



Blackpool Vehicle Wayfinding Strategy

Parking Guidance Information System

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1 Introduction

1.1 Introduction

1.1.1 AECOM have been commissioned by Blackpool Borough Council (BBC) to provide an update to the Parking Guidance Information (PGI) element of the Vehicle Wayfinding Strategy produced by AECOM in September 2010.

1.1.2 Previously, AECOM was appointed by BBC in 2010 to develop a Vehicle Wayfinding Strategy for the town, with a particular emphasis on aiding tourists and visitors to easily navigate their way around, and to find the most appropriate car park for their primary destination.

1.2 2010 Strategy Summary

1.2.1 The key outputs of the 2010 Strategy included a detailed review of static directional signage along key corridors serving the town, with recommendations and preliminary designs generated to implement the Vehicle Wayfinding Strategy.

1.2.2 The Strategy also considered the application of Variable Message Signing (VMS) to improve network efficiency and driver experience, along with an outline design for a Parking Guidance Information (PGI) system and event information system which was prepared to help drivers navigate to the most appropriate car park for their preferred destination.

1.2.3 The 2010 Strategy also included budget estimates for both the recommended static and VMS signage proposals.

1.3 2015 Strategy Scope

1.3.1 The aim of this latest Strategy is to provide an update to the PGI element of the previous report including updating car park names, capacities, potential interface with the Highways England (HE) Strategic Road Network (SRN), together with revised costings for the proposed infrastructure.

1.3.2 The scope of the updated Strategy is to consider the application of VMS to help improve traffic flow around Blackpool allowing for improved network efficiency and driver experience. In particular, in order to implement a PGI system and event information displays an outline design of the PGI system has been prepared, with consideration given to the deployment of VMS which could provide event information and guidance to drivers as necessary throughout the year.

1.3.3 The findings of the Strategy will inform recommendations on where signage opportunities may be improved within Blackpool, supported by sign-face design proposals and final estimated costings.

- 1.3.4 For the purposes of this Strategy, the study area has been separated in to North, Central and South to enable clear planning and understanding of the Strategy to be presented, as shown in **Figure 1**.
- 1.3.5 The estimated capital costings generated for the 2015 Strategy shown in Chapter 3 have been developed by drawing on previous experience and infrastructure costing estimates available at the time of writing.
- 1.3.6 It is understood that indicative revenue costs, including ongoing communications and technology maintenance, staff training and operational costs will be remunerated by BBC. It should be noted that the revenue estimates been projected for a 15 year period and have been discussed further in Chapter 3.

1.4 Report Structure

- 1.4.1 Following this introduction, this report contains the following chapters;

Chapter 2 – Car Parking Guidance

Chapter 3 – Final Estimated Costings Summary

2 Car Parking Guidance

2.1 General Approach

- 2.1.1 For the PGI system, the car parks in the area were considered in terms of their location, uses and size. Typically a car park less than 60 spaces should not be included in a PGI system as the accuracy errors represent too great a proportion (a drift of 3 spaces would be a 5% error, for example).
- 2.1.2 Having reviewed the car parks in Blackpool and considering the space available, 22 car parks have been considered for inclusion in the Strategy, of which 15 have been selected for use within the PGI system. The car park locations and capacities are shown in **Table 1**.
- 2.1.3 Additionally, it is recommended that the current name of “South” car park should be altered as it may be confusing when providing directions to tourists and visitors.
- 2.1.4 **Table 1** lists the 15 car parks included in the PGI system with the “South” car park recommended for a name alteration highlighted green. The signs presented in the outline design use the current given names; this could be easily altered at the detailed design stage. For the purpose of this Strategy the Pleasure Beach car parks “North Entrance” and “East Car Park” have been combined as “Pleasure Beach”.

Table 1 - Car Parks included in the PGI system

| Car Park | P&D spaces | Disabled spaces |
|-----------------------------------|------------|-----------------|
| Bonny Street | 135 | 8 |
| Central | 714 | 34 |
| Bloomfield Road | 617 | 25 |
| Foxhall Village | 148 | 10 |
| Chapel Street Surface | 208 | 9 |
| East Topping Street | 131 | 9 |
| Houndshill Multi-Storey (private) | 770 | - |
| Lonsdale Road | 172 | 4 |
| Talbot Road Multi-Storey | 558 | 38 |
| Seasider's Way (dual purpose) | 142 | - |
| South Beach | 195 | 11 |
| South Car Park | 919 | 19 |
| West Street Multi-Storey | 177 | 9 |
| APCOA (private) | 460 | - |
| Pleasure Beach (private) | 626 | - |

2.2 Variable Message Signage

2.2.1 For the full function VMS, it is considered that their real value comes in assisting with event management in and around Blackpool with a significant number of events requiring specific traffic management arrangements.

2.2.2 The following section discusses the proposed locations of VMS, supported by the attached figures which illustrate the VMS and PGI signage locations proposed by the Strategy. However, it should be considered during detailed design that street clutter (lights / decorations etc.) could potentially impact the effectiveness of the VMS.

- **M55 entrance to Blackpool**

2.2.3 Provision of full function VMS on Blackpool Council's own highways network is a matter for the council but there would also be merit in providing advanced events information on the M55 approaching Blackpool.

2.2.4 There are two key routes into Blackpool from the M55, one is from Junction 4 which takes drivers onto the A583 and the other involves continuing to the end of the M55 where it meets the A5230 / Yeadon Way.

2.2.5 Signing on the Motorway is provided by gantries, instructing drivers to follow the A583 for Blackpool North and to carry on for Blackpool South and Central. VMS would be useful to assist with event management in Blackpool but at present no VMS are located on the M55. Discussions have been initiated with the Highways England on this matter to explore if they would support or permit a VMS to be located on their network.

2.2.6 Initial negotiations with the local HE team resulted in agreement, in principle, for two VMS locations on the Strategic Road Network (SRN) pending negotiation of the operational processes, as shown in **Appendix A**.

2.2.7 Following these negotiations, the HE indicated that VMS signage located on the SRN should commence in advance of M55, Junction 3 in order to enable motorists to use the A585 as an alternative route if necessary.

- **A5230, west of M55**

2.2.8 If continuing to the end of the M55 and joining the A5230, drivers come to a roundabout (with the 'Helter Skelter' sculpture) where they can select to follow Yeadon Way into the centre of Blackpool or alternatively turn left onto Progress Way (continuation of the A5230) for Blackpool South.

2.2.9 The A5230 is the current preferred route for the Pleasure Beach and Sandcastle Waterpark attractions. After consultation with Blackpool Pleasure Beach however, parking in this area via the A5230 route was found to be at full capacity during peak times; therefore it may be more efficient to direct vehicles along Yeadon Way in these occasions and into the “South” Car Park (Car park 17 identified in Error! Reference source not found..

2.3 PGI Signage

2.3.1 It is recommended that PGI signing principles remain as existing at this roundabout and continue to direct people onto Yeadon Way for the Town Centre and Tower attraction and on to the left (A5230) for the Pleasure Beach and Sandcastle Waterpark. Signing along the A5230 can then divert people to overspill car parking when necessary to maintain network efficiency. To direct people to the most appropriate car parks for their attraction of destination, the car parks will be signed in the following areas:

- **South Area**

2.3.2 The South Area car parks are intended for people visiting the Pleasure Beach and Sandcastle Waterpark and travelling from the M55 on Progress Way. These car parks are:

- Pleasure Beach;
- South Beach; and
- South Car Park.

2.3.3 Each car park is considered to be sufficient in size to accommodate car park monitoring and should be included in a PGI system. The Pleasure Beach and Sandcastle car parks are the more popular in this area and when full, it is necessary to sign drivers to the “South” car park.

2.3.4 It is proposed to introduce PGI on Progress Way directing people along St Anne’s Road and Lytham Road. However it is acknowledged that many drivers will continue onto the Promenade especially as there is on-street parking in this area. On the Promenade therefore there is additional signing to direct people back to the “South” Car Park.

2.3.5 Despite on-street parking being present in this area, it is not recommended for this is included in any parking guidance system. It would be prohibitively expensive to monitor on street parking and the levels of accuracy would be low.

2.3.6 Signing is also provided for the town centre in the South Area, albeit most drivers heading for the town centre should be progressing along Yeadon Way. It is acknowledged however that some drivers will have taken a wrong turn, ignored the signs or would have travelled from the south. At

this stage, it is recommended that “Town Centre” is grouped together into one element until drivers are further into the correct area for town centre parking.

- **Central Area**

2.3.7 The Central Area parking is aimed at people travelling along Seaside’s Way and wishing to visit the football ground and to provide alternative parking for people visiting the Pleasure Beach and Sandcastle Waterpark attractions once the car parks to the south become full. These car parks are:

- Bloomfield Road;
- Foxhall Village;
- Lonsdale Road;
- Central;
- Bonny Street; and
- Chapel Street Surface.

2.3.8 These are signed as drivers progress along Seaside’s Way with additional elements included for town centre car parking although at this stage, the town centre is grouped into one element. The key aim here is to ensure that people travelling to the town centre progress along Yeadon Way / Seaside’s Way and on the town centre network north of “South” Car Park.

2.3.9 Coach parking exists along Seaside’s Way and will be incorporated onto the signs as part of the updated Strategy. As a result of coaches having the option to book parking spaces in advance, it is recommended that additional consideration is given in regards to operational management of the Strategy.

- **North Area**

2.3.10 The car parks in the northern section of the study area serve the Tower and the town centre amongst other smaller attractions. The North Area is not believed to be overly busy in terms of visitor parking but there will be some shopper parking and a number of large car parks are located in this area that could be included in the PGI system; these are:

- Houndhill Multi-Storey;
- West Street Multi-Storey;
- Talbot Multi-Storey;
- East Topping Street; and
- APCOA (Wilkinsons).

2.4 Costs and Operational Issues

2.4.1 The outline designs have been costed as follows:

| | |
|-----------------------------------------------------------------------------------------------------------|----------|
| ▪ Static Parking Signs (including installation) | £18,548 |
| ▪ PGI sign costs (excluding power and infrastructure) | £338,000 |
| ▪ PGI sign costs (power and infrastructure only) | £165,000 |
| ▪ Full Function VMS costs | £620,000 |
| ▪ Installation Costs (PC and software control) | £145,000 |
| ▪ Car park monitoring costs (assuming all entrances are covered on proposed car parks and excluding CCTV) | £192,000 |
| ▪ CCTV coverage for each car park | £144,000 |
| ▪ Communications Setup costs | £180,000 |

2.4.2 These costs will be discussed in detail in the following sections.

2.5 Full design and procurement of a contractor

2.5.1 Estimated cost £120,000. This cost would cover the full sign design as well as the procurement of a contractor to oversee the installations. The outline designs would be considered and on-site assessment of the exact location of the signs determined. This would take into account road / pavement width, sign clutter, junction arrangements, etc.

2.5.2 The estimated cost would also involve liaising with car park operators to ensure they are willing to be included in the system, explore financing options and agreeing communication means and monitoring locations. This would inform the development of Invitation to Tender documents, and will be recompensed by BBC.

2.6 Static Parking Signs

2.6.1 To support the PGI signs, 24 static signs have been proposed across the network to help visitors reach their desired car park. These signs are shown in **Figure 3**, **Figure 4** and **Figure 5**. **Table 2** outlines the location and cost of these signs. A cost of £400 per square metre was assumed for the static parking signs. It should be noted that the final static signage costings in **Table 2** include the installation costs of the signage.

Table 2 - Proposed Static Parking Sign Costs

| Sign Ref. | Figure | Location | Size (sqm) | Cost |
|-----------------------|--------|--------------------------------------------------|------------|-------------------|
| P7 | 4 | Balmoral Road | 4.51 | £1,804.00 |
| P8 | 4 | Bond Street at Balmoral Road | 0.81 | £324.00 |
| P9 | 4 | Promenade at South pier | 0.73 | £292.00 |
| P11 | 4 | Lytham Road opposite Station Road | 0.73 | £292.00 |
| P12 | 4 | Lytham Road and Waterloo Road roundabout | 0.73 | £292.00 |
| P13 | 4 | Lytham Road south of Watson Road | 0.73 | £292.00 |
| P14 | 4 | St Anne's Road south of Watson Road | 0.73 | £292.00 |
| P16 | 4 | Yeadon Way before South Car Park | 0.73 | £292.00 |
| P17 | 4 | Yeadon Way before South Car Park second entrance | 5.05 | £2,020.00 |
| P18 | 4 | Yeadon Way and Parkinson Way roundabout | 0.73 | £292.00 |
| P19 | 4 | Watson Road before Parkinson Way | 0.73 | £292.00 |
| P20 | 4 | St Anne's Road before Waterloo Road | 0.73 | £292.00 |
| P21 | 4 | Waterloo Road before St Anne's Road | 0.73 | £292.00 |
| P23 | 4 | Entrance to Central Beach Car Park | 1.74 | £696.00 |
| P25 | 4 | Entrance to Lonsdale Car park | 1.84 | £736.00 |
| P26 | 4 | Approach to roundabout near Lonsdale | 5.87 | £2,348.00 |
| P27 | 4 | Roundabout with Seaside's and Sands Way | 4.76 | £1,904.00 |
| P28 | 5 | Approach to roundabout near Lonsdale (exiting) | 8.55 | £3,420.00 |
| P30 | 5 | Entrance to Central Coach Park | 1.56 | £624.00 |
| P32 | 5 | Chapel Street opposite Kent Road | 0.75 | £300.00 |
| P33 | 5 | Chapel Street at Central Drive | 0.75 | £300.00 |
| P34 | 5 | New Bonny Street before Promenade | 0.64 | £256.00 |
| P36a | 5 | Promenade, after New Bonny Street | 1.12 | £448.00 |
| P42 | 5 | Talbot Square, westbound | 1.12 | £448.00 |
| TOTAL - STATIC | | | | £18,548.00 |

2.7 PGI System

- 2.7.1 The PGI system requires car park monitoring, signs with variable elements and installation providing overall control and records for the system. We have proposed 19 signs with variable elements across Blackpool, listed in **Table 3**. These are shown in **Figures 3, 4 and 5**.
- 2.7.2 Car park monitoring would be considered in greater detail at the detailed design stage but, it is envisaged that inductive loops would do the bulk of the monitoring. Some car parks already have these in place along with barrier systems which would be utilised where possible. Some car park entrances may require works to ensure proper delineation to assist accuracy of the counts.
- 2.7.3 CCTV would also be recommended for the car parks to allow a check to be undertaken from time to time on the system accuracy without the need for on-site visits. This could be coupled with improvements to overall car park security if desired and potentially assist Blackpool in obtaining Park Mark Status for a number of car parks.
- 2.7.4 The signs would be similar to static directional signing but with LED variable elements to allow display of car parking availability. 6 characters would be recommended to allow display of the number of spaces available or the legends "OPEN", "FULL", and "SPACES". Numbers and "FULL" would be used where possible but it is useful to have default legends available also. The signs would be modular in design allowing alterations over time and upgrades to be easily accommodated.
- 2.7.5 The installation would be simple control software that could be accommodated on a standalone PC or integrated into a wider control system. Software would be UTMC compliant and would easily cater for expansion of the system to assist future expansion and to manage cash flow in delivery.
- 2.7.6 These are indicative at this stage only and would be subject to fuller consideration of the designs and ultimately obtaining competitive tenders. Prices are based on recent experience of installing PGI and VMS systems and elements could be phased. Once the design is complete and the installation provided, all other elements could be developed as appropriate.
- 2.7.7 The PGI sign costs (including power and infrastructure) costs have been calculated as shown in **Table 3**.

Table 3 - PGI partial VMS Signs Costs

| Ref. | Figure | Location | V elements | Size (m2) | Dual Post | Single post |
|--------------|--------|------------------------------------------------|------------|-----------|-----------------|-----------------|
| P1 | 3 | Squires Gate Lane opposite Belham Ave | 4 | 4.5 | £19,500 | £20,000 |
| P2 | 3 | Squires Gate Lane opposite Sandon Place | 4 | 4.5 | £19,500 | £20,000 |
| P3 | 3 | Promenade opposite Pleasure Beach/Coasters | 4 | 4 | £19,000 | £19,500 |
| P4 | 4 | Promenade before Sandcastle Station | 1 | 2.5 | £16,000 | £16,500 |
| P5 | 4 | Promenade opposite Sandcastle Station | 3 | 3.5 | £18,000 | £18,500 |
| P6 | 4 | Promenade at Osbourne Road | 3 | 3.5 | £18,000 | £18,500 |
| P10 | 4 | Promenade at Dean Street | 4 | 4.5 | £19,500 | £20,000 |
| P15 | 4 | Yeadon Way at South Shaw Services | 3 | 3.5 | £18,000 | £18,500 |
| P22 | 4 | Seasiders Way at Duke Street | 2 | 3.5 | £17,500 | £18,000 |
| P24 | 4 | Seasiders Way opposite Bloomfield Road stadium | 2 | 3.5 | £17,500 | £18,000 |
| P29 | 5 | Seasiders Way at Rigby Road | 2 | 3.5 | £17,500 | £18,000 |
| P31 | 5 | Chapel Street at County Court | 3 | 3.5 | £18,000 | £18,500 |
| P35 | 5 | Central Drive opposite Hornby Road | 2 | 3 | £17,000 | £17,500 |
| P36b | 5 | Albert Road at Leopold Grove | 1 | 2.5 | £16,000 | £16,500 |
| P37 | 5 | Promenade at North Pier | 1 | 2.5 | £16,000 | £16,500 |
| P38 | 5 | Talbot Square | 2 | 3 | £17,000 | £17,500 |
| P39 | 5 | Talbot Road east of Promenade | 3 | 4 | £18,500 | £19,000 |
| P40 | 5 | Promenade at Queen Street | 2 | 3 | £17,000 | £17,500 |
| P41 | 5 | Talbot Road opposite Station | 3 | 4 | £18,500 | £19,000 |
| TOTAL | | | | | £338,000 | £347,500 |

2.7.8 Operationally, the system can be very simply operated from a PC in the Council offices. This PC could provide links to the signs, show status reports, fault logs and car park information. This could be designed to ensure ongoing monitoring of car park status providing the council with an additional source of information about car park usage. CCTV could be used at the car parks to ensure accuracy can be checked and the system rebased as necessary without requiring staff to physically go to the car parks on a regular basis.

2.7.9 The PGI sign costs for power and infrastructure only have been calculated to £165,000, as discussed in Chapter 3.

2.8 Full Function VMS for event management

2.8.1 Sixteen VMS signs have been included for event management. These signs would be full function signs – at this stage it is assumed they would be 4 lines of 15 characters capable of displaying

event information, directional information, incident information or other messages as appropriate. Mobile VMS could also be employed and located as required for various events / incidents. However mobile VMS tend to look less tidy and adds additional operational / maintenance costs incurred through the positioning of them prior to events.

2.8.2 The following table details possible locations to consider for the installation of these signs:

Table 4 - Proposed locations and costing of full function VMS signs for event management

| Sign Ref. | Location | Cost |
|--------------|---------------------------------------------------------------------|-----------------|
| V1 | Promenade at Harrow Place Northbound | £30,000 |
| V2 | Promenade at Rawcliffe Street Southbound | £30,000 |
| V3 | Yeadon Way east of Watson Road Park | £30,000 |
| V4 | Waterloo Road at Seaside's Way Eastbound | £30,000 |
| V5 | Waterloo Road at Garden Terrace Westbound | £30,000 |
| V6 | Promenade, northbound, south of south pier | £30,000 |
| V7 | Promenade, southbound, north of south pier | £30,000 |
| V8 | Seaside's Way near Central / Chapel Street / Bonny street car parks | £30,000 |
| V9 | Promenade northbound south of the north pier | £30,000 |
| V10 | Promenade southbound north of north pier | £30,000 |
| V11 | Waterloo Road, eastbound, east of Promenade | £30,000 |
| V12 | Waterloo Road, Westbound east of Promenade | £30,000 |
| V13 | A583 northbound | £30,000 |
| V14 | M55 approach to A5230/Yeadon Way roundabout | £30,000 |
| V15 | M55 in advance of Junction 3 | £100,000 |
| V16 | M55 in advance of Junction 4 | £100,000 |
| TOTAL | | £620,000 |

2.8.3 The signing in advance of Junction 3 and Junction 4 on the M55 (if permitted) would be a large MS3 type cantilever sign with 3 lines of 18 characters, 400mm x-height and would be in the order of £100,000 each. The VMS sign on the M55 on the approach to the junction with Yeadon Way would also be a small MS3 type cantilever sign with 4 lines of 15 characters, 100mm-160mm x-height costing £30,000.

2.8.4 The total cost estimated for the full function VMS signage is £620,000.

2.8.5 It is assumed that the power consumption would be a revenue cost. This has not been included in the report as quantification of this cost is not predictable considering the hours per day equipment is in operation and the energy efficiency of the units being procured.

2.9 Installation costs (PC and software control)

- 2.9.1 An estimated £145,000 for installation costs would cover the physical installation of the PGI system. The costs included for the installation include the provision of a PC, monitor and the development of the control software including the graphical user interface and coding of the equipment included in the system.
- 2.9.2 The software would be bespoke for Blackpool but we would propose a UTMC compliant system to allow additional expansions to be undertaken by another contractor at a later date, rather than being tied into one supplier. This adds an additional cost but ensures the system is future proof.
- 2.9.3 Monitoring usage and operating costs to ensure that the software is functioning correctly would be funded by BBC, at approximately £140,000. It is envisaged that the system can run without human intervention; however monitoring would allow for increased accuracy and control.

2.10 CCTV coverage

- 2.10.1 CCTV coverage has been proposed for each of the car parks to allow for real time monitoring and for the PGI system to be observed. We estimated this to cost approximately £144,000 for all car parks included within the strategy as detailed in **Table 5**. However, this will depend on the number of cameras and associated infrastructure required to obtain the necessary coverage.
- 2.10.2 The proposed PGI CCTV system would be managed by Blackpool Council and would be integrated into their existing CCTV infrastructure.

2.11 Car park monitoring costs

- 2.11.1 The total cost of linking the entrances and egress' to the PGI signs for all of the 15 car parks comes to £192,000 which includes detector and cabling costs per entrance / egress. It should be noted that some entrances could be combined / removed as part of the detailed design stage, so reducing the overall cost. Car park monitoring costs are shown in **Table 5**.

Table 5 - Cost car park monitoring system based on access and egress points

| Car park | Study Area | Access / Egress points | Monitoring Costs | CCTV Costs |
|-------------------------|------------|------------------------|------------------|------------|
| Bonny Street | Central | 1 | £7,000 | £4,000 |
| Central | Central | 5 | £23,000 | £20,000 |
| Bloomfield Road | Central | 2 | £11,000 | £8,000 |
| Foxhall Village | Central | 1 | £7,000 | £4,000 |
| Chapel Street Surface | Central | 7 | £31,000 | £28,000 |
| East Topping Street | North | 4 | £19,000 | £16,000 |
| Houndshill Multi-storey | North | 1 | £7,000 | £4,000 |

| | | | | |
|----------------------------------|---------|---|-----------------|----------|
| Lonsdale Road Car Park | Central | 2 | £11,000 | £8,000 |
| Talbot Road Multi-Storey | North | 2 | £11,000 | £8,000 |
| Seasider's Way | Central | 2 | £11,000 | £8,000 |
| South Beach | South | 2 | £11,000 | £8,000 |
| South Car Park | South | 3 | £15,000 | £12,000 |
| West Street Multi-Storey | North | 1 | £7,000 | £4,000 |
| APCOA Wilkinsons (private) | North | 1 | £7,000 | £4,000 |
| Pleasure Beach (private) | South | 2 | £14,000 | £8,000 |
| Total | | | £192,000 | £144,000 |
| Car Park Monitoring Total | | | £336,000 | |

2.12 Summary

- 2.12.1 It is proposed to install 16 fully functional VMS signs, 19 PGI signs with variable elements, a car park monitoring system, CCTV and 24 static parking signs.
- 2.12.2 Overall, it is considered that a PGI and VMS system would operate well in Blackpool helping direct drivers to available spaces and along appropriate routes making the network more efficient and the journey more pleasant for visitors. Being able to disseminate information to drivers would help with traffic and event management to ensure a smoother flow of traffic through Blackpool, and to help direct vehicles to their appropriate destinations.

3 Final Estimated Costings Summary

3.1 Introduction

3.1.1 This section provides a summary of all costs estimated to implement the changes proposed within this document. It is important to note that these are to be used as a guide only and are not fixed. Up to date costs should be obtained from professional sources prior to undertaking any changes.

3.2 Costings Summary

3.2.1 The costs for the static signage and monitoring (including CCTV) proposed are shown in **Table 6**:

Table 6 - Static Sign and Monitoring costs

| Static Signs | Total cost |
|---------------------------------------------------------|-----------------|
| Static Parking Signs | £18,548 |
| Monitoring and CCTV | £336,000 |
| Subtotal for Static Signs & Monitoring costs | £354,548 |

3.2.2 **Table 7** shows the costs associated with the proposed VMS signs and dual post PGI variable element signs:

Table 7 - VMS and PGI Sign costs

| VMS and PGI signs only | Cost |
|---------------------------------------|-----------------|
| Full VMS | £620,000 |
| PGI Parking Signs | £338,000 |
| Subtotal for VMS and PGI costs | £958,000 |

3.2.3 The total of the above two tables is £1,312,548, which covers the cost of the PGI, Static and VMS signs and monitoring only. This cost does not take into consideration the costs associated with installation, communications setup and networking, however these costs have been summarised in **Table 8**.

Table 8 - Other costs associated with the project

| Other Capital Costs | |
|-------------------------------------------------------|-----------------|
| PGI sign power and infrastructure (only) | £165,000 |
| Installation costs to include PC and software control | £145,000 |
| Communications Setup | £180,000 |
| Subtotal for other costs | £490,000 |

3.2.4 Additionally, a number of revenue costs are to be remunerated by BBC. These costs include ongoing communications and technology maintenance, design, staff training and operational costs and have been derived using previous project experience and infrastructure cost estimates at the time of writing. The PGI / VMS system will be managed by BBC and where possible will utilise existing infrastructure (e.g. CCTV room) and will be operated by existing Civil Enforcement Officers.

3.2.5 It should be noted that the revenue estimates have been projected for a 15 year period. The total indicative revenue costings have been broken down as shown in **Table 9**. A 20% allowance for risk has been included to allow for fluctuation in rates or any potential unforeseen scheme costings.

Table 9 - Strategy Revenue Costs

| Revenue Costs (15 Years) | |
|-------------------------------------------------------------|-------------------|
| Communications (Including SDSL line lease, camera location) | £540,000 |
| Full design and procurement of a contractor | £120,000 |
| Technology Maintenance | £150,000 |
| Staff Training (£5,000 per year) | £75,000 |
| Ongoing Operations (1x £20,000 annual salary) | £300,000 |
| Monitoring and Operating of PGI | £140,000 |
| Subtotal for Revenue costs | £1,325,000 |
| Allowance for Risk (20%) | £265,000 |
| Total Revenue Costs (Incl. Risk) | £1,590,000 |

3.2.6 **Table 10** demonstrates all accumulated estimated capital costs:

Table 10 - Total Accumulated Capital Costs

| Total Accumulated Capital Costs | |
|---------------------------------------------|-------------------|
| Estimated Static Signs and Monitoring | £354,548 |
| VMS and PGI Variable Element Signs | £958,000 |
| Other Costs | £490,000 |
| Subtotal for Total Accumulated Costs | £1,802,548 |
| Allowance for Risk (20%) | £360,510 |
| Total Capital Costs (Incl. Risk) | £2,163,058 |

- 3.2.7 Allowance for risk has been calculated by assuming 20% of the total capital costs for the scheme, as shown in **Table 10**. By adding an allowance for risk, we are permitting the tolerance of uncertainty in execution of strategy elements.

Estimated Overall Capital Scheme Total (Incl. Risk): £2,163,058

- 3.2.8 It should be noted that this figure does not include the cost of traffic management during implementation, for example closing roads to erect signs.
- 3.2.9 Traffic management costs on the local road network associated with Static, PGI and local VMS signage is expected to be the responsibility of BBC as the Local Highways Authority. Traffic management costs for the full function VMS signage located on the SRN would be subject to further discussions and agreement between Highways England and BBC Highways Officers.

Appendix A – Highways England Correspondence

From: Anthony, Michael [<mailto:Michael.Anthony@aecom.com>]

Sent: 01 July 2015 12:15

To: Wild, David

Cc: Friel, Amy

Subject: M55 Blackpool - VMS

David,

AECOM has been commissioned by Blackpool Council to prepare an outline design for an Event Information system in Blackpool to help drivers navigate to the most appropriate car park for their destination. It is intended that the system will use Variable Message Signing (VMS) to provide drivers with up-to-date information, thereby improving network efficiency and driver experience.

At this stage, it is expected that the majority of car visitors to Blackpool will arrive via the M55 and it is proposed to provide VMS signs at the A5230/Yeadon Way roundabout. However, as part of this study, we would also like to explore the possibility of providing a VMS sign further to the east on the M55 on the approach to Blackpool.

The proposed signs would be fully functional capable of displaying event information, directional information, incident information or other messages as appropriate. I note in TA 83/05 Annex A that VMS can be deployed on motorways for Strategic Traffic Management with the aim of improving the performance of the network by redistributing traffic efficiently.

With the above in mind, please could you provide your views regarding to the potential to provide VMS on the M55 in this area.

Should you require any further information please do not hesitate to contact me.

Kind regards,

Michael Anthony

Principal Consultant

Transportation

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From: Wild, David [<mailto:David.Wild@highwaysengland.co.uk>]
Sent: 02 July 2015 11:20
To: Anthony, Michael
Cc: Reynolds, Shaun; Sinnott, Mike
Subject: M55 Blackpool - VMS

Anthony,

Thank you for your e-mail.

The installation of VMS on the M55 does accord with our technology strategy and therefore the principle would be acceptable. However, as you have alluded to below, there are strict requirements on the use / type of information that can be displayed on VMS. There would also be a need to demonstrate the strategic benefit that might be derived. With this in mind, we consider that any VMS strategy should provide appropriate alternatives for motorists. From our point of view, this would require the signing to commence in advance of J3 to enable motorists to use the A585 and A585(T) as alternative routes if necessary. In addition, the installation of VMS does raise some more fundamental questions, as follows:

- Who would control the messages and settings?
- What type of message would be permitted?
- Who would maintain the signs?
- How would the power consumption be funded if the signs are a non-Highways England asset?

Perhaps, once you have had an opportunity to consider the above issues, the best way forward might be to meet up to discuss in more detail. If this is acceptable, I would seek to bring along technology colleagues from both Highways England and our Service Provider.

Please give me a call if you wish to discuss

Kind regards,

Dave

David Wild, Asset Manager (Lancashire)

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