collisions - 5 years to 31 July 2016 (provisional)

SC01 GIS AREA B24 St Margarets Area (P) — 60 MTS TO JUL-2016 SORTED BY DATE

10 0115TW60266 SAT 15/08/15 02:22 DARK RICHMOND ROAD J/W ORLEANS ROAD 24 LINK 137-677 516880 / 173810
POLICE - AT SCENE ROAD-WET RAINING ROUNDABOUT MINI GIVE WAY/UNCONT ZEBRA
NE-BD V1 STRUCK FROM BEHIND BY V2

CASUALTY 001 (002) (32 Yrs - M TW15) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (22 Yrs - M TW3) GOING AHEAD OTHER SW TO NE JCT MID
BT - POSITIVE BACK HIT FIRST

VEHICLE 002 (001) CAR (32 Yrs - M TW15) GOING AHEAD OTHER SW TO NE JCT MID
BT - DRV NOT CONTACTED FRONT HIT FIRST

V001 B 103 (SLIPPERY ROAD (DUE TO WEATHER))
V001 B 602 (CARELESS/RECKLESS/IN A HURRY)
V001 A 501 (IMPAIRED BY ALCOHOL)

---

11 0116TW60036 MON 25/01/16 11:51 LIGHT RICHMOND ROAD J/W SANDYCOOMBE ROAD 24 LINK 137-147 517130 / 173900
POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M
E/B V1 [BUS] HAD CAS1 ON BOARD FALL OUT OF BUGGY WHEN BUS MOVED

CASUALTY 001 (001) (0 Yrs - F TW2) SLIGHT PASSENGER SEATED ON PSV

VEHICLE 001 (000) BUS/COACH (30 Yrs - M UB8) GOING AHEAD OTHER SW TO NE JNY PART OF WORK JCT MID
BT - NOT REQUESTED DID NOT IMPACT
LEFT CWY NEARSIDE

V001 A 409 (SWERVED)

---

12 0116TW60199 WED 08/06/16 08:08 LIGHT RICHMOND RD J/W CAMBRIDGE PARK 24 LINK 137-147 517380 / 174190
POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY OTHER JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M
V1 PULLED TO THE LEFT AS V2 OVERTOOK ON THE N/S, CAUSING COLLISION.

CASUALTY 001 (002) (52 Yrs - F TW1) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (61 Yrs - F TW1) GOING AHEAD LEFT BEND SW TO N JCT CLEARED
BT - NEGATIVE N/S HIT FIRST

VEHICLE 002 (001) PEDAL CYCLE (52 Yrs - F TW1) OVERTAKING NEARSIDE S TO N COMM TO/FROM WORK JCT CLEARED
BT - NOT APPLICABLE O/S HIT FIRST
LEFT CWY NEARSIDE

V002 B 306 (EXCEEDING SPEED LIMIT)
V001 A 405 (FAILED TO LOOK PROPERLY)
V002 A 403 (POOR TURN OR MANOEUVRE)
V001 B 403 (POOR TURN OR MANOEUVRE)

St Margarets area - personal injury collisions - 5 years to 31 July 2016 (provisional)

SC01 GIS AREA B24 St Margarets Area (P) — 60 MTS TO JUL-2016 SORTED BY DATE

13 0116TW60269 SUN 24/07/16 01:40 DARK RICHMOND ROAD J/W ST SHEPHEN'S GARDENS 24 LINK 137-147 517290 / 174100

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M

V1 CAME ROUND BEND AT SPEED AND LOST CONTROL

CASUALTY 001 (001) (21 Yrs - M TW1) SERIOUS DRIVER/RIDER

VEHICLE 001 (000) M/C <= 50CC (21 Yrs - M TW1) GOING AHEAD LEFT BEND NE TO S JCT CLEARED
BT - NOT REQUESTED FRONT HIT FIRST
LEFT CWY OFFSIDE HIT LAMP POST

V001 A 410 (LOSS OF CONTROL)
V001 A 403 (POOR TURN OR MANOEUVRE)
V001 A 602 (CARELESS/RECKLESS/IN A HURRY)
V001 A 306 (EXCEEDING SPEED LIMIT)
V001 A 108 (ROAD LAYOUT (EG BEND, HILL, NARROW CARRIAGEWAY))

End of Accidents for SC01 GIS AREA B24 St Margarets Area (P)

End of Report

APPENDIX B

3.1 USER COUNT

It is estimated that Marble Hill currently has 694,672 annual visitors. The following summarises the methodology used to calculate this figure. The aspirations for increasing visitor numbers following completion of the project are also discussed.

Quality Traffic Surveys (QTS) were commissioned to count the number of daily visitors to Marble Hill. Cameras were placed on each of the sites seven entrances and the number of people and vehicles entering and exiting the site were counted for two full days – Saturday 20th of June and Monday 22nd of June 2015. These dates represented normal operating conditions for both a weekend and weekday. The weather on the day of the surveys was fair and generally representative of early summer. The full survey count data can be found in the raw survey data which accompanies this report. Classification data was also collected in order that an insight into the age, gender and assumed activity of the park users could be quantified.

The raw data shows that on the Saturday 3072 people entered the park. And, on the Monday the figure reduced to 2137. Approximately 44% of people entered the park from the northern boundary (Gates A-E), 15% from the Thames Tow Path (Gate H), 28% from the western boundary (Gates J&L) and 12% arrived by car.

The daily totals were then used to calculate/estimate the visitor number for the month of June. This was achieved by calculating the average number of weekdays and weekends in June and multiplying the figures by the recorded totals. This calculation provided an estimated 73,126 park users in June 2015 (see table 1).

Taking the June figure as the baseline month, an annual figure was estimated by looking at the recorded visitation numbers to three other London Parks: Bushy Park, Primrose Hill and Greenwich Park – this data was taken from Hitchcock, Curson & Parravacini 2008, VISITORS TO THE ROYAL PARKS: RESULTS OF STEADY STATE COUNT (AUGUST 2007-JULY 2008).

Using June as the baseline in each park, the percentage change between each month was calculated. The mean average of the recorded changes was then calculated for each month of the year (see table 2).

The mean average change in visitor numbers was then applied to the Marble Hill data for June and results can be seen in Table three. The calculations estimate that Marble Hill has 691,772 annual visitors.

When combined with the 2,900 recorded visitors to Marble Hill House in 2014/15 the estimated annual visitors to Marble Hill is:
694,672

Table 1 - Marble Hill baseline month based on QTS June data

Av days in a Mnth	Av Wks in a Mnth	Av no Wknd in Mnth	Av no Wkdys in Mnth	Wknd Visitor no per day	Wkdy visitors per day	Total no visitors in June Wknds	Total no visitors in June wkdys	Estimated Monthly Total
30.42	4.35	8.69	21.73	3072.00	2,137.00	26,697.14	46,428.87	**73,126**

Table 2 - Percentage change in monthly visitation were June is the baseline

Month	Bushey Park		Primrose Hill		Greenwhich		Average % Change compared to June
	Count	% Change	Count	% Change	Count	% Change	
August	180,513	112	199,180	254	560,515	130	166
September	169,584	106	96,020	123	376,964	88	105
October	80,075	50	55,667	71	156,281	36	52
November	65,563	41	33,953	43	123,578	29	38
December	58,307	36	27,383	35	71,483	17	29
January	51,444	32	54,575	70	103,293	24	42
February	73,425	46	102,194	130	264,311	61	79
March	96,683	60	55,919	71	93,159	22	51
April	116,644	72	54,295	78	243,127	77	76
May	162,718	101	69,419	89	316,247	74	88
June	160,553	100	78,345	100	430,191	100	100
July	100,079	62	125,624	160	588,720	137	120

Table 3 - Estimated annual visitation by month

Month	Marble Hill count using average change	Comment	% of Total
August	121,389		17
September	76,782		11
October	38,026		6
November	27,788		4
December	21,207		3
January	30,713		4
February	57,770		8
March	37,294		5
April	55,576		8
May	64,351		9
June	**73,126**	**Baseline Month**	**11**
July	87,751		13
TOTAL	**697,772**		**100**

Future Projections

On completion of the project in 2020 English Heritage aim to increase the number of annual visitors to Marble Hill by 16%. The figure assumes a 10% increase in the number of people using the park and an additional 84,000 visitors to the house, of which 50% are converted park users and 50% unique visitors - 694,672 X 1.10 + 42000 = **806,139 annual visitors by 2020**

Further survey work will be undertaken during the development stage to ensure the baseline visitation figures presented above are validated. This will include a further 6 survey days to test the accuracy of the calculations presented above. The annual visitor numbers and target visitation numbers will then be revised accordingly.

Classifications

The classification data collected by QTS was also used to assess how the park is used and by who. Tables 4-7 show the recorded classifications for each of the survey days, the combined totals and the monthly percentages applied to the calculated annual visitation numbers.

The figures should be viewed with some caution as the data was only captured visually. However, the figures do provide some insight into site usage at Marble Hill Park. Approximately 20% of the recorded visitors were using the park to walk their dogs and just fewer than 20% were engaged in some form of sporting related activity (running, cycling, etc). The surveys also suggest that approximately 12% of visitors arrived by car and that only 1% of the total visitors arrived with a pushchair. The latter is far lower than expected, given the local demographics (see Activity Plan). Slightly more men (53%) appear to be using the park than women and the majority (67%) of visitors aged between 20-40 years old. Lastly, only 1% of the recorded visitors are non-white.

Further data gathering is required to test the accuracy of these findings. However, it would appear that work is required to attract parents with young (under five) children that are known to live within the locality. And, that there is a clear need to try and improve the ethnic diversity of the visitors, by targeting the growing numbers of BAME residents within Richmond. This work will form part of the Activity Plan.

Table 4 - Weekend Visitation Numbers by Classification

Saturday

Gate Position	Walker	Dog	PC	Sport	0-19	20-40	40+	White	Other	Male	Female
A	465	93	6	79	174	397	71	635	7	370	273
C	24	4	0	0	10	15	3	24	3	14	14
X	60	13	1	34	28	70	10	108	0	63	45
E	332	104	7	125	183	273	112	552	16	296	272
H	270	61	3	90	32	379	13	424	0	232	192
J	416	97	0	41	126	418	11	555	0	290	265
L	173	70	2	82	69	237	21	325	3	189	137
Car Arrivals	274	67	3	76	93	290	37	416	4	229	191
Group Total	**2014**	**509**	**22**	**527**	**715**	**2079**	**278**	**3039**	**33**	**1683**	**1389**
Total Visitor Numbers		**3072**				**3072**		**3072**		**3072**	
Percentage of Total	**66**	**17**	**1**	**17**	**23**	**68**	**9**	**99**	**1**	**55**	**45**
Percentage of People arriving by car								**14**			

Table 5 - Weekday Visitation Numbers by Classification

Monday

Gate Position	Walker	Dog	PC	Sport	0-19	20-40	40+	White	Other	Male	Female
A	342	81	0	61	118	350	16	481	3	284	200
C	24	5	0	0	7	19	3	29	0	16	13
X	40	10	1	19	24	45	1	67	3	43	27
E	231	78	6	99	81	232	101	402	12	204	210
H	209	82	2	63	53	250	53	355	1	144	212
J	162	100	0	20	42	226	14	282	0	145	137
L	170	60	1	41	100	143	29	270	2	143	129
Car Arrivals	138	51	2	39	60	143	27	226	4	118	112
Group Total	**1316**	**467**	**12**	**342**	**485**	**1408**	**244**	**2112**	**25**	**1097**	**1040**
Total Visitor Numbers		**2137**				**2137**		**2137**		**2137**	
Percentage of total	**62**	**22**	**1**	**16**	**23**	**66**	**11**	**99**	**1**	**51**	**49**
Percentage of People arriving by car								**11**			

Table 6 - June Weekend & Weekday Combined Visitor Numbers by Classification

Combined

Gate Position	Walker	Dog	PC	Sport	0-19	20-40	40+	White	Other	Male	Female
A	807	174	6	140	292	747	87	1116	10	654	473
C	48	9	0	0	17	34	6	53	3	30	27
X	100	23	2	53	52	115	11	175	3	106	72
E	563	182	13	224	264	505	213	954	28	500	482
H	479	143	5	153	85	629	66	779	1	376	404
J	578	197	0	61	168	644	25	837	0	435	402
L	343	130	3	123	169	380	50	595	5	332	266
Car Arrivals	412	118	5	115	153	433	64	642	8	347	303
Group Total	**3330**	**976**	**34**	**869**	**1200**	**3487**	**522**	**5151**	**58**	**2780**	**2429**
Total Visitor Numbers		**5209**				**5209**		**5209**		**5209**	
Percentage of Total	**64**	**19**	**1**	**17**	**23**	**67**	**10**	**99**	**1**	**53**	**47**
Percentage of People arriving by car								**12**			

Table 7 - Percentages Applied to Estimated Yearly Visitor Numbers

Annual Visits	Walker	Dog	PC	Sport	0-19	20-40	40+	White	Other	Male	Female	Arriving by Car
688,847	440,862.03	130,880.91	6,888.47	117,103.98	158,434.79	461,527.44	68,884.69	681,958.45	6,888.47	365,088.87	323,758.05	82,661.63

APPENDIX C

1.0 FORECAST VISITOR NUMBERS

6.1 Introduction

In this section a forecast is made of the future visitor numbers to Marble Hill to both the park and to the house. This forecast is based upon a combination of methods using previous English Heritage research, estimates from other recently funded HLF Parks for People projects and a penetration rate analysis. The combination of approaches provides a robustness and series of checks to the likely forecast numbers.

6.2 Existing Numbers

As noted in Section Two, current visitor numbers to the park are estimated to be in the region of 695,000. Visitor numbers were estimated using a recognised market research process that established the number of daily visitors to Marble Hill. Assessments were then made of known monthly variances from other sites to produce the annual figure. Whilst the figures produced are for 2015 only, they represent an appropriate baseline from which to estimate future visitor numbers.

Visitor numbers to the house have been recorded. Since the operational changes in 2011 that allowed summer weekend guided access only, the numbers have been low. Visitor numbers are in the region of 2,900 annually.

6.3 Forecast Visitor Numbers

6.3.1 First Round HLF Application Estimates

At the time of the first round application an uplift in park visitor numbers by 10% was forecast. This resulted in an increase of 69,500 to total park visitors of 764,500. It was anticipated that this increase would be achieved through higher and more frequent levels of repeat visits amongst existing users. After the first year of opening a year on year increase of 2% was predicted that results in a figure of 806,139 annual visitors by 2020.

An estimate was made of the increase in visitors to Marble Hill House with key factors to the change in numbers outlined as follows:

- The introduction of Free Entry and Free Flow (as opposed to guided tour only)
- A significant increase in opening hours – 5 days a week April-October inclusive and weekend opening in the winter season.
- The re-presentation of the house which will as a result tell a far more engaging story than is currently the case.
- An events programme which will attract a whole new family focussed audience.

- Increased publicity about Marble Hill.

The increase in visitor numbers was then broken down as follows:

TABLE 6.1 FIRST ROUND APPLICATION HOUSE VISITOR ESTIMATES	
New Visitors Category	**Visitor Numbers**
5% conversion rate of 764,500 park users	38,225
English Heritage Members of whom 250,000 live in London	20,000
New Visitors to Marble Hill from outside area (Existing visitors to other local attractions who now choose to visit Marble Hill due to improved offer)	12,500
New Visitors to Twickenham Riverside as a direct result of new regional attractions joint publicity who choose to visit Marble Hill House	10,306
Total House Visitors	**84,000**

The resulting estimate of 84,000 house visitors is a conversion rate of 10.9% from the new increased visitor numbers to the park.

6.3.2 Comparator Site Visitor Number Estimates

As noted in the State of UK Parks report 2016, since 1996 approximately £850 million has been invested n public parks projects by the Heritage Lottery Fund and latterly with support from the Big Lottery Fund. Approximately 140 parks projects have contributed to a recent monitoring and evaluation process that has been carried out to understand the impact of the money invested. This should provide some indication of the likely increase in visitor numbers that should be expected. However one of the difficulties of interpreting any data is that it is not clear how robust the baseline data was from which reopening visitor figures are then recorded and benchmarked. As a further variable an analysis has also not been carried out on the relative impacts of closing the whole park whilst work is carried out, when compared to the impact of a phased approach to capital works where the public can continue to access the site. In addition, little information is available about the impacts of the delivery of an HLF funded Activity Plan on visitor numbers.

Overall in the United Kingdom there are relatively few parks that report their visitor numbers. Recent projects include:

- Rouken Glen on the outskirts of Glasgow reported a 21.5% uplift in numbers
- Duthie Park in Aberdeen reported a 53.3% uplift in visitor numbers
- Avenham and Millar Park near Preston recorded a 12% uplift in visitors to the park

Whilst these figures vary greatly it is generally considered valid that parks over the life of an HLF project achieve an average 10% uplift in numbers. This correlates with the estimates to follow here and those made in the first round application and listed in Section 6.3.1. Experience shows though that the first and second year of opening will show particular peaks in visitation. The forecast visitor numbers are therefore as follows:

TABLE 6.2
VISITOR NUMBERS HOUSE AND PARK

	CURRENT	HLF SUPPORTED				OPERATIONAL				
	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26
Park High Season (6 months)	463,333	421,212	421,212	537,467	528,200	518,933	509,667	519,860	530,257	540,862
Park Low Season (6 months)	231,667	210,606	210,606	268,733	264,100	259,467	254,833	259,930	265,129	270,431
Total Park Visitors	**695,000**	**631,818**	**631,818**	**806,200**	**792,300**	**778,400**	**764,500**	**779,790**	**795,386**	**811,294**
House Visitors % of High Season	2,940	2,940	22,565	67,183	52,820	51,893	50,967	51,986	53,026	54,086
Daily Rate 7 months 5 day opening	n/a	n/a	148	442	348	341	335	342	349	356

The figures in Table 6.2 are explained as follows:

- Whilst there is a previous understanding of visitor numbers from 2015, detailed patterns of previous visits are not available. An assumption is made therefore that the high season achieves two thirds of total visitor numbers, with the remaining one third visiting in the low season. The resulting total park visitors are emboldened.
- The house will be open for an approximate 7 month period from April until October for 5 days each week. This results in a total of 152 days open. At this stage of analysis it is necessary therefore to base visitors to the house on the high season visitors to the park.
- 2017/18 – depending on when work starts on site an approximate 10% decrease in visitors is predicted for the park whilst work is carried out. It is assumed that the house will remain open and delivering guided tours whilst the capital works team are mobilised which will allow for a full season at current levels.
- 2018/19 - whilst work is taking place further disruption to visitor numbers will be experience and a continuation of the 10% decrease in numbers is predicted for the park. On the basis that the house reopens in August 2018 it is assumed that there will be three full months of opening with the new offer achieving visitor numbers of 22,565.
- 2019/20 - a 16% uplift on previous visitor figures signified by the first full year of the reopening of a much improved Marble Hill Park, with a reinstated historic landscape, new facilities and the implementation of a new and innovative activity plan. There is likely to be considerable interest in the house offer and it is anticipated that there will be a 12.5% conversion from the high season park visitors to achieve approximately 67,000 visitors to the house.
- 2020/21 – for the park a 14% uplift on pre-restoration visitor figures reflects a likely drop from the first year peak of interest. Visitors to the house also make a modest reduction falling to a steady state 10% conversion from high season visitor numbers.

- 2021/22 – a 12% increase in park visitors from pre-restoration visitor figures with visitors to the house remaining at a conversion rate of 10% from park visitors.
- 2022/23 – a steady state year with visitors to the park as a 10% increase from pre-restoration visitor figures
- 2023/24 onwards – a 1% increase in visitors to the park for each subsequent year.

APPENDIX D

CLIENT: ENGLISH HERITAGE

REFERENCE NUMBER: 06112

PROJECT MANAGER: CHRIS JAMES

DATE: SAT 20TH JUNE 2015

PROJECT DESCRIPTION: VEHICLE COUNT AND FACTORED SAMPLING MARBLE HILL PARK

	MOVEMENT X (DERIVED FROM VEHICLE TRAVEL ONLY)																		VEHICLE COUNT AND OCCUPANCY									
																			MOVEMENT X									
	PURPOSE OF VISIT						GENDER		AGE RANGE			CULTURAL BACKGROUND			DISABILITY										OCCUPANCY (NUMBER OF INSTANCES FOR VEHICLES)				
	WALKER	DOG WALKER	WALKER WITH P	JOGGER	SPORTS	CYCLISTS	MALE	FEMALE	0-19	20-40	40+	WHITE	BLACK	ASIAN	WHEEL CHAIR	CRUTCHES	VIS IMPAIRED	CAR	LGV	OGV1	OGV2	PSV	MC	1	2	3	4	5+
06:00 - 06:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 - 06:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 - 06:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 - 07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
07:00 - 07:15	2	1	0	1	0	0	3	1	1	2	1	4	0	0	0	0	0	2	0	0	0	0	0	0	2	0	0	0
07:15 - 07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 - 07:45	1	2	0	3	0	0	2	4	1	4	1	6	0	0	0	0	0	3	0	0	0	0	0	0	3	0	0	0
07:45 - 08:00	2	1	0	1	0	0	2	2	2	2	0	4	0	0	0	0	0	2	0	0	0	0	0	0	2	0	0	0
TOTAL	**5**	**4**	**0**	**5**	**0**	**0**	**7**	**7**	**4**	**8**	**2**	**14**	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**0**	**0**
08:00 - 08:15	3	2	0	0	0	0	2	3	1	3	1	5	0	0	0	0	0	3	0	0	0	0	0	1	2	0	0	0
08:15 - 08:30	5	3	0	2	0	0	4	6	2	7	1	10	0	0	0	0	0	5	0	0	0	0	0	0	5	0	0	0
08:30 - 08:45	5	3	0	2	0	0	7	3	3	6	1	10	0	0	0	0	0	5	0	0	0	0	0	0	5	0	0	0
08:45 - 09:00	7	4	0	1	2	4	6	12	5	12	1	18	0	0	0	0	0	12	0	0	0	0	0	6	6	0	0	0
TOTAL	**20**	**12**	**0**	**5**	**2**	**4**	**19**	**24**	**11**	**28**	**4**	**43**	**0**	**0**	**0**	**0**	**0**	**25**	**0**	**0**	**0**	**0**	**0**	**7**	**18**	**0**	**0**	**0**
09:00 - 09:15	11	2	0	1	2	2	12	6	6	10	2	18	0	0	0	0	0	10	1	0	0	0	0	5	4	2	0	0
09:15 - 09:30	5	1	0	0	0	0	2	4	1	4	1	6	0	0	0	0	0	4	0	0	0	0	0	2	2	0	0	0
09:30 - 09:45	7	2	0	2	0	0	4	7	5	5	1	11	0	0	0	0	0	7	0	0	0	0	0	3	4	0	0	0
09:45 - 10:00	20	6	0	6	1	3	21	15	8	25	3	36	0	0	0	0	0	19	0	0	0	0	0	8	5	6	0	0
TOTAL	**43**	**11**	**0**	**9**	**3**	**5**	**39**	**32**	**20**	**44**	**7**	**71**	**0**	**0**	**0**	**0**	**0**	**40**	**1**	**0**	**0**	**0**	**0**	**18**	**15**	**8**	**0**	**0**
10:00 - 10:15	6	3	0	1	0	0	5	5	3	5	2	10	0	0	0	0	0	6	0	0	0	0	0	3	2	1	0	0
10:15 - 10:30	3	1	0	1	1	1	4	3	3	4	0	7	0	0	0	0	0	6	0	0	0	0	0	5	1	0	0	0
10:30 - 10:45	3	0	0	0	0	0	1	2	0	2	1	3	0	0	0	0	0	2	0	0	0	0	0	1	1	0	0	0
10:45 - 11:00	4	2	0	0	0	0	3	3	2	3	1	6	0	0	0	0	0	5	0	0	0	0	0	4	1	0	0	0
TOTAL	**16**	**6**	**0**	**2**	**1**	**1**	**13**	**13**	**8**	**14**	**4**	**26**	**0**	**0**	**0**	**0**	**0**	**19**	**0**	**0**	**0**	**0**	**0**	**13**	**5**	**1**	**0**	**0**
11:00 - 11:15	11	1	0	0	3	2	12	5	2	12	3	16	0	1	0	0	0	12	0	0	0	0	0	7	5	0	0	0
11:15 - 11:30	9	2	0	1	0	0	4	8	3	9	0	12	0	0	0	0	0	8	0	0	0	0	0	4	4	0	0	0
11:30 - 11:45	8	1	0	0	0	0	3	6	2	6	1	9	0	0	0	0	0	7	0	0	0	0	0	5	2	0	0	0
11:45 - 12:00	15	2	0	0	2	3	14	8	3	16	3	22	0	0	0	0	0	12	0	0	0	0	0	3	8	1	0	0
TOTAL	**43**	**6**	**0**	**1**	**5**	**5**	**33**	**27**	**10**	**43**	**7**	**59**	**0**	**1**	**0**	**0**	**0**	**39**	**0**	**0**	**0**	**0**	**0**	**19**	**19**	**1**	**0**	**0**
12:00 - 12:15	13	1	0	1	0	3	14	4	5	13	0	17	1	0	0	0	0	9	0	0	0	0	0	2	5	2	0	0
12:15 - 12:30	11	2	0	0	0	1	9	5	2	11	1	14	0	0	0	0	0	7	0	0	0	0	0	3	2	1	1	0
12:30 - 12:45	6	2	0	0	0	1	3	6	1	8	0	9	0	0	0	0	0	5	0	0	0	0	0	2	2	1	0	0
12:45 - 13:00	7	3	0	1	0	0	5	6	3	7	1	11	0	0	0	0	0	6	0	0	0	0	0	3	1	2	0	0
TOTAL	**37**	**8**	**0**	**2**	**0**	**5**	**31**	**21**	**11**	**39**	**2**	**51**	**1**	**0**	**0**	**0**	**0**	**27**	**0**	**0**	**0**	**0**	**0**	**10**	**10**	**6**	**1**	**0**
13:00 - 13:15	14	2	0	0	2	6	16	8	4	18	2	23	1	0	0	0	0	11	0	0	0	0	0	6	1	1	2	1
13:15 - 13:30	9	3	0	0	1	0	7	6	2	10	1	13	0	0	0	0	0	7	0	0	0	0	0	3	2	2	0	0
13:30 - 13:45	7	2	0	0	0	3	7	5	4	8	0	12	0	0	0	0	0	8	0	0	0	0	0	5	2	1	0	0
13:45 - 14:00	5	0	0	0	0	0	1	4	2	2	1	5	0	0	0	0	0	3	0	0	0	0	0	1	2	0	0	0
TOTAL	**35**	**7**	**0**	**0**	**3**	**9**	**31**	**23**	**12**	**38**	**4**	**53**	**1**	**0**	**0**	**0**	**0**	**29**	**0**	**0**	**0**	**0**	**0**	**15**	**7**	**4**	**2**	**1**
14:00 - 14:15	1	1	0	0	0	0	1	1	1	1	0	2	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0
14:15 - 14:30	2	1	0	0	1	0	2	2	0	3	1	4	0	0	0	0	0	3	0	0	0	0	0	2	1	0	0	0
14:30 - 14:45	3	0	0	0	0	1	2	2	0	4	0	4	0	0	0	0	0	2	0	0	0	0	0	0	2	0	0	0
14:45 - 15:00	3	0	1	0	0	0	2	2	0	3	1	4	0	0	0	0	0	3	0	0	0	0	0	2	1	0	0	0
TOTAL	**9**	**2**	**1**	**0**	**1**	**1**	**7**	**7**	**1**	**11**	**2**	**14**	**0**	**0**	**0**	**0**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**6**	**4**	**0**	**0**	**0**
15:00 - 15:15	4	0	0	0	0	0	1	3	0	4	0	4	0	0	0	0	0	3	0	0	0	0	0	2	1	0	0	0
15:15 - 15:30	3	0	0	0	1	0	3	1	1	3	0	4	0	0	0	0	0	3	0	0	0	0	0	2	1	0	0	0
15:30 - 15:45	4	1	0	0	0	0	3	2	1	4	0	5	0	0	0	0	0	3	0	0	0	0	0	1	2	0	0	0
15:45 - 16:00	2	0	0	0	0	0	1	1	2	0	0	1	1	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0
TOTAL	**13**	**1**	**0**	**0**	**1**	**0**	**8**	**7**	**4**	**11**	**0**	**14**	**1**	**0**	**0**	**0**	**0**	**11**	**0**	**0**	**0**	**0**	**0**	**7**	**4**	**0**	**0**	**0**
16:00 - 16:15	2	0	0	0	0	0	1	1	0	2	0	2	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0
16:15 - 16:30	1	1	0	0	0	0	2	0	0	2	0	2	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0
16:30 - 16:45	3	0	0	0	0	0	3	0	2	1	0	3	0	0	0	0	0	2	0	0	0	0	0	1	1	0	0	0
16:45 - 17:00	2	2	0	0	0	0	3	1	0	4	0	4	0	0	0	0	0	3	0	0	0	0	0	2	1	0	0	0
TOTAL	**8**	**3**	**0**	**0**	**0**	**0**	**9**	**2**	**2**	**9**	**0**	**11**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**7**	**2**	**0**	**0**	**0**
17:00 - 17:15	3	0	0	0	0	2	3	2	0	4	1	5	0	0	0	0	0	3	0	0	0	0	0	1	2	0	0	0
17:15 - 17:30	4	1	0	0	0	0	2	3	2	3	0	5	0	0	0	0	0	3	0	0	0	0	0	2	0	1	0	0
17:30 - 17:45	3	2	1	0	0	0	2	4	1	5	0	6	0	0	0	0	0	4	0	0	0	0	0	3	0	1	0	0
17:45 - 18:00	9	1	0	1	0	0	7	4	3	7	1	11	0	0	0	0	0	4	0	0	0	0	0	0	1	3	0	0
TOTAL	**19**	**4**	**1**	**1**	**0**	**2**	**14**	**13**	**6**	**19**	**2**	**27**	**0**	**0**	**0**	**0**	**0**	**14**	**0**	**0**	**0**	**0**	**0**	**6**	**3**	**5**	**0**	**0**
18:00 - 18:15	2	1	0	0	0	1	1	3	1	3	0	4	0	0	0	0	0	3	0	0	0	0	0	2	1	0	0	0
18:15 - 18:30	4	1	0	0	0	0	4	1	0	4	1	5	0	0	0	0	0	2	0	0	0	0	0	0	1	1	0	0
18:30 - 18:45	2	0	0	0	0	0	0	2	0	2	0	2	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0
18:45 - 19:00	1	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0
TOTAL	**9**	**2**	**0**	**0**	**0**	**1**	**5**	**7**	**1**	**10**	**1**	**12**	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**5**	**2**	**1**	**0**	**0**
19:00 - 19:15	4	1	0	0	0	0	2	3	2	3	0	5	0	0	0	0	0	3	0	0	0	0	0	1	2	0	0	0
19:15 - 19:30	4	0	0	0	0	0	2	2	1	3	0	4	0	0	0	0	0	4	0	0	0	0	0	4	0	0	0	0
19:30 - 19:45	3	0	0	0	0	1	4	0	0	3	1	4	0	0	0	0	0	4	0	0	0	0	0	4	0	0	0	0
19:45 - 20:00	4	0	0	0	0	0	3	1	0	4	0	4	0	0	0	0	0	3	0	0	0	0	0	2	1	0	0	0
TOTAL	**15**	**1**	**0**	**0**	**0**	**1**	**11**	**6**	**3**	**13**	**1**	**17**	**0**	**0**	**0**	**0**	**0**	**14**	**0**	**0**	**0**	**0**	**0**	**11**	**3**	**0**	**0**	**0**
20:00 - 20:15	1	0	0	0	0	1	1	1	0	2	0	2	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0
20:15 - 20:30	1	0	1	0	0	0	1	1	0	1	1	2	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0
20:30 - 20:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:45 - 21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**2**	**0**	**1**	**0**	**0**	**1**	**2**	**2**	**0**	**3**	**1**	**4**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**0**
DAILY TOTAL	274	67	3	25	16	35	229	191	93	290	37	416	3	1	0	0	0	255	1	0	0	0	0	126	100	26	3	1
GRAND TOTAL	420						420		420			420			0			256						256				

Quality Traffic Surveys

CLIENT: ENGLISH HERITAGE

REFERENCE NUMBER: 06112

PROJECT MANAGER: CHRIS JAMES

DATE: SAT 20TH JUNE 2015

PROJECT DESCRIPTION: VEHICLE COUNT AND FACTORED SAMPLING MARBLE HILL PARK

		MOVEMENT Y (DERIVED FROM VEHICLE TRAVEL ONLY)																	VEHICLE COUNT AND OCCUPANCY											
		PURPOSE OF VISIT						GENDER		AGE RANGE			CULTURAL BACKGROUND			DISABILITY			MOVEMENT Y						OCCUPANCY (NUMBER OF INSTANCES FOR VEHICLES)					
		WALKER	DOG WALKER	WALKER WITH P	JOGGER	SPORTS	CYCLISTS	MALE	FEMALE	0-19	20-40	40+	WHITE	BLACK	ASIAN	WHEEL CHAIR	CRUTCHES	VIS IMPAIRED	CAR	LGV	OGV1	OGV2	PSV	MC	1	2	3	4	5+
06:00	06:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15	06:30	1	0	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0
06:30	06:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45	07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**
07:00	07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	07:45	0	1	0	1	0	0	1	1	1	1	0	2	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0
07:45	08:00	1	0	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0
TOTAL		**1**	**1**	**0**	**1**	**0**	**0**	**2**	**1**	**2**	**1**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**
08:00	08:15	1	0	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0
08:15	08:30	2	0	0	1	0	0	1	2	1	2	0	3	0	0	0	0	0	2	0	0	0	0	0	1	1	0	0	0	0
08:30	08:45	1	0	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0
08:45	09:00	3	1	1	2	0	2	3	6	2	6	1	9	0	0	0	0	0	5	0	0	0	0	0	2	2	1	0	0	0
TOTAL		**7**	**1**	**1**	**3**	**0**	**2**	**4**	**10**	**5**	**8**	**1**	**14**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**5**	**3**	**1**	**0**	**0**	
09:00	09:15	5	1	0	0	0	0	2	4	1	3	2	6	0	0	0	0	0	4	1	0	0	0	0	4	1	0	0	0	0
09:15	09:30	3	0	0	0	0	0	1	2	1	2	0	3	0	0	0	0	0	2	0	0	0	0	0	1	1	0	0	0	0
09:30	09:45	5	1	0	2	0	1	3	6	2	6	1	9	0	0	0	0	0	7	0	0	0	0	0	5	2	0	0	0	0
09:45	10:00	26	3	0	3	0	4	21	15	6	25	5	35	1	0	0	0	0	18	0	0	0	0	0	7	6	3	2	0	
TOTAL		**39**	**5**	**0**	**5**	**0**	**5**	**27**	**27**	**10**	**36**	**8**	**53**	**1**	**0**	**0**	**0**	**0**	**31**	**1**	**0**	**0**	**0**	**0**	**17**	**10**	**3**	**2**	**0**	
10:00	10:15	7	2	0	3	0	1	7	6	3	8	2	13	0	0	0	0	0	8	0	0	0	0	0	4	3	1	0	0	
10:15	10:30	3	0	0	0	0	0	2	1	1	1	1	3	0	0	0	0	0	2	0	0	0	0	0	1	1	0	0	0	
10:30	10:45	4	0	0	0	0	0	2	2	2	2	0	4	0	0	0	0	0	3	0	0	0	0	0	2	1	0	0	0	
10:45	11:00	8	2	1	2	2	2	10	7	5	12	0	16	1	0	0	0	0	8	0	0	0	0	0	2	3	3	0	0	
TOTAL		**22**	**4**	**1**	**5**	**2**	**3**	**21**	**16**	**11**	**23**	**3**	**36**	**1**	**0**	**0**	**0**	**0**	**21**	**0**	**0**	**0**	**0**	**0**	**9**	**8**	**4**	**0**	**0**	
11:00	11:15	4	0	0	0	0	0	2	2	1	2	1	4	0	0	0	0	0	3	0	0	0	0	0	2	1	0	0	0	
11:15	11:30	23	8	1	4	0	3	24	15	4	32	3	38	1	0	0	0	0	21	0	0	0	0	0	6	12	3	0	0	
11:30	11:45	4	2	0	2	1	1	8	2	3	6	1	10	0	0	0	0	0	8	0	0	0	0	0	6	2	0	0	0	
11:45	12:00	6	0	0	1	0	2	6	3	3	6	0	9	0	0	0	0	0	5	0	0	0	0	0	2	2	1	0	0	
TOTAL		**37**	**10**	**1**	**7**	**1**	**6**	**40**	**22**	**11**	**46**	**5**	**61**	**1**	**0**	**0**	**0**	**0**	**37**	**0**	**0**	**0**	**0**	**0**	**16**	**17**	**4**	**0**	**0**	
12:00	12:15	15	6	0	1	1	3	12	14	6	18	2	26	0	0	0	0	0	14	0	0	0	0	0	3	10	1	0	0	
12:15	12:30	9	3	0	2	0	0	8	6	1	12	1	14	0	0	0	0	0	8	0	0	0	0	0	3	4	1	0	0	
12:30	12:45	2	0	0	0	1	0	2	1	2	1	0	3	0	0	0	0	0	2	0	0	0	0	0	1	1	0	0	0	
12:45	13:00	6	2	0	1	2	2	5	8	2	8	3	13	0	0	0	0	0	6	0	0	0	0	0	3	0	2	1	0	
TOTAL		**32**	**11**	**0**	**4**	**4**	**5**	**27**	**29**	**11**	**39**	**6**	**56**	**0**	**0**	**0**	**0**	**0**	**30**	**0**	**0**	**0**	**0**	**0**	**10**	**15**	**4**	**1**	**0**	
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13:15	13:30	4	0	0	0	1	1	3	3	0	4	2	6	0	0	0	0	0	4	0	0	0	0	0	2	2	0	0	0	
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13:45	14:00	4	0	0	1	0	0	0	5	2	3	0	5	0	0	0	0	0	4	0	0	0	0	0	3	1	0	0	0	
TOTAL		**20**	**7**	**0**	**2**	**2**	**3**	**15**	**19**	**6**	**23**	**5**	**34**	**0**	**0**	**0**	**0**	**0**	**21**	**0**	**0**	**0**	**0**	**0**	**9**	**11**	**1**	**0**	**0**	
14:00	14:15	1	1	0	0	0	0	1	1	1	1	0	2	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	
14:15	14:30	3	0	0	0	1	0	2	2	2	2	0	4	0	0	0	0	0	3	0	0	0	0	0	2	1	0	0	0	
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TOTAL		**11**	**4**	**0**	**0**	**2**	**1**	**8**	**10**	**6**	**11**	**1**	**18**	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**0**	**0**	**0**	**0**	**6**	**3**	**2**	**0**	**0**	
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15:30	15:45	7	2	0	0	1	0	6	4	1	7	2	10	0	0	0	0	0	6	0	0	0	0	0	3	2	1	0	0	
15:45	16:00	2	2	0	0	0	0	2	2	2	2	0	4	0	0	0	0	0	3	0	0	0	0	0	2	1	0	0	0	
TOTAL		**17**	**7**	**0**	**0**	**1**	**1**	**16**	**10**	**6**	**17**	**3**	**26**	**0**	**0**	**0**	**0**	**0**	**16**	**0**	**0**	**0**	**0**	**0**	**7**	**8**	**1**	**0**	**0**	
16:00	16:15	4	0	0	0	0	0	2	2	1	3	0	4	0	0	0	0	0	2	0	0	0	0	0	1	0	1	0	0	
16:15	16:30	2	0	0	0	0	0	1	1	1	1	0	2	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	
16:30	16:45	6	2	0	0	1	0	6	3	0	8	1	9	0	0	0	0	0	5	0	0	0	0	0	2	2	1	0	0	
16:45	17:00	7	1	0	0	0	0	4	4	5	3	0	8	0	0	0	0	0	6	0	0	0	0	0	4	2	0	0	0	
TOTAL		**19**	**3**	**0**	**0**	**1**	**0**	**13**	**10**	**7**	**15**	**1**	**23**	**0**	**0**	**0**	**0**	**0**	**15**	**0**	**0**	**0**	**0**	**0**	**9**	**4**	**2**	**0**	**0**	
17:00	17:15	5	1	0	0	1	0	5	2	0	6	1	7	0	0	0	0	0	4	0	0	0	0	0	2	1	1	0	0	
17:15	17:30	3	1	0	0	0	1	3	2	0	4	1	5	0	0	0	0	0	3	0	0	0	0	0	1	2	0	0	0	
17:30	17:45	1	2	0	0	0	0	2	1	1	2	0	3	0	0	0	0	0	2	0	0	0	0	0	1	1	0	0	0	
17:45	18:00	1	1	0	0	1	0	3	0	2	1	0	3	0	0	0	0	0	2	0	0	0	0	0	1	1	0	0	0	
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18:00	18:15	1	2	0	0	0	0	2	1	0	3	0	3	0	0	0	0	0	2	0	0	0	0	0	1	1	0	0	0	
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TOTAL		**6**	**5**	**0**	**0**	**1**	**1**	**8**	**5**	**1**	**11**	**1**	**13**	**0**	**0**	**0**	**0**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**7**	**3**	**0**	**0**	**0**	
19:00	19:15	5	0	0	0	0	0	5	0	3	1	1	5	0	0	0	0	0	4	0	0	0	0	0	3	1	0	0	0	
19:15	19:30	8	1	0	0	0	0	4	5	3	6	0	9	0	0	0	0	0	5	0	0	0	0	0	3	0	2	0	0	
19:30	19:45	7	3	0	0	0	3	8	5	3	10	0	12	0	1	0	0	0	7	0	0	0	0	0	3	2	2	0	0	
19:45	20:00	5	0	0	0	0	0	4	1	1	4	0	5	0	0	0	0	0	3	0	0	0	0	0	1	2	0	0	0	
TOTAL		**25**	**4**	**0**	**0**	**0**	**3**	**21**	**11**	**10**	**21**	**1**	**31**	**0**	**1**	**0**	**0**	**0**	**19**	**0**	**0**	**0**	**0**	**0**	**10**	**5**	**4**	**0**	**0**	
20:00	20:15	4	2	0	0	0	0	3	3	2	4	0	6	0	0	0	0	0	4	0	0	0	0	0	2	2	0	0	0	
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20:30	20:45	7	0	0	0	0	0	3	4	3	4	0	7	0	0	0	0	0	3	0	0	0	0	0	2	0	0	0	1	
20:45	21:00	4	0	0	0	0	0	2	2	2	2	0	4	0	0	0	0	0	3	0	0	0	0	0	2	1	0	0	0	
TOTAL		**22**	**2**	**0**	**0**	**0**	**0**	**10**	**14**	**8**	**16**	**0**	**24**	**0**	**0**	**0**	**0**	**0**	**14**	**0**	**0**	**0**	**0**	**0**	**8**	**4**	**1**	**0**	**1**	
DAILY TOTAL		269	69	3	27	16	31	226	189	98	280	37	411	3	1	0	0	0	248	1	0	0	0	0	120	97	28	3	1	
GRAND TOTAL		415						415		415			415			0			249						249					

CLIENT: ENGLISH HERITAGE

REFERENCE NUMBER: 06112

PROJECT MANAGER: CHRIS JAMES

DATE: MON 22ND JUNE 2015

PROJECT DESCRIPTION: VEHICLE COUNT AND FACTORED SAMPLING MARBLE HILL PARK

		MOVEMENT X (DERIVED FROM VEHICLE TRAVEL ONLY)																	VEHICLE COUNT AND OCCUPANCY										
		PURPOSE OF VISIT						GENDER		AGE RANGE			CULTURAL BACKGROUND			DISABILITY			MOVEMENT X						OCCUPANCY (NUMBER OF INSTANCES FOR VEHICLES)				
		WALKER	DOG WALKER	WALKER WITH P	JOGGER	SPORTS	CYCLISTS	MALE	FEMALE	0-19	20-40	40+	WHITE	BLACK	ASIAN	WHEEL CHAIR	CRUTCHES	VIS IMPAIRED	CAR	LGV	OGV1	OGV2	PSV	MC	1	2	3	4	5+
06:00	06:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15	06:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30	06:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45	07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
07:00	07:15	2	0	0	0	0	0	1	1	-1	2	1	2	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0
07:15	07:30	0	1	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0
07:30	07:45	1	1	0	0	0	0	1	1	0	2	0	2	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0
07:45	08:00	1	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0
TOTAL		**4**	**2**	**0**	**0**	**0**	**0**	**2**	**4**	**0**	**5**	**1**	**6**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**2**	**2**	**0**	**0**	**0**
08:00	08:15	2	1	0	0	0	0	2	1	1	2	0	3	0	0	0	0	0	2	0	0	0	0	0	1	1	0	0	0
08:15	08:30	3	2	0	0	0	0	2	3	1	4	0	5	0	0	0	0	0	3	0	0	0	0	0	1	2	0	0	0
08:30	08:45	4	4	1	0	0	0	3	6	1	7	1	9	0	0	0	0	0	5	0	0	0	0	0	2	2	1	0	0
08:45	09:00	10	3	0	2	0	2	7	10	2	14	1	17	0	0	0	0	0	9	0	0	0	0	0	2	6	1	0	0
TOTAL		**19**	**10**	**1**	**2**	**0**	**2**	**14**	**20**	**5**	**27**	**2**	**34**	**0**	**0**	**0**	**0**	**0**	**19**	**0**	**0**	**0**	**0**	**0**	**6**	**11**	**2**	**0**	**0**
09:00	09:15	2	3	0	0	0	0	3	2	2	3	0	5	0	0	0	0	0	2	0	0	0	0	0	0	1	1	0	0
09:15	09:30	8	1	0	1	0	1	5	6	4	7	0	10	0	1	0	0	0	6	0	0	0	0	0	2	3	1	0	0
09:30	09:45	7	3	0	3	0	2	10	5	1	13	1	14	1	0	0	0	0	8	0	0	0	0	0	2	5	1	0	0
09:45	10:00	6	2	0	0	0	0	4	4	1	7	0	8	0	0	0	0	0	3	1	0	0	0	0	1	2	1	0	0
TOTAL		**23**	**9**	**0**	**4**	**0**	**3**	**22**	**17**	**8**	**30**	**1**	**37**	**1**	**1**	**0**	**0**	**0**	**19**	**1**	**0**	**0**	**0**	**0**	**5**	**11**	**4**	**0**	**0**
10:00	10:15	2	2	0	0	1	0	3	2	1	3	1	5	0	0	0	0	0	3	0	0	0	0	0	1	2	0	0	0
10:15	10:30	2	1	0	1	0	0	2	2	1	3	0	4	0	0	0	0	0	3	0	0	0	0	0	2	1	0	0	0
10:30	10:45	1	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0
10:45	11:00	4	1	0	2	0	0	4	3	2	5	0	7	0	0	0	0	0	4	0	0	0	0	0	1	3	0	0	0
TOTAL		**9**	**4**	**0**	**3**	**1**	**0**	**9**	**8**	**4**	**12**	**1**	**17**	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**0**	**0**	**0**	**0**	**5**	**6**	**0**	**0**	**0**
11:00	11:15	1	1	0	1	0	0	1	2	1	2	0	3	0	0	0	0	0	3	0	0	0	0	0	3	0	0	0	0
11:15	11:30	0	2	0	0	0	0	1	1	1	1	0	2	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0
11:30	11:45	4	0	0	0	0	1	2	3	2	2	1	5	0	0	0	0	0	3	0	0	0	0	0	1	2	0	0	0
11:45	12:00	6	0	0	1	0	2	3	6	3	6	0	8	1	0	0	0	0	5	0	0	0	0	0	2	2	1	0	0
TOTAL		**11**	**3**	**0**	**2**	**0**	**3**	**7**	**12**	**7**	**11**	**1**	**18**	**1**	**0**	**0**	**0**	**0**	**13**	**0**	**0**	**0**	**0**	**0**	**8**	**4**	**1**	**0**	**0**
12:00	12:15	0	2	1	1	1	0	3	2	2	2	1	5	0	0	0	0	0	4	0	0	0	0	0	3	1	0	0	0
12:15	12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30	12:45	3	0	0	0	0	0	2	1	0	1	2	3	0	0	0	0	0	2	0	0	0	0	0	1	1	0	0	0
12:45	13:00	1	0	0	0	1	0	0	2	1	1	0	2	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0
TOTAL		**4**	**2**	**1**	**1**	**2**	**0**	**5**	**5**	**3**	**4**	**3**	**10**	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**6**	**2**	**0**	**0**	**0**
13:00	13:15	0	1	0	1	2	0	2	2	2	2	0	4	0	0	0	0	0	3	0	0	0	0	0	2	1	0	0	0
13:15	13:30	2	0	0	0	0	1	0	3	1	2	0	3	0	0	0	0	0	3	0	0	0	0	0	3	0	0	0	0
13:30	13:45	3	1	0	0	0	0	1	3	2	1	1	4	0	0	0	0	0	3	0	0	0	0	0	2	1	0	0	0
13:45	14:00	2	0	0	1	1	0	3	1	0	2	2	3	1	0	0	0	0	2	0	0	0	0	0	0	2	0	0	0
TOTAL		**7**	**2**	**0**	**2**	**3**	**1**	**6**	**9**	**5**	**7**	**3**	**14**	**1**	**0**	**0**	**0**	**0**	**11**	**0**	**0**	**0**	**0**	**0**	**7**	**4**	**0**	**0**	**0**
14:00	14:15	1	0	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0
14:15	14:30	1	1	0	0	0	0	1	1	0	2	0	2	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0
14:30	14:45	4	1	0	0	0	1	3	3	1	4	1	6	0	0	0	0	0	4	0	0	0	0	0	2	2	0	0	0
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TOTAL		**7**	**3**	**0**	**0**	**0**	**2**	**7**	**5**	**4**	**7**	**1**	**12**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**6**	**3**	**0**	**0**	**0**
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15:15	15:30	1	1	0	0	0	0	2	0	1	1	0	2	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0
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15:45	16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		**6**	**2**	**0**	**0**	**0**	**1**	**6**	**3**	**5**	**3**	**1**	**9**	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**5**	**2**	**0**	**0**	**0**
16:00	16:15	1	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0
16:15	16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	16:45	1	2	0	1	0	1	4	1	2	2	1	5	0	0	0	0	0	3	0	0	0	0	0	1	2	0	0	0
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TOTAL		**3**	**2**	**0**	**1**	**0**	**1**	**5**	**2**	**3**	**3**	**1**	**7**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**3**	**2**	**0**	**0**	**0**
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17:15	17:30	2	0	0	0	0	0	1	1	1	1	0	2	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0
17:30	17:45	2	0	0	0	0	0	2	0	1	1	0	2	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0
17:45	18:00	7	3	0	1	0	1	4	8	1	9	2	12	0	0	0	0	0	6	0	0	0	0	0	1	4	1	0	0
TOTAL		**16**	**3**	**0**	**1**	**0**	**2**	**9**	**13**	**3**	**15**	**4**	**22**	**0**	**0**	**0**	**0**	**0**	**14**	**0**	**0**	**0**	**0**	**0**	**7**	**6**	**1**	**0**	**0**
18:00	18:15	1	0	0	1	0	0	1	1	1	1	0	2	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0
18:15	18:30	4	1	0	0	0	1	4	2	3	2	1	6	0	0	0	0	0	4	0	0	0	0	0	2	2	0	0	0
18:30	18:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:45	19:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		**5**	**1**	**0**	**1**	**0**	**1**	**5**	**3**	**4**	**3**	**1**	**8**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**4**	**2**	**0**	**0**	**0**
19:00	19:15	10	2	0	0	0	0	6	6	1	9	2	12	0	0	0	0	0	6	0	0	0	0	0	1	4	1	0	0
19:15	19:30	2	1	0	0	0	0	2	1	2	1	0	3	0	0	0	0	0	3	0	0	0	0	0	3	0	0	0	0
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TOTAL		**16**	**6**	**0**	**0**	**0**	**0**	**14**	**8**	**4**	**13**	**5**	**22**	**0**	**0**	**0**	**0**	**0**	**14**	**0**	**0**	**0**	**0**	**0**	**7**	**6**	**1**	**0**	**0**
20:00	20:15	1	0	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0
20:15	20:30	3	1	0	0	0	0	2	2	2	1	1	4	0	0	0	0	0	2	0	0	0	0	0	1	0	1	0	0
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20:45	21:00	1	1	0	0	0	0	1	1	1	1	0	2	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0
TOTAL		**8**	**2**	**0**	**0**	**0**	**0**	**7**	**3**	**5**	**3**	**2**	**10**	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**5**	**1**	**1**	**0**	**0**
DAILY TOTAL		138	51	2	17	6	16	118	112	60	143	27	226	3	1	0	0	0	147	1	0	0	0	0	76	62	10	0	0
GRAND TOTAL		230						230		230			230			0			148						148				

CLIENT: ENGLISH HERITAGE

REFERENCE NUMBER: 06112

PROJECT MANAGER: CHRIS JAMES

DATE: MON 22ND JUNE 2015

PROJECT DESCRIPTION: VEHICLE COUNT AND FACTORED SAMPLING MARBLE HILL PARK

		MOVEMENT Y (DERIVED FROM VEHICLE TRAVEL ONLY)																	VEHICLE COUNT AND OCCUPANCY										
		PURPOSE OF VISIT						GENDER		AGE RANGE			CULTURAL BACKGROUND			DISABILITY			MOVEMENT Y						OCCUPANCY (NUMBER OF INSTANCES FOR VEHICLES)				
		WALKER	DOG WALKER	WALKER WITH P	JOGGER	SPORTS	CYCLISTS	MALE	FEMALE	0-19	20-40	40+	WHITE	BLACK	ASIAN	WHEEL CHAIR	CRUTCHES	VIS IMPAIRED	CAR	LGV	OGV1	OGV2	PSV	MC	1	2	3	4	5+
06:00	06:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15	06:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30	06:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45	07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
07:00	07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	08:00	1	0	0	0	0	0	1	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0
TOTAL		**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**
08:00	08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	08:30	0	0	0	1	0	0	0	1	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0
08:30	08:45	1	0	0	0	0	0	1	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0
08:45	09:00	1	2	0	1	0	0	2	2	1	3	0	4	0	0	0	0	0	3	0	0	0	0	0	2	1	0	0	0
TOTAL		**2**	**2**	**0**	**2**	**0**	**0**	**3**	**3**	**1**	**4**	**1**	**6**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**4**	**1**	**0**	**0**	**0**
09:00	09:15	1	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0
09:15	09:30	6	1	1	2	0	2	2	10	1	11	0	11	1	0	0	0	0	7	0	0	0	0	0	2	5	0	0	0
09:30	09:45	6	2	0	0	0	0	6	2	1	5	2	8	0	0	0	0	0	6	0	0	0	0	0	4	2	0	0	0
09:45	10:00	3	2	0	0	0	1	4	2	1	5	0	6	0	0	0	0	0	4	0	0	0	0	0	2	2	0	0	0
TOTAL		**16**	**5**	**1**	**2**	**0**	**3**	**13**	**14**	**3**	**21**	**3**	**26**	**1**	**0**	**0**	**0**	**0**	**18**	**0**	**0**	**0**	**0**	**0**	**9**	**9**	**0**	**0**	**0**
10:00	10:15	2	1	0	1	0	0	3	1	0	4	0	4	0	0	0	0	0	4	0	0	0	0	0	4	0	0	0	0
10:15	10:30	2	1	0	0	0	0	2	1	0	3	0	3	0	0	0	0	0	2	0	0	0	0	0	1	1	0	0	0
10:30	10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45	11:00	4	3	0	2	0	2	6	5	2	7	2	10	1	0	0	0	0	7	0	0	0	0	0	4	2	1	0	0
TOTAL		**8**	**5**	**0**	**3**	**0**	**2**	**11**	**7**	**2**	**14**	**2**	**17**	**1**	**0**	**0**	**0**	**0**	**13**	**0**	**0**	**0**	**0**	**0**	**9**	**3**	**1**	**0**	**0**
11:00	11:15	3	2	0	0	0	1	4	2	1	5	0	6	0	0	0	0	0	5	0	0	0	0	0	4	1	0	0	0
11:15	11:30	4	2	1	1	0	0	2	6	0	6	2	8	0	0	0	0	0	4	0	0	0	0	0	1	2	1	0	0
11:30	11:45	2	0	0	0	0	0	1	1	0	2	0	2	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0
11:45	12:00	5	1	0	1	0	0	2	5	2	4	1	7	0	0	0	0	0	4	0	0	0	0	0	1	3	0	0	0
TOTAL		**14**	**5**	**1**	**2**	**0**	**1**	**9**	**14**	**3**	**17**	**3**	**23**	**0**	**0**	**0**	**0**	**0**	**14**	**0**	**0**	**0**	**0**	**0**	**6**	**7**	**1**	**0**	**0**
12:00	12:15	4	2	0	0	0	0	5	1	0	5	1	6	0	0	0	0	0	4	0	0	0	0	0	2	2	0	0	0
12:15	12:30	1	0	0	0	0	1	1	1	1	1	0	2	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0
12:30	12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45	13:00	5	1	0	1	1	0	3	5	1	5	2	8	0	0	0	0	0	6	0	0	0	0	0	4	2	0	0	0
TOTAL		**10**	**3**	**0**	**1**	**1**	**1**	**9**	**7**	**2**	**11**	**3**	**16**	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**0**	**0**	**0**	**0**	**6**	**5**	**0**	**0**	**0**
13:00	13:15	2	2	0	0	1	0	4	1	0	5	0	5	0	0	0	0	0	3	0	0	0	0	0	1	2	0	0	0
13:15	13:30	1	0	0	1	1	0	0	3	1	2	0	3	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0
13:30	13:45	2	1	0	0	0	0	2	1	0	3	0	3	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0
13:45	14:00	1	2	0	0	0	1	2	2	1	2	1	4	0	0	0	0	0	3	0	0	0	0	0	2	1	0	0	0
TOTAL		**6**	**5**	**0**	**1**	**2**	**1**	**8**	**7**	**2**	**12**	**1**	**15**	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**3**	**3**	**2**	**0**	**0**
14:00	14:15	1	0	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0
14:15	14:30	0	1	0	2	0	0	1	2	0	2	1	3	0	0	0	0	0	2	0	0	0	0	0	1	1	0	0	0
14:30	14:45	4	1	0	0	1	0	2	4	1	5	0	6	0	0	0	0	0	3	0	0	0	0	0	1	1	1	0	0
14:45	15:00	2	2	0	0	0	0	3	1	0	2	2	3	0	1	0	0	0	3	0	0	0	0	0	2	1	0	0	0
TOTAL		**7**	**4**	**0**	**2**	**1**	**0**	**7**	**7**	**2**	**9**	**3**	**13**	**0**	**1**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**5**	**3**	**1**	**0**	**0**
15:00	15:15	1	0	0	0	0	0	1	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0
15:15	15:30	3	1	0	2	0	2	3	5	3	3	2	8	0	0	0	0	0	4	0	0	0	0	0	1	2	1	0	0
15:30	15:45	5	3	0	0	0	1	8	1	2	7	0	9	0	0	0	0	0	5	0	0	0	0	0	2	2	1	0	0
15:45	16:00	2	1	0	0	0	0	0	3	2	1	0	3	0	0	0	0	0	2	0	0	0	0	0	1	1	0	0	0
TOTAL		**11**	**5**	**0**	**2**	**0**	**3**	**12**	**9**	**7**	**12**	**2**	**21**	**0**	**0**	**0**	**0**	**0**	**12**	**0**	**0**	**0**	**0**	**0**	**5**	**5**	**2**	**0**	**0**
16:00	16:15	3	1	0	0	0	0	2	2	2	2	0	4	0	0	0	0	0	3	0	0	0	0	0	2	1	0	0	0
16:15	16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	16:45	5	2	0	2	0	2	6	5	3	6	2	11	0	0	0	0	0	7	0	0	0	0	0	3	4	0	0	0
16:45	17:00	4	2	0	1	0	1	6	2	4	4	0	8	0	0	0	0	0	4	0	0	0	0	0	1	2	1	0	0
TOTAL		**12**	**5**	**0**	**3**	**0**	**3**	**14**	**9**	**9**	**12**	**2**	**23**	**0**	**0**	**0**	**0**	**0**	**14**	**0**	**0**	**0**	**0**	**0**	**6**	**7**	**1**	**0**	**0**
17:00	17:15	3	2	0	0	0	2	4	3	2	4	1	7	0	0	0	0	0	3	0	0	0	0	0	0	2	1	0	0
17:15	17:30	1	2	0	0	0	0	2	1	1	2	0	3	0	0	0	0	0	2	0	0	0	0	0	1	1	0	0	0
17:30	17:45	2	0	0	0	0	0	1	1	1	1	0	2	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0
17:45	18:00	1	0	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0
TOTAL		**7**	**4**	**0**	**0**	**0**	**2**	**8**	**5**	**5**	**7**	**1**	**13**	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**2**	**4**	**1**	**0**	**0**
18:00	18:15	1	0	0	0	0	0	1	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0
18:15	18:30	3	0	0	0	0	0	0	3	1	2	0	3	0	0	0	0	0	2	0	0	0	0	0	1	1	0	0	0
18:30	18:45	3	2	0	0	0	0	3	2	3	1	1	5	0	0	0	0	0	3	0	0	0	0	0	1	2	0	0	0
18:45	19:00	11	4	0	0	0	0	5	10	5	8	2	14	1	0	0	0	0	9	0	0	0	0	0	3	6	0	0	0
TOTAL		**18**	**6**	**0**	**0**	**0**	**0**	**9**	**15**	**9**	**12**	**3**	**23**	**1**	**0**	**0**	**0**	**0**	**15**	**0**	**0**	**0**	**0**	**0**	**6**	**9**	**0**	**0**	**0**
19:00	19:15	2	0	0	0	0	0	1	1	0	1	1	2	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0
19:15	19:30	4	0	0	0	0	0	2	2	2	2	0	4	0	0	0	0	0	3	0	0	0	0	0	2	1	0	0	0
19:30	19:45	12	2	0	0	0	0	6	8	2	10	2	14	0	0	0	0	0	8	0	0	0	0	0	3	4	1	0	0
19:45	20:00	2	0	0	0	0	0	1	1	1	1	0	2	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0
TOTAL		**20**	**2**	**0**	**0**	**0**	**0**	**10**	**12**	**5**	**14**	**3**	**22**	**0**	**0**	**0**	**0**	**0**	**14**	**0**	**0**	**0**	**0**	**0**	**7**	**6**	**1**	**0**	**0**
20:00	20:15	3	2	0	0	0	0	3	2	1	4	0	5	0	0	0	0	0	4	0	0	0	0	0	3	1	0	0	0
20:15	20:30	2	3	0	0	0	0	2	3	0	5	0	5	0	0	0	0	0	2	0	0	0	0	0	0	1	1	0	0
20:30	20:45	1	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0
20:45	21:00	1	0	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0
TOTAL		**7**	**5**	**0**	**0**	**0**	**0**	**6**	**6**	**2**	**9**	**1**	**12**	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**5**	**2**	**1**	**0**	**0**
DAILY TOTAL		139	56	2	18	4	16	120	115	52	155	28	231	3	1	0	0	0	149	0	0	0	0	0	74	64	11	0	0
GRAND TOTAL		235						235		235			235			0			149						149				