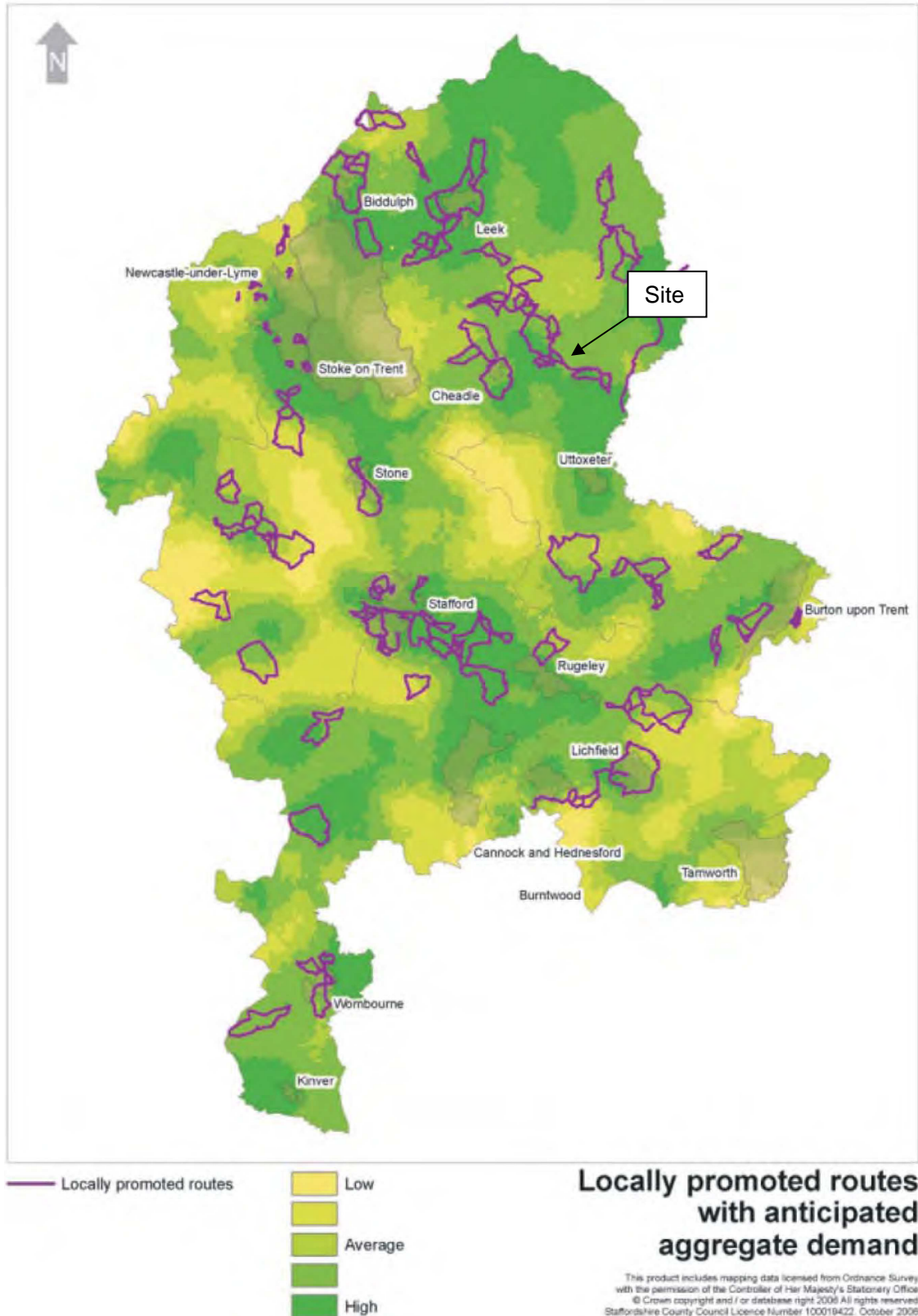


3.3.22 As well as the more strategically significant routes, there is also an extensive range of well established locally promoted walks provided by local authorities. The County Council supports the establishment of these routes through the Community Paths Initiative.

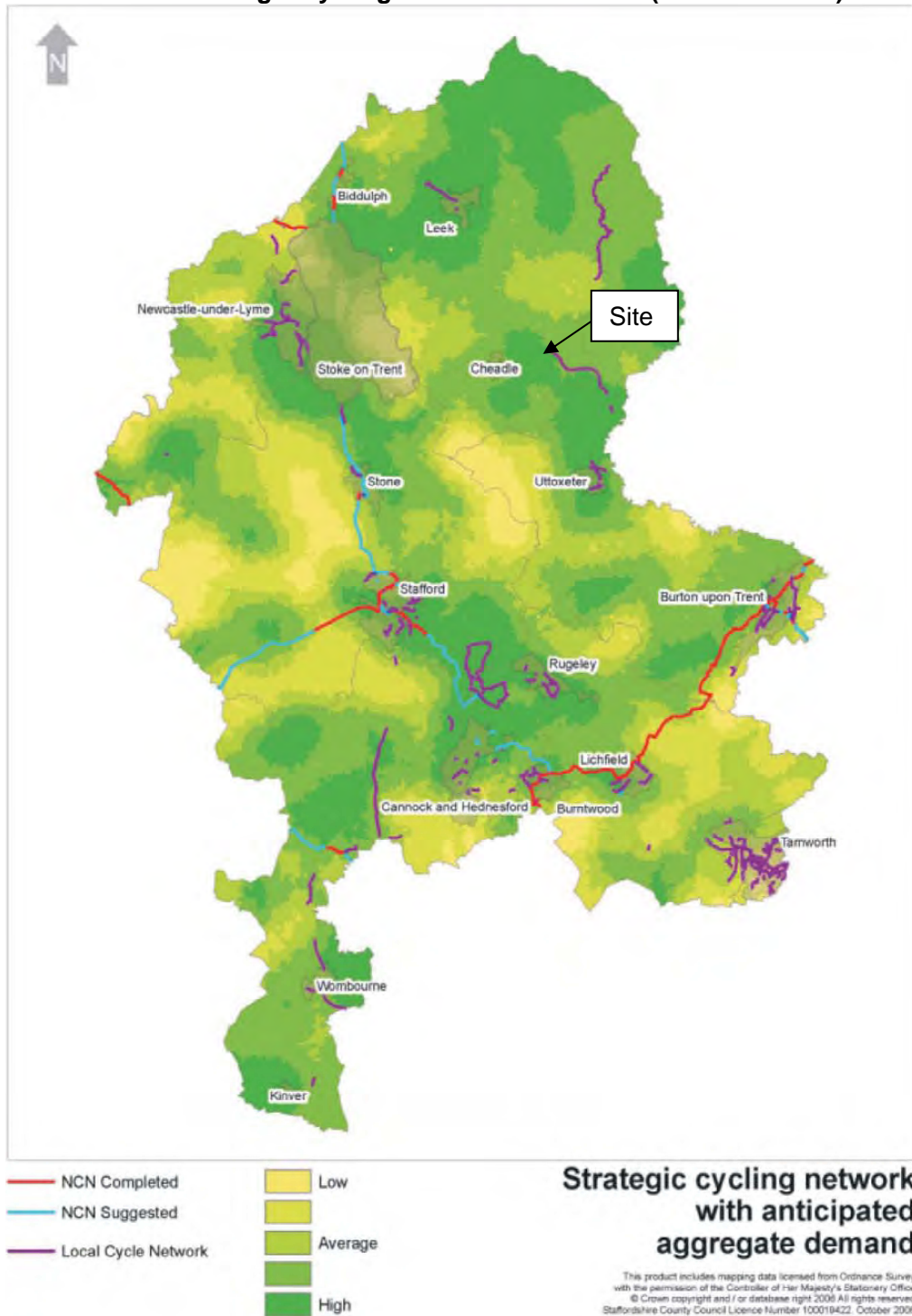
Insert 5: Locally Promoted Routes and Demand (ROWIP of SCC)



3.4 Cycle Accessibility and Infrastructure Audit

- 3.4.1 The CIHT guidance “Cycle Friendly Infrastructure for Planning and Design” states that three quarters of journeys by all modes are less than five miles (8km) and that this distance can be cycled comfortably by a fit person. It is concluded therefore that 8km represents a maximum realistic range for cycling trips.
- 3.4.2 **Plan 11** illustrates the areas within 3,000m and 5,000m cycle distances of the Application Site, whilst **Insert 6** illustrates the site location in context with strategic cycling routes and anticipated demand. Planit I.E. Ltd has also undertaken a more detailed audit of the potential cycle routes accessible from the site, which is contained in **Appendix B**.

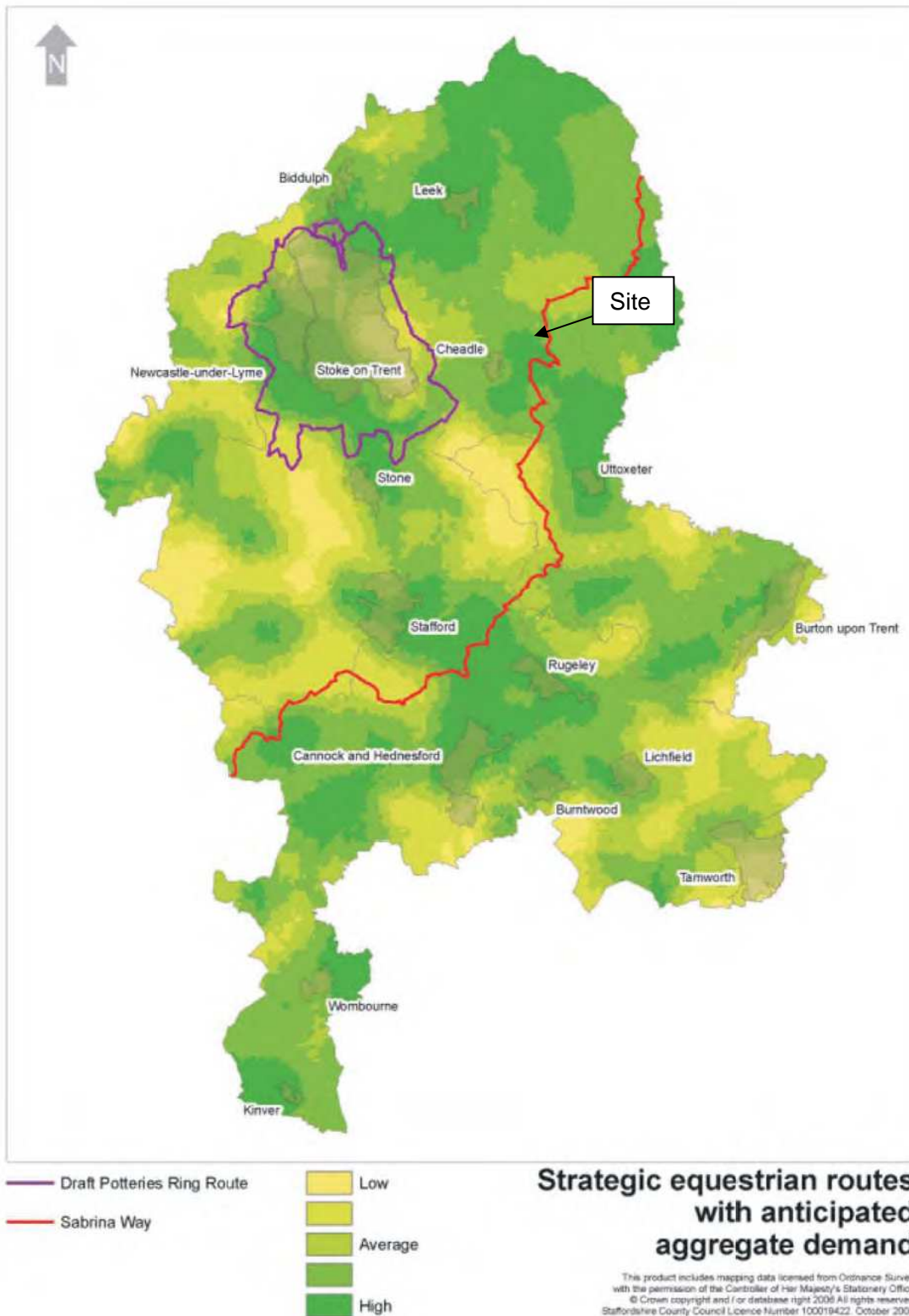
Insert 6: Strategic Cycling Routes and Demand (ROWIP of SCC)



3.5 Equestrian Accessibility and Infrastructure Audit

3.5.1 **Insert 7** illustrates the site location in context with strategic equestrian routes and anticipated demand.

Insert 7: Strategic Equestrian Routes and Demand (ROWIP of SCC)



3.6 Public Transport Accessibility and Infrastructure Audit

Bus Services

3.6.1 There are four regular public transport services accessible from the bus stops in either Oakamoor or Whiston. These are summarised in **Table 2**. The bus services provide links to major local conurbations such as Stoke-on-Trent as well as the nearby Alton Towers leisure park.

Table 2. Summary of Existing Bus Services Surrounding the Site

Frequency (Buses per Day) in Each Direction						
Bus Service No	Route Description	Access Point	Distance from Site (edge/hub)	Weekdays	Saturday	Sunday
				Daily	Daily	Daily
32A	Uttoxeter-Alton-Towers-Hanley	Oakamoor	1.5km	10	10	5
X39	Newcastle-Hanley-Alton Towers	Cotton	1.5/2km	2	2	1
32	Uttoxeter-Alton Towers-Hanley	Kingsley Holt	2.2km 4.2km	17	17	5
235	Cheadle-Ipstones-Leek	Cheadle	1.5/2km	7	5	No service

3.6.2 The frequency of bus services in the vicinity of the Application Site varies, but could cater for commuting to work trips and some leisure trips. However, the key to successful integration of the site into the public transport network will be to connect services to the site hub, which acts as the main point of arrival and departure for the site.

3.6.3 Alton Towers has confirmed that they would operate a bus service between the site and the leisure park for lodge residents wishing to visit Alton Towers for the day.

Conclusion

3.6.4 In conclusion, it is considered that the Application Site is accessible by a range of alternative modes of transport to the private car, subject to measures to improve the connection of the site to those transport links.

3.6.5 In particular the site is exceptionally well located in context with the public rights of way network comprising footpaths, cycle routes and equestrian routes, along with the anticipated demand for use of those routes identified by the Rights of Way Improvement Plan for Staffordshire.

3.6.6 The site also has a highly significant opportunity to connect the site to the prospective Churnet Valley Railway. The consequential support that linkage of the site to that rail service would provide, as a feature of the local tourist industry in its own right, would be a further material benefit of the proposals.

3.6.7 Additionally, the site is well located with respect to the nearby Alton Towers leisure theme park and associated tourism facilities, which further enhances the connectivity and relationship of the proposals to the local tourism industry.

3.6.8 The above features combine to provide a significant opportunity to create highly sustainable linkages to nearby destinations and facilities.

4 TRANSPORTATION RELATED POLICIES & GUIDANCE

4.1 Background

4.1.1 This section sets out relevant national and local transportation related policies against which the proposed development should be assessed, comprising the following documents identified through the scoping process for the planning application:

- National Planning Policy Framework (NPPF)
- Staffordshire Local Transport Plan 2011
- Staffordshire Moorlands Core Strategy (March 2014)
- Churnet Valley Masterplan – Supplementary Planning Document;

4.1.2 The requirements of each of these policy documents are identified in turn within this section.

4.2 National Planning Policy Framework

4.2.1 The Department for Communities and Local Government published its National Planning Policy Framework (NPPF) on 27th March 2012.

4.2.2 The NPPF replaces all Planning Policy Guidance (PPG) Notes and Planning Policy Statements (PPS) with a single document of under 60 pages. This is in line with the Government's 'Localism' reforms to reduce the role of central guidance.

4.2.3 The NPPF incorporates sustainable transport policy as a key plan for achieving sustainable development. At the heart of the NPPF is a:

'...presumption in favour of sustainable development...' (paragraph 14)

4.2.4 The NPPF states at paragraph 15 that policies in Local Plans should follow the approach of the presumption in favour of sustainable development so that it is clear that development which is sustainable can be approved without delay. All plans should be based upon and reflect the presumption in favour of sustainable development, with clear policies that will guide how the presumption should be applied locally.

4.2.5 Local authorities will be required to grant permission, using the NPPF as guidance, where the Local Plan is absent, silent, indeterminate or where relevant policies are out of date. Local Plans will therefore need to be prepared to take into account the content of NPPF.

4.2.6 With regards to the integration of transport and land-use planning the overarching principle is that planning should (see paragraph 17 of the NPPF):

'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'

4.2.7 In terms of promoting sustainable transport, the NPPF states at paragraph 29 that transport policies have an important role to play in facilitating sustainable development but also in contributing to wider sustainability and health objective.

4.2.8 At paragraph 32 the NPPF confirms that all developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment. Plans and decisions should take account of whether:

- 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.

4.2.9 NPPF confirms that development should only be prevented or refused on transport grounds where the residual impacts of development are severe.

4.2.10 The NPPF goes on to state at paragraph 35 that Local Plans should protect and exploit opportunities for the use of sustainable transport modes for the movement of goods or people. Therefore developments should be located and designed where practical to:

- give priority to pedestrian and cycle movements, and have access to high quality public transport facilities;
- create safe and secure layouts which minimise conflicts between traffic and cyclists or pedestrians, avoiding street clutter and where appropriate establishing home zones; and
- consider the needs of people with disabilities by all modes of transport.

4.2.11 In respect of car parking provision NPPF states at paragraph 39 that if setting local parking standards for residential and non-residential development, Local Planning Authorities should take into account the following:

- the accessibility of the development;
- the type, mix and use of development;
- the availability of and opportunities for public transport;
- local car ownership levels; and
- an overall need to reduce the use of high-emission vehicles.

4.3 Staffordshire Local Transport Plan 2011

4.3.1 The Staffordshire Local Transport Plan (LTP) from April 2011 is the third LTP to be published. It sets out the County Council's proposals for transport provision in the county, including walking, cycling, public transport, car based travel and freight, together with the management and maintenance of local roads and footways.

4.3.2 The LTP identifies seven countywide objectives, around which the policies within the LTP are based. The seven objectives are:

- Supporting growth and regeneration
- Maintaining the highway network
- Making transport easier to use and places easier to get to
- Improving safety and security
- Reducing road transport emissions and their effects on the highway network

- Improving health and quality of life
- Respecting the environment

4.3.3 Some of the policies that have been developed in pursuit of the above objectives, which are relevant to the proposed development, are summarised in the remainder of this section.

Policy 1.1: “We will stimulate regeneration and support areas of deprivation”

4.3.4 The aims of Policy 1.1 will be supported by new development that includes or is located in areas with good transport links and well connected to walking and cycling links and facilities, and where the demands of ‘place’ and ‘movement’ are considered together.

Policy 1.3: “We will facilitate sustainable access (including public transport, walking and cycling) to tourist attractions”

4.3.5 The aims of Policy 1.3 will be supported by:

- Managing visitor traffic to tourist attractions;
- Influencing visitors’ travel choices and travel behaviour; and
- Developing a Travel Plan to increase the proportion of visitors and employees travelling by ‘smarter’ travel modes.

Policy 1.4: “We will maximise the reliable operation of the existing road network”

4.3.6 Among other measures, the aims of Policy 1.4 will be supported by “promoting the delivery and further development of travel plans”

Policy 3.1: “We will support the adoption of sustainable land-use planning policies and reduce the impact of development where it negatively affects the highway network”

4.3.7 Among other measures, the aims of Policy 3.1 will be supported by:

- design and layout of new development that maximises access by smarter travel modes;
- planning obligations which secure highway capacity improvements, pedestrian and cycling facilities, new or improved bus services, demand management measures, public realm enhancements, and travel plans; and
- ensuring that travel plans, when required to support new development, include modal shift targets, annual performance monitoring, remedies and enforcement obligations.

Policy 3.2: “We will help to improve bus services”

4.3.8 Among other measures, the aims of Policy 3.2 will be supported encouraging measures that enable good accessibility to public transport from new developments and, where appropriate, secure funding from developers towards the associated costs.

Policy 4.4: “We will adopt measures designed to reduce crime, fear of crime and anti-social behaviour on the highway network”

4.3.9 Among other measures, the aims of Policy 4.4 will be supported by working to incorporate safety and security measures into the design and layout of new developments.

Policy 5.1: “We will promote alternatives to private motor vehicles”

4.3.10 Among other measures, the aims of Policy 5.1 will be supported by:

- developing and implementing an appropriate Travel Plan, as a way of managing travel to and from work in a sustainable way;
- development patterns and land use mixes that reduce the need to travel and enable the use of ‘smarter’ travel modes;
- new development that includes or is located in areas with good public transport links, well-connected to walking and cycling networks and facilities, and where the demands of ‘place’ and ‘movement’ are considered together;
- working to mitigate impacts of development in less sustainable locations, but which is essential to support regeneration and economic growth; and
- considering transport and access at an early stage in service design and delivery of new development.

Policy 6.1: “We will create a physical and cultural environment in which everyone feels confident to walk and cycle”

4.3.11 The aims of Policy 6.1 will be supported by meeting the aims and policies contained within the Staffordshire Cycling Strategy, the Staffordshire Walking Strategy and the Staffordshire Rights of Way Improvement Plan.

Policy 7.1: We will reduce emissions from road transport.

4.3.12 The aims of Policy 7.1 will be supported by promoting alternatives to the private car, in addition to promoting low emission vehicles and vehicle efficiency.

Policy 7.2: We will reduce the negative impact of (road) traffic-related noise.

4.3.13 Among other measures, the aims of Policy 7.2 will be supported by working to minimise the impact of traffic generated by new development on noise levels.

4.4 Staffordshire Moorlands Core Strategy (March 2014)

4.4.1 The Core Strategy is the key LDF document. It is a strategic District wide plan which influences how and where the Staffordshire Moorlands will develop in the future. It sets out what the District Council would like to achieve in each of the main towns and the rural areas outside the Peak District National Park.

4.4.2 The Core Strategy will supersede the saved policies from the Staffordshire Moorlands Local Plan (which are listed in Appendix H of the adopted Core Strategy). The development boundaries and Green Belt boundaries within the Local Plan are still in force until such time as they are reviewed as part of the Site Allocations work currently being undertaken.

4.4.3 Reducing the need to travel, and reducing the reliance on the car is a well-established planning principle stemming from concerns at combating climate change (reducing vehicular emissions) and of addressing social equity (ensuring physical accessibility to all sections of society). The Staffordshire Local Transport Plan is the principal means of addressing transport issues in the District, and the proposed policy approach seeks to ensure that proposals in the LDF are helping deliver the objectives of the Local Transport Plan.

- 4.4.4 It is considered that there is potential in affecting modal shift away from the car in Staffordshire Moorlands in two respects - by targeting public transport improvements along the main 'work corridors' connecting the Moorlands with the conurbation; and by promoting public transport schemes within rural areas and between rural areas and towns
- 4.4.5 Policy T1 – Development and Sustainable Transport “The Council will promote and support development which reduces reliance on the private car for travel journeys, reduces the need to travel generally and helps deliver the priorities of the Staffordshire Local Transport Plans, where this is consistent with other policies.”
- Ensuring that all new development is located where the highway network can satisfactorily accommodate traffic generated by the development or can be improved as part of the development.
 - Ensuring that major development is located in areas that are accessible by sustainable travel modes or can be made accessible as part of the proposal.
 - Referring to appropriate parking standards as laid out in national guidance, or any parking standards that may be produced locally.
 - Where appropriate all new development shall facilitate walking and cycling within neighbourhoods and town centres, and link with or extend identified walking or cycling routes.
- 4.4.6 Development which generates significant demand for travel or is likely to have significant transport implications (as identified within a Transport Assessment) will, where appropriate:
- Contribute to improved public transport provision
 - Provide proactive facilities and measures to support sustainable transport modes including on-site features to encourage sustainable travel methods e.g. cycle path links, cycle storage facilities, bus stops etc
 - Provide and actively promote travel plans
- 4.4.7 Policy T2 – Other Sustainable Transport Measures “the Council will encourage and support measures which promote better accessibility, create safer roads, reduce the impact of traffic, or facilitate highway improvements”. In relation to the development proposals:
- Continue to safeguard all existing disused railway lines within the District and support the reuse of these for public or commercial/tourism use. To this end the Council will refuse any development which would impede or truncate these routes. However proposals for recreational routes, cycleways, bridleways etc will generally be acceptable.
 - Work with its partners to promote the improvement/expansion of existing bus services and the provision of innovative sustainable transport services in the District, particularly those serving rural areas;
 - Support and promote the development of a network of safe walking, horse riding and cycling routes (including the National Cycle Network), connecting to transport interchanges, linking communities and recreational/tourist areas.

4.5 Churnet Valley Masterplan – Supplementary Planning Document

4.5.1 Eight local character areas have been identified in Churnet Valley Masterplan (CVM) that reflect the distinctiveness of areas of the Churnet Valley and the role these individual character areas will play in achieving the vision. Moneystone (Kingsley Holt, Oakamoor) is one of eight local character areas.

4.5.2 In Concept Statement of Moneystone Quarry opportunity site, CVM states:

“Quarrying activity recently ceased at Moneystone Quarry. Condition 35 of the quarry permission (planning permission ref: SM.96/935) requires the restoration of the site within 2 years from the completion of working and for the management and aftercare of the restored site for a period of five years from the completion of its restoration. The new owners, Laver Leisure, submitted amendments to the approved Restoration Plan. Laver Leisure withdrew their submission in January 2014 and replaced it with a Revised Restoration Plan. This was approved by Staffordshire County Council on the 13 March 2014.

The site represents an opportunity to create a high quality leisure venue to complement other recreational and leisure attractions and enhance the area but needs to be of a scale which does not undermine the tranquillity and character of this sensitivity part of the Churnet Valley and other business”

4.5.3 In Development Strategy of Moneystone Quarry opportunity site, CVM states that new leisure development should be based on around restoration of the quarry. Appropriate uses includes:

- Holiday accommodation – low impact holiday lodges in Zones 1 and 2. Limited development in Zones 4 and 5, maximum of 250 holiday lodges in total

4.5.4 It can be seen that the current development proposals are in line with the CVM.

4.5.5 In Accessibility and connectivity of Moneystone Quarry opportunity site, CVM states:

- “Utilise the opportunities the site affords for outdoor recreational activities such as cycling, walking and horse riding and water based activities;
- Ensure development does not generate unacceptable volumes of traffic on existing road network and that major highway works are avoided;
- Incorporate measures to create off road links to be used by cyclists, walkers and horse riders to reach other attractions.
- Appropriately address any significant demand for travel generated by development through complementary highway improvements of access routes;
- Promote the use of sustainable modes of transport to reach the site and once at the site to explore the surrounding area;
- Ensure that necessary road improvements associated with the expansion of the facility should be in-keeping with the character of the area and avoid creating intrusive features. Roads within the site should be of a scale and nature that are not intrusive to the landscape character and should minimise hedgerow and tree removal;
- Incorporate measures to dissuade visitors from driving to other attractions; and
- Ensure highway/junction improvements to support development subject to minimising environmental impact.”

4.5.6 Concerning Sustainable Transport, CVM states:

“All proposals should aim to support more sustainable means of transport within and into the Churnet Valley and seek to change visitor perceptions of how they can travel around the Churnet Valley by increasing transport choices for those wishing to visit attractions and facilities and, where appropriate, providing facilities to enable visitors to park up and travel from key points by more sustainable travel means, and through measures to manage access and movement and encourage off-site exploration by non-motorised means.”

5 TRAFFIC FLOW ANALYSIS

5.1 Development Scenarios

5.1.1 It was agreed with SCC that following 2 off-site junctions on the local highway network would be assessed:

- A52 / Whiston Eaves Lane priority junction (existing layout refer to **Plan 9**); and
- B5417 / Carr Bank (Oakamoor) priority junction.

5.1.2 It is understand that the construction phase of the development could take between 3 to 5 years. In order to provide a robust assessment, a 3 year construction period has been allowed for; i.e. 2015-2017.

5.1.3 As agreed with SCC, the assessment year of the proposed leisure development on Moneysstone Quarry site would be the opening year (2017) and 5 year afters after opening year (i.e. 2022).

5.2 Assessment Time Periods

5.2.1 A transport analysis has been undertaken of trip generation, trip distribution, trip type, modal split and likely route choices (traffic assignment); for the following forecast time periods:

1. the average and August peak weekday morning and evening peak hours (08:00hrs-09:00hrs) and (17:00hrs-18:00hrs) that are representative of typical peak hour operating conditions;
2. the typical average and August peak maximum weekend peak hour conditions (Saturday 1700-1800hrs); and
3. the annual average daily 24-hour (00:00hrs -24:00hrs) period, relating to highway safety assessments and to inform the Environmental Statement local air quality assessments.

5.2.2 The consideration of the development traffic impact on the local highway network covers the peak periods of traffic demand relevant to the combination of development and background traffic.

5.2.3 Where a worst-case traffic impact is found to have an acceptable impact on highway operational capacity, lesser impacts need not be considered in further detail.

5.3 Baseline Data

5.3.1 It was agreed with the LHA that the 2010 and 2011 surveys used in the 2012 Transport Assessment would still be acceptable to be used for the purpose to derive the baseline traffic flows for the assessment years.

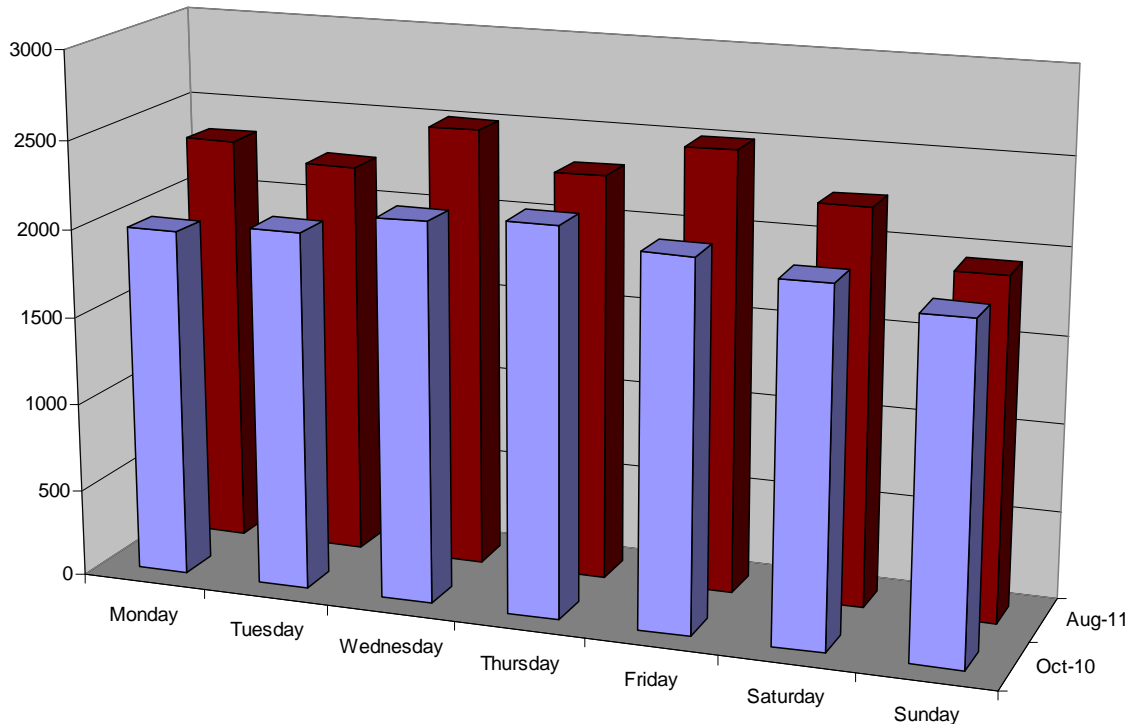
5.3.2 The scope of the baseline traffic surveys were agreed with Staffordshire County Council in October 2010, as illustrated on **Plan 12** and summarised as follows.

- 24hr 7-day Automatic Traffic Counts (ATC) on the A52, Eaves Lane, Blakely Lane, Carr Bank, Moneysstone Quarry access road and the B5417.

5.3.3 The ATC classified link volume and speed traffic data was carried out from Friday 15 to Thursday 21 October 2010 and from Saturday 13 to Tuesday 30 August 2011. It has been agreed with SCC that the 2010 and 2011 survey results are still representative of traffic flows today as it has been demonstrated through Annual Average Daily Traffic counts carried out by the Department for Transport that there has been relatively zero traffic growth on the A52. The results are summarised in **Appendix C**.

- 5.3.4 The October 2010 survey data represents relatively stable conditions in a neutral month, i.e. a month that may be taken as representative of typical conditions throughout the year, relatively unaffected by temporary changes arising from holidays and atypical events.
- 5.3.5 Selected key locations were re-surveyed in August 2011 in order to obtain information on the level of variation in the baseline data. The daily and seasonal variation in baseline traffic flows for the A52 is illustrated in **Insert 8**.

Insert 8: Baseline Data – A52 Daily and Seasonal Traffic Flow Variations



- 5.3.6 The results of the traffic data variation comparison is summarised in more detail in **Table 3**.

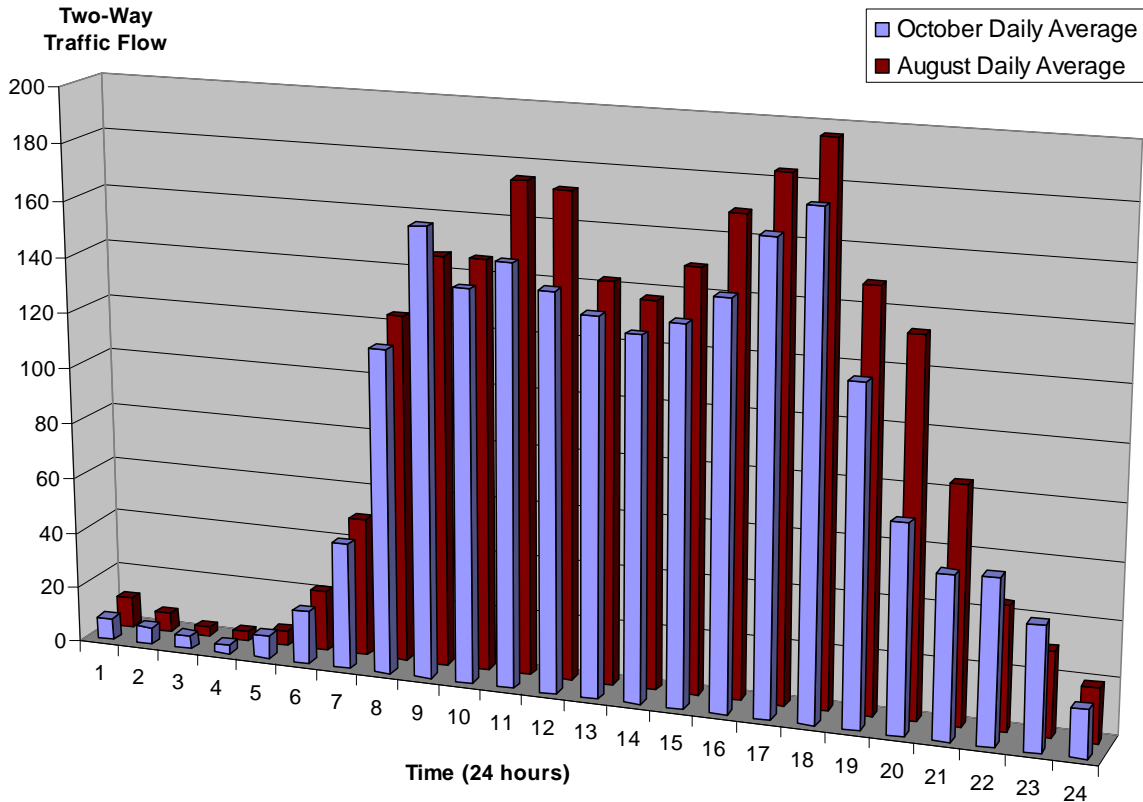
Table 3. Baseline Data Variation

Location	Daily Variation		Five-day average			Seven-day average		
	Oct-2010	Aug-2011	Oct-2010	Aug-2011	Change	Oct-2010	Aug-2011	Change
A52 Whiston	+/- 8%	+/- 16%	2,095	2,384	+14%	2,056	2,303	+12%
Blakeley Lane	+/- 25%	+/- 23%	54	46	-15%	53	47	-11%
Eaves Lane	+/- 12%	+/- 11%	270	263	-3%	262	257	-2%
B5417 Church Bank	+/- 23%	+/- 6%	2,779	3,381	+22%	3,009	3,412	+13%

- 5.3.7 The summary data in **Table 3** illustrates that the A52 and B5417 both carry more traffic in August than a typical month. The most likely reason for this is due to the increase in tourism traffic generated by the Peak District and nearby Alton Towers site.
- 5.3.8 The increase is more pronounced on weekdays, as during the school summer holidays more traffic is attracted to leisure uses in the area than is the case during a typical month throughout the year. This is revealed by the significant reduction in the level of daily variation in traffic flows on the B5417 through Oakamoor during August and the fact that the weekday traffic increase is higher than the full seven-day weekly average.

5.3.9 The variation between October and August in hourly traffic flows throughout the day on weekdays is illustrated in **Insert 9**.

Insert 9: Baseline Data – A52 Hourly and Seasonal Traffic Flow Variations



5.4 Future Background Traffic Growth

5.4.1 As agreed with the SCC, TEMPRO growth rates adjusted by NTM have been used to derive the growthed surveyed flows for the assessment years. The resulting derived background traffic growth rates from a base year of 2010/2011 forwards to 2017 and 2022 for roads within the rural Staffordshire Moorlands geographic area are summarised below, using the TEMPRO 6.2 and NTM AF09 datasets:

TEMPRO Growth Factors Adjusted by NTM (2017 Assessment Year)

Principal roads

Growth Period	Time Period	TEMPRO Growth Factors adjusted by NTM
2011-2017	Weekday AM Peak period (0700-0959)	1.0309
	Weekday PM Peak period (1600-1859)	1.0320
	Saturday (all times of the day)	1.0298

Minor roads

Growth Period	Time Period	TEMPRO Growth Factors adjusted by NTM
2011-2017	Weekday AM Peak period (0700-0959)	1.0358
	Weekday PM Peak period (1600-1859)	1.0369
	Saturday (all times of the day)	1.0346

TEMPRO Growth Factors Adjusted by NTM (2022 Assessment Year)

Principal roads

Growth Period	Time Period	TEMPRO Growth Factors adjusted by NTM
2011-2017	Weekday AM Peak period (0700-0959)	1.0852
	Weekday PM Peak period (1600-1859)	1.0870
	Saturday (all times of the day)	1.0832

Minor roads

Growth Period	Time Period	TEMPRO Growth Factors adjusted by NTM
2011-2017	Weekday AM Peak period (0700-0959)	1.0943
	Weekday PM Peak period (1600-1859)	1.0961
	Saturday (all times of the day)	1.0923

5.4.2 The above traffic growth rates have been applied to the 2011 background traffic flows to derive a reference case for the future years (2017 and 2022) traffic conditions. The reference case takes into account the latest planning data used by TEMPRO, which consists of demographic forecasts from national data sources of population, households and employment.

5.5 Committed Development

5.5.1 It has been agreed with SCC that there is no committed development to take into account as part of this assessment.

5.6 Forecast Daily Trip Generation

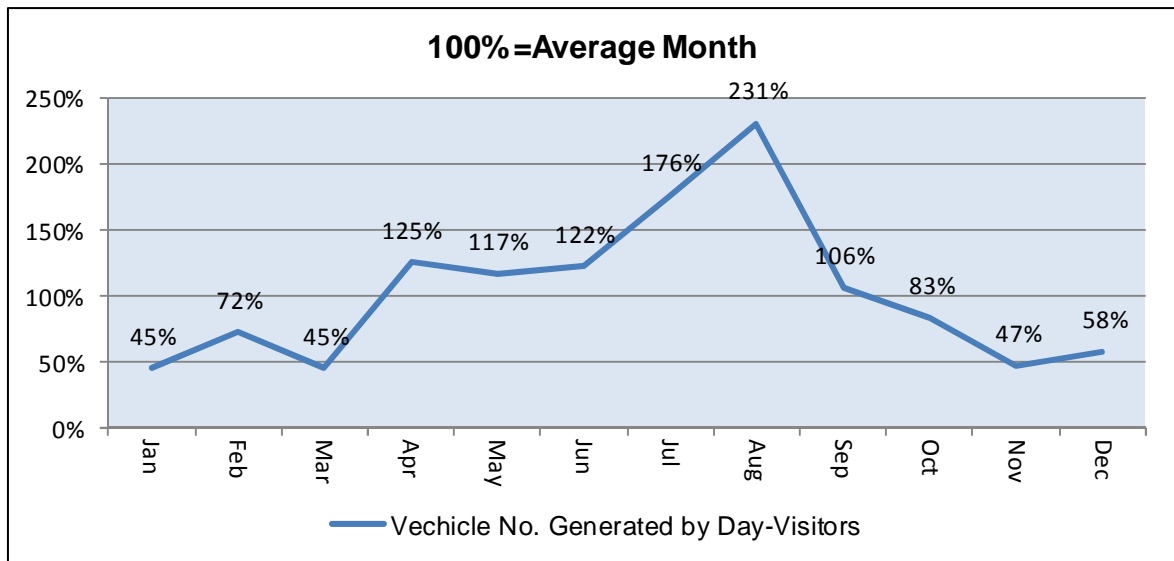
Daily Vehicle Generation by Day-Visitors

5.6.1 Vehicle generation by day-visitors refer to number of vehicles travelling to and from the proposed leisure park on the same day.

5.6.2 Vehicle generation by day-visitors associated with the proposed Moneystone Quarry Leisure development has been provided by Christie & Co. The calculation is based on assumptions supported by evidence of comparable parks elsewhere. The data from Christie & Co is included in **Appendix D**.

5.6.3 **Insert 10** shows seasonal variation of vehicle generation by day-visitors to the development site. This takes into account the fact that demand for the proposed leisure will vary seasonally, although the site would be operational all year round. The annual average level of demand is indicated as 100% in **Insert 10**.

Insert 10: Seasonal Visitor Variation (% of Annual Average)



5.6.4 **Table 4** summarises daily vehicle generation of day-visitors for the periods of:

- Annual average;
- August average;
- Busiest Weekday (is forecast in August); and
- Busiest Weekend (is forecast in Saturday or Sunday in August)

Table 4. Daily Vehicle Generation of Day-Visitors

Period	Daily Vehicle Generation (Day-Visitors)		
	Arrival	Departure	Two-way
Annual Average Day	56	56	112
August Average Day	129	129	257
Busiest Weekday (is forecast in August);	100	100	200
Busiest Weekend (is forecast in Saturday or Sunday in August)	200	200	400

Daily Vehicle Generation by Proposed 250 Lodges

5.6.5 Vehicle generation by the lodges associated with the proposed Moneystone Quarry Leisure development has been provided by Christie & Co (**Appendix D**). It can be seen from **Appendix D** that the busiest weekend is forecast to be in August and busiest weekday is forecast to be in May.

5.6.6 **Table 5** summarises the daily vehicle generation associated with the proposed 250 lodges for the time period of:

- Busiest Weekday (in May); and
- Busiest Weekend (Saturday or Sunday in August)

Table 5. Daily Vehicle Generation of Proposed 250 Lodges

Period	Daily Vehicle Generation (250 Lodges)		
	Arrival	Departure	Two-way
Busiest Weekday (in May)	52	46	98
Busies Weekend (Saturday or Sunday in August)	139	139	278

Daily Vehicle Generation by Staff and Service

- 5.6.7 The forecast employment creation of the Moneystone proposals is around 375 jobs, with approximately 33% of these being full time (125 full time posts), with the remainder (i.e. 250 part time posts) as part-time/seasonal roles. The employee level would be stable through the year and would not fluctuate seasonally. In addition it is envisaged that staff would be employed who are local to the development site and would be actively encouraged to travel by non-car modes. A key measure to ensure that employee travel by car would be kept to a minimum is proposing a limited number of parking spaces on site for employees.
- 5.6.8 Average daily vehicle trip generations on the site have been based on a proposed staff car parking provision of 36 spaces. The average annual daily number of 72 two-way employee vehicle trips would be generated by the proposed development.
- 5.6.9 Service vehicle trip generation has been considered to be negligible and therefore is not included in the assessment.

Total Daily Vehicle Generation in Worst Scenario

- 5.6.10 In order to provide a robust assessment, the busiest daily weekday flows for day visitors, which occurs in August, have been combined with the busiest daily weekday flows for the lodges, which occurs in May. The weekend flows for the lodges and day visitors both occur in August. The busiest daily traffic generation that would during a weekday and weekend are summarised in **Table 6**.

Table 6. Daily Total Vehicle Generation of Proposed Moneystone Quarry Leisure Development

Period		Total Daily Vehicle Generation		
		Arrival	Departure	Two-way
Busiest Weekday (for day visitors in August and for Lodges in May)	Day-visitor	100	100	200
	Lodge	52	46	98
	Staff	36	36	72
	subtotal	188	182	370
Busies Weekend (Saturday or Sunday in August)	Day-visitor	200	200	400
	Lodge	139	139	278
	Staff	36	36	72
	subtotal	375	375	750

- 5.6.11 It can be seen from **Table 6** that during the busiest weekday when the proposed leisure development would be fully operational the site would generate a maximum of 370 daily two-way flows and during the busiest weekend the site would generate 750 daily two-way flows.

5.7 Time Periods for Analysis

- 5.7.1 The traffic surveys, which were conducted in 2010 and 2011, shows that the weekday AM peak hour period for the local principle road network is 08:00-09:00, and the weekday PM peak hour period is 17:00-18:00. The Saturday peak hour period is 17:00-18:00.

5.8 Forecast Peak Hour Trip Generation

5.8.1 Forecast peak hour trip generation has been derived based on the following:

- During the morning peak hour, the trip generation by the employee is 36 arrivals and for the evening peak hour is 36 departures, allowing for the maximum trip generation for employees to occur during peak hours;
- Christie & Co has advised that vehicle trips associated with the lodges are forecast to arrive at the site during the time period of 12:00-19:00 and to depart from the site during the time period of 09:00-14:00. For the purposes of this assessment the daily arrival and departures have been evenly split over the hours of arrival and departure respectively; and
- Vehicle trips associated with day-visitors is assumed to arrive at the site during the time period of 08:00-10:00 with evenly hourly flows; and to depart from the site during the time period of 17:00-19:00 with evenly hourly flows.

5.8.2 **Table 7** summarises the trip generation associated with the development proposals during a weekday morning and evening peak hour and a Saturday peak hour.

Table 7. Peak Hour Total Vehicle Generation of Proposed Moneystone Quarry Leisure

Day	Time Period	Direction	Day-visitor	Lodges	Staff	Total
Weekday	0800-0900	Arrivals	50 (=100/2)	0	36	86
		Departures	0	7 (=46/7)	36	43
Weekday	1700-1800	Arrivals	0	7 (=52/7)	36	43
		Departures	50 (=100/2)	0	36	86
Saturday	1700-1800	Arrivals	0	20 (=139/7)	36	56
		Departures	100 (=200/2)	0	36	136

5.8.3 Additionally, in order to provide a very robust assessment, a contingency of 20% has been added to the trip generation for the purposes of this assessment. The resulting peak hour vehicle generation is summarised in **Table 8**.

Table 8. Peak Hour Total Vehicle Generation of Proposed Moneystone Quarry Leisure (inc. 20% Contingency Trips)

Day	Time Period	Direction	Day-visitor	Lodges	Staff	Total
Weekday	0800-0900	Arrivals	60	0	43	103
		Departures	0	8	43	52
Weekday	1700-1800	Arrivals	0	8	43	52
		Departures	60	0	43	103
Saturday	1700-1800	Arrivals	0	24	43	67
		Departures	120	0	43	163

5.9 Trip Distribution & Traffic Assignment

- 5.9.1 As agreed with SCC, the trip distribution in the 2012 TA has been used in this assessment. The trip distribution derived for the 2012 draft TA is summarised in **Table 9**.

Table 9. Traffic Assignment

Location	Route	Assignment
Whiston	A52 (E)	24.5%
Whiston	A52 (W)	61.5%
Oakamoor	B5417 (E)	13.2%
Oakamoor	B5417 (W)	0.9%
Total		100%

5.10 Summary of Traffic Flow Analysis

- 5.10.1 The 2011 growthed surveyed traffic flows are illustrated in **Figures 1 to 3**, in passenger car units (pcu), for a weekday morning and evening and Saturday peak hour respectively.
- 5.10.2 The 2017 growthed surveyed traffic flows are illustrated in **Figures 4 to 6**, for a weekday morning and evening and Saturday peak hour respectively.
- 5.10.3 The 2022 growthed surveyed traffic flows are illustrated in **Figures 7 to 9**, for a weekday morning and evening and Saturday peak hour respectively.
- 5.10.4 The trip distribution for the proposed development is shown in **Figure 10** (day visitors and staff) and **Figure 11** (lodges).
- 5.10.5 The trip generation in **Table 8** was distributed onto the local highway network using the distribution shown in **Figures 10 and 11**. The resulting trips are shown in **Figures 12 to 14** for the weekday AM peak hour, **Figures 16 to 18** for the weekday PM peak hour and **Figures 20 to 22** for the Saturday peak hour.
- 5.10.6 The forecast total trip generation by the proposed development for the development (as shown in **Figures 15, 19 and 23** for the weekday AM peak, weekday PM peak and Saturday peak respectively) have been added to **Figures 4 to 6** to derive the 2017 weekday AM peak, PM peak and Saturday peak hour 'with' development traffic flows, which are shown in **Figures 24 to 26**.
- 5.10.7 The forecast total trip generation by the proposed development for the development (as shown in **Figures 15, 19 and 23** for the weekday AM peak, weekday PM peak and Saturday peak respectively) have been added to **Figures 7 to 9** to derive the 2022 weekday AM peak, PM peak and Saturday peak hour 'with' development traffic flows, which are shown in **Figures 27 to 29**.

6 HIGHWAY CAPACITY ASSESSMENT

6.1 Background

- 6.1.1 This section of the report quantifies the likely traffic impact of the development proposals on highway operational capacity during a busiest weekday morning and evening, and a busiest Saturday peak hour period. All other periods will operate with lower traffic demand than these peak hour periods. The calculation of traffic impact enables the need for mitigation works to be identified and in turn, allows the design of any mitigation works to be established.
- 6.1.2 It should be noted that in undertaking traffic impact assessment it is only the busiest peak hours that have been assessed. For all other hours of the day, development traffic volumes will be lower, as will background network traffic flows.
- 6.1.3 For this reason, highway capacity is not considered to be a significant constraint on the proposed Moneystone Park development. The Transport Strategy therefore aims to mitigate the transport impact of the development by focussing on highway safety and sustainable travel, in order to manage transport demand, rather than adopting a 'predict and provide' approach to highway capacity. This avoids creating an incentive for greater reliance on vehicular travel.
- 6.1.4 The LPA in considering the development proposals will no doubt be mindful of this when weighing up the long term benefits of redevelopment of the area, against the daily peak hour traffic conditions in the area, as it is unavoidable that economic regeneration will increase activity and hence, vehicular traffic in the locality.

6.2 Scope of Assessment

- 6.2.1 The assessment has been undertaken in two stages. In the first stage, the Local Highway Network Study Area has been assessed to establish the areas where a material traffic impact may accrue as a result of the development.
- 6.2.2 The daily percentage traffic impact on each traffic stream at these junctions has been obtained by dividing the With-Development traffic flows on the network by the 2022 Background traffic flows. For consistency with the Environmental Statement, the following thresholds have been established to identify the significance of the With-Development impact in comparison to the 2022 Background traffic flows:

Level	Scale of Change
High	> 10% net increase in traffic flows on Local Roads
	> 10% net increase in traffic flows on Strategic Roads
Medium	Between 5% and 10% net increase in traffic flows on Local Roads
	Between 1% and 10% net increase in traffic flows on Strategic Roads
Low	Between 1% and 5% net increase in traffic flows on Local Roads
	Between 0.5% and 1% net increase in traffic flows on Strategic Roads
Negligible	< 1% net increase in traffic flows on Local Roads
	< 0.5% net increase in traffic flows on Strategic Roads
Beneficial	Any decrease in traffic flows

- 6.2.3 It can be seen from **Table 6** that the daily total vehicle flows generated by the proposed leisure park on a busiest weekend day (i.e. a Saturday in August) is significantly higher than the generated daily flows on a busiest weekday.

- 6.2.4 In order to provide a robust assessment, the daily traffic flows generated by the proposals on a Saturday have been used in the percentage impact assessment.
- 6.2.5 Where the percentage impacts exceed the threshold of **Low** to **Medium** traffic impact (depending on the sensitivity of the junction to operational problems), then the junction needs to be assessed further to consider the highway operational capacity in detail. This is the second stage of assessment required to establish the forecast level of operational performance under the With-Development flow scenario.
- 6.2.6 This section of the report describes the assessment of traffic impact at the junctions which experience a material impact. This assessment of highway operational capacity can be broken down into two processes. In the first instance, an assessment is undertaken to determine the forecast “with development” traffic scenario for each junction, to establish whether or not the junctions will operate within their existing available capacity.
- 6.2.7 In brief, the assessment tests whether the junctions will operate adequately under the development scenario flows. If the junctions are capable of operating adequately, then the assessment need progress no further.
- 6.2.8 If on the other hand it is found that traffic congestion, safety or operational conditions go beyond acceptable limits, then a second stage of assessment needs to be undertaken. In such cases, the “without development” scenario were also tested under the 2022 Background traffic flows to establish whether the forecast future level of operation also transpires as a result of existing and future committed network issues, or solely as a result of the development proposals.

6.3 Scale of Traffic Impact

- 6.3.1 The traffic assignment onto the local highway network identifies the key location for highway capacity analysis as the access route from the A52 via Whiston Eaves Lane junction. The background traffic and development traffic flows are illustrated for the August peak daily traffic in **Table 10. Figures 30 to 33** shows the daily two-way traffic flows for the 2011 Background Traffic Flows, 2022 Background Traffic Flows, Development Traffic Flows and 2022 with Development Traffic Flows respectively, and **Figure 34** shows the daily percentage impact.

Table 10. Two-Way Link Flow Changes (August Forecasts)

Link	2011 Background Flows (100%)	2022 Background Flows	Moneystone Park Traffic	2022 With Development Total	Development Traffic Impact
A52 (West of Eaves Lane)	2,502	2,724	554	3,278	+20.3%
A52 (East of Eaves Lane)	2,303	2,511	229	2,740	+9.1%
B5417 (West of Carr Bank)	3,311	3,640	8	3,648	+0.2%
B5417 (East of Carr Bank)	3,202	3,520	118	3,638	+3.4%
Whiston Eaves Lane / A52	458	503	755	1,258	+150.1%
Eaves Lane	210	231	123	354	+53.2%
Carr Bank (in Oakamoor)	813	893	126	1,019	+14.1%

- 6.3.2 The traffic impacts for the total inflow into each junction and inflow on each arm are classified for each junction in turn below, in relation to the thresholds identified previously for ‘**Negligible**’, ‘**Low**’, ‘**Medium**’ and ‘**High**’ traffic impact respectively.

Junction 1: A52 / Whiston Eaves Lane

- 6.3.3 The With-Development scenario results in a significant increase on the total inflow into the junction, from Whiston Eaves Lane in particular in the +5 year assessment scenario. The arms of the junction experience the following scale of traffic impact in August 2022

- Whiston Eaves Lane = 150.1% increase = a relatively high increase; however, this is from a low baseline traffic flow.
- A52 West of Whiston Eaves Lane = 20.3% increase = a relatively high increase; however, this is from a relatively low baseline traffic flow for an A-class road.
- A52 East of Whiston Eaves Lane = 9.1% increase = a medium increase; however, this is from a relatively low baseline traffic flow for an A-class road.

Junction 2: B5417 / Carr Bank

6.3.4 The With-Development scenario results in a significant increase on the total inflow into the junction, from Whiston Eaves Lane in particular in the +5 year assessment scenario. The arms of the junction experience the following scale of traffic impact in 2022.

- Carr Bank = 14.1% increase = a relatively high increase; however, this is from a very low baseline traffic flow.
- B5417 West of Carr Bank = 0.2% <1% increase = a negligible change.
- B5417 East of Carr Bank = 3.4% increase = a medium scale change.

Summary

- 6.3.5 The above thresholds of traffic impact indicate where the development may have a material traffic impact that requires the implementation of transport mitigation measures.
- 6.3.6 In this regard, the relevant transport planning policy and guidance overwhelmingly supports the implementation of sustainable travel measures through a Travel Plan Framework in the first instance.
- 6.3.7 Only where this strategy is deemed to be unsuccessful should physical highway capacity improvement be sought as a matter of last resort. For this reason, the highway operational capacity assessments presented in the following section first consider the mitigation to be delivered by the proposed Travel Plan Framework on the basis of the development traffic forecasts.

6.4 Highway Operational Capacity Assessment

Introduction

- 6.4.1 Highway operational capacity constraints are considered in relation to the capacity of the road links and junctions serving the site. As traffic dissipates across the wider highway network the level of impact experienced at any given location diminishes. Only those links and junctions experiencing a material traffic impact are considered.

Highway Link Capacity

- 6.4.2 The local highway network will experience a material traffic increase in traffic demands above the very low baseline levels during peak periods as a result of the development proposals.
- 6.4.3 DMRB Volume 5 Section 1 Part 3 TA 46/97 Annex D establishes Congestion Reference Flows for rural roads. The Congestion Reference Flow (CRF) of a link is an estimate of the Annual Average Daily Traffic (AADT) flow at which the carriageway is likely to be 'congested' in the peak periods on an average day. For the purposes of calculating the CRF, 'congestion' is defined as the situation when the hourly traffic demand exceeds the maximum sustainable hourly throughput of the link.
- 6.4.4 This critical flow level can vary significantly from day to day and from site to site and must be considered as an average. The CRF is a measure of the performance of a road link between junctions. The effect of junctions must be considered separately.
- 6.4.5 The recommended flow ranges for rural roads are given as follows:
- Standard 7.3m Single Carriageways = up to 13,000 AADT
 - Wide Single Carriageways = up to 21,000 AADT
- 6.4.6 The August 2022 peak Saturday forecast with-development traffic flows on the A52 and Whiston Eaves Lane (**Figure 33**) compare to these link capacities as follows:
- Whiston Eaves Lane = 1,258 Saturday two-way August traffic (i.e. operating with up to 85% spare link capacity)
 - A52, west of Eaves Lane = 3,278 Saturday two-way August traffic (i.e. operating with up to 85% spare link capacity); and

- A52, east of Eaves Lane = 2,740 Saturday two-way August traffic (i.e. operating with up to 85% spare link capacity)

6.4.7 The above analysis confirms that highway link capacity is not a constraint on the proposed development.

Highway Junction Capacity

6.4.8 **Appendix E** summarises the following key performance indicators for the A52/Whiston Eaves Lane junction and the B5417/Carr Bank junction during a busiest weekday AM and PM peak hour, and a busiest Saturday peak hour:

- the maximum ratio of flow to capacity;
- forecast traffic queues; and
- delay per vehicle.

6.4.9 These terms are used to illustrate the forecast level of operation of each junction.

6.4.10 A degree of saturation or ratio of flow to capacity of over 100% (or greater than 1.00), indicates a link which will become overloaded above its absolute capacity during the period of assessment, i.e. during the peak hours.

6.4.11 The forecast queue lengths indicate where queue length may become problematic, e.g. if a queue was to stretch back to create a danger on the highway, or near a bend in the road etc. then this issue should also be assessed and considered.

6.4.12 The results are described for each junction in turn below within the local highway network study area.

Junction 1: A52 / Whiston Eaves Lane (Whiston)

6.4.13 The operational impact of the proposed development at Junction 1 is **Low**. The existing layout of the junction (**Plan 9**) has been assessed for both the Base and the With-Development scenarios. The proposed alternative layouts shown on **Plan 7** and **Plan 8** have been assessed in the With-Development scenario only. For each potential layout the junction is forecast to operate in the With-Development scenario with demand is significantly less than the existing capacity during the assessed peak hours (**Appendix E**).

6.4.14 With the benefit of Travel Plan measures the junction will continue to operate with demand significantly less than capacity.

6.4.15 The analysis confirms that highway junction capacity is not a constraint on the proposed development.

Junction 2: B5417 / Carr Bank (Oakamoor)

6.4.16 The operational impact of the proposed development at Junction 2 is **Low**. The junction will operate in the With-Development scenario with demand is significantly less than the existing capacity (**Appendix E**). This is the case during both the peak periods of demand and hence, also at all other times, with all arms of the junction experiencing no material delays or traffic queues.

6.4.17 With the benefit of Travel Plan measures the junction will continue to operate with demand significantly less than capacity.

6.4.18 The analysis confirms that highway junction capacity is not a constraint on the proposed development.

7 HIGHWAY SAFETY ASSESSMENT

7.1 Background

7.1.1 Road traffic accidents impose a range of impacts relating to either the numeric frequency with which Personal Injury Accidents (PIA) occur, or the number of casualties arising as a result of each PIA, including:

- medical and healthcare costs;
- lost economic output;
- pain, grief and suffering;
- material damage;
- police and fire service costs;
- insurance administration; and
- legal and court costs.

7.1.2 The frequency of PIA is therefore a key quantitative indicator along with the number and severity of casualties for the assessment of the highway safety implications of a development proposal. Three classifications of PIA are usually defined in PIA reporting, as follows:

- fatality = death within 30 days from causes arising out of the accident;
- serious injury = casualties who require hospital treatment and have lasting injuries, but who do not die within the recording period for a fatality; and
- slight injury = casualties whose injuries do not require hospital treatment, or, if they do, the effects of the injuries quickly subside.

7.1.3 Standard processes exist for forecasting the numbers of PIA and casualties and the accident reduction benefits arising from changes to the road network. Standard practice for highway safety assessment is provided by the methodology contained in the COBA Manual (DMRB Volume 13, Section 1).

7.2 Scope of Assessment

7.2.1 The DMRB technique uses a measure of the change in the number of accidents (with differing degrees of severity) per million vehicle-kms on different types of road. As the number of vehicle-kms on the network changes as a result of a development proposal, the number of PIA also alters. These changes can be used to forecast and assess the impact of proposed development on highway safety against the High traffic forecast provided by the methodology.

7.2.2 The analysis can also be validated against actual records of PIA that have occurred on the local highway network study area within a relevant time period, which is usually considered to be the most recent 36 to 60 month period.

7.2.3 An analysis of the frequency and severity of PIA on the local highway network surrounding the Application Site has been carried out in order to determine both the adequacy of the highway network to accommodate development traffic in safety terms, and to quantify the potential impact of the development on highway safety.

- 7.2.4 The PIA analysis identifies any areas that are often prone to incidents and enables future accident rates to be forecasted. Forecasted rates determine whether or not a given development compromises the safety of road users on the existing highway network and in turn can prompt the need for initiatives that mitigate any detrimental impacts.
- 7.2.5 The PIA analysis for the development has been undertaken in two main sections, PIA on links and PIA at junctions. The methodology follows the principles of the DMRB, Volume 13, Section 1(2004), which states that:

‘The extent of the safety issue considerations and accident analysis will depend on the scale of the proposed development and its location. The need to minimise conflicts between vehicles and other road user groups should be adequately addressed.’

- 7.2.6 The required Annual Average Daily Traffic (AADT) flows, counted as all vehicles rather than passenger car units (pcus), have been calculated from the sum of peak hour morning and evening traffic flows that are multiplied by a factor calculated from local automated traffic count data.
- 7.2.7 The August Saturday two-way daily traffic has been calculated for 2011 traffic flows (**Figure 30**), which provides a robust assessment as this will be the busiest day compared to the average annual, 2022 Background traffic flows (**Figure 31**), and 2022 With-Development traffic flows (**Figure 33**). The traffic flows are used to determine the flows on the major routes surrounding the proposed Application Site.
- 7.2.8 The difference between the 2022 Background traffic flows and 2022 With-Development traffic flows determines whether PIA analysis is required. Links and junctions that will experience an increase in traffic greater than 1,000 vehicles AADT have been assessed, as the formulae detailed in the DMRB (2004) are only sensitive to flows that are greater than 1,000 AADT.
- 7.2.9 The impact of the proposals on the rate of accidents, which are commonly expressed in terms of PIA per million vehicle kilometres, can be considered in terms of the total exposure of visitors to the area to the risk of accidents. This measure is the most relevant because the exposure to the hazard of accidents increases in proportion to the total vehicle mileage travelled.

7.3 Baseline Data

- 7.3.1 PIA data for the local highway network surrounding the Application Site has been obtained from Staffordshire County Council for the latest five-year period, between 1 April 2009 and 31 March 2014.
- 7.3.2 **Plan 13** illustrates the location of the recorded accidents and **Appendix F** provides the details of the accidents.
- 7.3.3 In total, eight accidents occurred on the local highway network surrounding the Application site; one on Eaves Lane, one on Blakeley Lane, two at the A52/Blakeley Lane junction, one on Carr Bank and one on Farley Road. Of the eight accidents, six resulted in slight injury and two resulted in serious. Although it should be noted for the serious accidents, the contributory factors noted were “Impaired by alcohol” and “Travelling too fast for conditions”.
- 7.3.4 In terms of reviewing accidents on the local highway network a comparison has also been undertaken of the historical data with the predicted number of PIA which is calculated using the formulae contained in the Design Manual for Roads and Bridges (DMRB), Section 13 ‘The COBA Manual’ Part 2 ‘The Valuation of Costs and Benefits,’ DfT (May 2004).

7.4 Analysis Methodology

- 7.4.1 The DMRB Volume 13 sets out a predictive formula for estimating PIAs at various types of junctions. The accompanying text to the predictive formula notes that it is only sensitive to changes in Annual Average Daily Traffic (AADT) flows of 1,000 vehicles.
- 7.4.2 This threshold has therefore been applied in undertaking the highway safety impact assessments, with the changes in daily traffic flows. Assessment year daily traffic flows have been obtained by applying growth rates to the background traffic. The scale of change from the existing conditions arising on each link can be assessed in relation to the following thresholds:

Level	Potential Impacts on Highway Safety
High	Greater than +3,000 AADT change in traffic flows (All Vehicles)
Medium	Greater than +1,000 AADT change in traffic flows (All Vehicles)
Low	Less than +1,000 AADT change in traffic flows (All Vehicles)

- 7.4.3 **Table 21** summarises the links that are likely to experience high total changes in excess two-way traffic flows of 3,000 AADT over a 5-year time horizon. The nett change arising from the Moneystone Park proposals over the 2022 Background traffic flows is also shown.

7.5 Development Impact and Conclusions

- 7.5.1 The additional traffic will result in additional PIA on the local highway network, as the total traffic flows increase. However, the analysis in **Table 10** illustrates that no part of the Local Highway Network Study Area will experience medium two-way traffic flow changes of greater than 1,000 AADT in comparison to the Planning Baseline.
- 7.5.2 In comparison to the 2022 Background traffic flows, none of the links or junctions within the highway network study area will experience a change classified greater than a 'Low' (i.e. less than 1,000 AADT) in the With-Development conditions.
- 7.5.3 Given that the links and junctions assessed have been found to have PIA records that are consistent with expectations, it is considered that the proposed additional development traffic is unlikely to exacerbate any existing highway safety problems.

8 CONSTRUCTION TRANSPORT MANAGEMENT

8.1 Background Information

- 8.1.1 The construction phase of the proposed development would generate a relatively small number of vehicle movements in comparison to the long-term operational traffic generated by the development. However, whilst only a temporary phase in the lifespan of a site, construction traffic includes the movement of Heavy Goods Vehicles (HGVs). Therefore, it is important that all potential traffic impacts, but particularly HGVs, be identified and measures implemented to manage their effects wherever practicable.
- 8.1.2 Guidance on construction traffic management requirements for consideration during the Outline Planning Application stage of development planning is provided by the Department for Transport (DfT) 'Guidance on Transport Assessment' (2007), the TRICS 'Construction Traffic Research Report', JMP (2008) & 'Construction Site Transport', BRE (2003).
- 8.1.3 In estimating the number of construction-related vehicle movements, consideration must be given to the following vehicle trips:
- Workforce movements to/from the site;
 - Deliveries made to the site;
 - Removal of material from the site; and
 - Trips made by associated trades.
- 8.1.4 The first principles approach identified above is perhaps best where the necessary information is available; the main benefit being the site-specific nature of the data generated. However, at outline application stage, the degree of certainty required for such calculations is frequently not available, as the construction methods and programme may not be finalised and contractors not appointed.
- 8.1.5 The DfT 'Guidance on Transport Assessment' (GTA), 2007 introduces construction traffic to the transport assessment process for the first time. In paragraph 4.66 GTA also advises that the Transport Assessment should identify the time periods during which construction activities will take place, the numbers of trips likely to be generated, the vehicle type and, where appropriate, a diversion route or a traffic management plan to minimise local impacts.
- 8.1.6 Where impacts from construction traffic are large, especially where mitigation measures may be required, paragraph 4.89 recommends the use of Conditions or obligations which may require that any necessary mitigation measures be completed before work on the Application Site commences, or before first occupation of units, especially where construction is phased. In relation to the phasing of development, it is generally recommended that alternative construction traffic routes are identified in order to enable impacts to be managed appropriately through the construction process.
- 8.1.7 The construction activities at Moneystone Park are likely to take place over a period of 3 to 5 years and will involve certain activities taking place and structures being installed as part of the construction period, which will influence the number and type of vehicles used. The construction value of the proposed development is circa £18M.
- 8.1.8 Full construction logistics and the associated method statements are usually calculated by the main contractor as part of the detailed programming for the operation of the Application Site.

8.1.9 This will encompass all activities including site security, staff, transport management, materials handling, transportation, plant, stores, deliveries etc. Of all these activities, the delivery of construction materials is usually the biggest, although the removal of demolition and other spoil will also be required. The construction activities taking place could include:

- Implementation of secure site fencing & temporary site facilities
- Disconnection of services, demolition of structures, breaking out foundations and ground slabs
- Archaeological/ecological surveys and investigation
- Excavation of foundations
- Piling and ground slab construction
- Structure erection and roof / wall cladding
- Installation of internal mechanical and electrical services
- Fitting out and facilities work
- External works and landscaping

8.1.10 The varieties of activities that will take place during construction require the use of a wide range of vehicle types. These may be identified and grouped according to their size:

- Cars/pick-up trucks/3.5-ton vans (Light Vehicles)
- 7.5-ton box van/panel vans (Light Goods Vehicles)
- Low loader and articulated trucks (Heavy Goods Vehicles)
- Ready mix concrete truck (Heavy Goods Vehicles)
- Mobile crane (Heavy / Special Vehicles)
- Skip lorry / 32-ton tipper trucks (Heavy Goods Vehicles)

8.1.11 The traffic flows generated from both development and construction will vary throughout the various phases of construction for the Application Site. The likely number of Heavy Goods Vehicles (HGVs) and construction staff movements associated with the overall construction phase of the development will be confirmed once a Contractor has been appointed. It is not anticipated that any spoil material will require import as part of the development as the material already on site will be utilised to create development platforms required.

8.2 Periods of Construction Activity

8.2.1 The peak traffic generation for a construction site generally occurs outside the traditional weekday morning and evening peak hours, frequently starting at 07:00 and finishing as late as 19:00. Specific site activities may spread trips across the construction site's operating period.

8.2.2 The development will be constructed in phases, although the details of the phasing are not known at this stage. Nevertheless, the earlier stages will require greater use of HGVs for site clearance and bulk delivery of construction materials.

8.3 Forecast Construction Traffic Movements

- 8.3.1 In estimating the number of construction-related vehicle movements, consideration has been given to the following vehicle trips:
- Workforce movements to/from the site;
 - Deliveries made to the site;
 - Removal of material from the site; and
 - Trips made by associated trades.
- 8.3.2 Construction programme managers will be able to calculate vehicle movements based upon the site construction programme, once this is known. Movement calculations require simple, but fundamental data which will have implications for the quantity and type of vehicle movements:
- materials (quantity and bulk);
 - construction programme (construction process, timescale, phases and occupations); and
 - site logistics (access, on-site storage capacity, load consolidation etc.).
- 8.3.3 From these, the nature and number of vehicles required can be calculated. Trips calculated will relate to optimised vehicle loadings; in reality consideration should be given to calculating trips based on an average 80 percent vehicle loading to reflect part loads, missed orders/deliveries etc, which will result in an increase in trips.
- 8.3.4 At the outline application stage, the degree of certainty required for such calculations is frequently not available as the construction methods and programme may not be finalised and contractors not appointed.
- 8.3.5 It is planned that the spoil would be kept on site throughout the construction process in order to minimize the off-site disposal and transport of waste. At this stage it is not proposed that any HGV movements associated with the spoil movement will be required.
- 8.3.6 A simple 'Ready Reckoner' was devised by the Building Research Establishment (BRE) in the 2003 report 'Construction Site Transport. This provided a summary of indicators for construction site transport, using the M4I environmental performance indicator (www.m4i.org.uk) on transport as a starting point to construct two calculations, both of which relate to project value.
- 8.3.7 The calculations relate to the generation of vehicle movements to a site, per £100,000 project value. Factors considered include workforce movements, delivery of materials and plant to site and movement of waste off-site. This alternative methodology has been used to validate the first principle calculations obtained from considering the likely bulk material transport requirements.
- 8.3.8 Constructing Excellence recorded 'Commercial Vehicle Movement KPI' as part of the UK Construction Industry Key Performance Indicators. This uses a measure of the total number of commercial vehicle one-way movements onto a site (collected from security or other gate records, contractor notes and waste transfer notes) against the total project value. For inclusion, sites used in the assessment were entirely non-operational, i.e. being constructed without any elements of the site being occupied which would skew the data.

- 8.3.9 Based on data collected in 2012, the total recorded movements onto a site per £100,000 of project value was 49.5 one-way trips (www.kpizone.com), or 99 two-way trips assuming all trips arrive and depart the site. For deliveries of materials, the indicator simply considers the final delivery journey to site, therefore not accounting for off-site storage, consolidation of loads or other factors.
- 8.3.10 Based on 3-years of construction activity, to provide a robust assessment, with an average of 250 working days per year, the construction activities at Moneystone Park would generate around 17,820 trips, equating to 24 two-way total vehicle movements per day using the BRE formula and an indicative scheme value of £18M.
- 8.3.11 The construction traffic will therefore have minimal impact on existing traffic movements, except where temporary road closures or re-routing is required. In addition it should be noted that the previous use of the site was a quarry, which generated HGV movements per day.

8.4 Construction Traffic Management Plan

- 8.4.1 To facilitate site access and construction activities, a range of traffic management measures would be used to maintain access and servicing where reasonably possible within the constraints of the works and the need to ensure the safety of the public.
- 8.4.2 These would include provision of temporary roads/footpaths/access points as appropriate to serve each development plot, temporary parking restrictions, creation of special signing and/or temporary parking provision. Some traffic management proposals may require temporary Traffic Regulation Orders under the Road Traffic Regulation Act 1988, for which a minimum of 28 days notice is usually required by the relevant local authorities.
- 8.4.3 The detailed construction proposals to be submitted would include information identifying the potential, where practicable, for the transport of large, bulky and heavy materials by rail or barge in order to mitigate heavy construction traffic generation. A range of measures would be employed through the detailed Construction Traffic Management Plan (CTMP).

Supply Chain Optimisation

- 8.4.4 The logistics industry has developed a range of techniques to maximise efficiencies within the supply chain. The CTMP would include details in this regard, such as the detail of any relevant 'Just in Time' delivery processes and the procurement strategy, along with details of storage, distribution and back loading activities to maximise load optimisation.

Delivery logistics

- 8.4.5 Delivery booking (deliveries by pre-arranged time slots), will be used where practicable so that materials only arrive on site when needed (scheduled), or as part of a 'smoothing' operation, to enable the peaks and troughs in demand to be evened out over a period of time, or to avoid certain time periods such as morning and evening peaks, or school start and finish times.

Route mapping

- 8.4.6 Routing and scheduling arrivals may make it possible to reduce trips to a site, by providing a more organised, logistical style method of operation. Routes would be confirmed as suitable prior to the commencement of development. It is envisaged that no heavy construction traffic would be routed along Carr Bank. Therefore, all such traffic would be required to approach the site from the A52.

Construction Travel Plan

- 8.4.7 Where practicable, employees that walk, cycle and/or use public transport reduce the number of car trips to a site. A minibus may be used by the main contractor to transport workers in bulk to the site. This has the advantage of restricting traffic generation to the daily arrival and departure of staff employed on site, as well as removing the need for car parking facilities on site. Details of the Construction Travel Plan will be provided prior to the commencement of development.

Programme Compression

- 8.4.8 The CTMP would consider the opportunities to compress the programme of works wherever practicable, thereby causing greater disruption over a shorter time period, or overlapping certain activities, to reduce the timeframe over which disruption occurs.

Management of Bulk Transport Movements

- 8.4.9 Wheel washing facilities would be used where necessary to mitigate the transfer of material from the wheels of transport vehicles onto the public highway. Similarly, loads of loose bulk materials would be covered where practicable to minimise loss of material during transport.

Construction Methodology and Safe Methods of Work

- 8.4.10 Construction methods would be considered to minimise the disruption caused by the construction process. This may involve the use of off-site prefabrication and on-site concrete mixing to minimise external site trips. The main contractor for each phase of the works would be required to prepare Safe Methods of Work statement for all major activities involving the transport of materials and construction traffic.

9 OPERATIONAL TRANSPORT MANAGEMENT

9.1 Summary of Approach

- 9.1.1 The primary mechanism for the delivery of transport mitigation measures for the Moneystone Park proposals is the Travel Plan Framework, which would deliver 'at source' traffic impact mitigation through the implementation of sustainable transport measures. These measures are described in more detail within the Travel Plan Framework (**Volume 3**).
- 9.1.2 The Travel Plan Framework seeks to mitigate traffic impact 'at source' through a coordinated strategy of reduced car parking provision to restrain vehicular traffic generation, supported by sustainable transport measures to encourage car sharing and alternative modes of transport.
- 9.1.3 The Travel Plan Framework contains specific targets for modal split and proposed car parking provision and management. Similarly, the monitoring regime will also measure and act to constrain the total traffic generation of the proposals in relation to the total traffic forecasts.
- 9.1.4 This strategy will be supported by a robust monitoring regime to record the actual performance of the Travel Plan Framework against the outcomes required to mitigate the transport impact of the proposals. The Travel Plan Framework and the associated management mechanisms will be secured by planning obligations set out in a Section 106 agreement.
- 9.1.5 The responsibility for the approval and provision of traffic management and infrastructure within the adopted highway for public transport services, pedestrians and cyclists rests with the local highway authority. This Transport Assessment considers the highway infrastructure and means of access requirements of the proposals and identifies improvements where they are necessitated by and reasonably related to the development.

9.2 Travel Plan Framework

- 9.2.1 As part of the development proposals for the employment land use a Travel Plan will be implemented to support the development. A Travel Plan Framework forms **Volume 3** of this Transport Assessment. That document includes mechanism to monitor future vehicular trip generation rates, traffic flows on local roads and traveller modal choice influences.
- 9.2.2 This monitoring will be linked directly to the traffic generation forecasts presented within this Transport Assessment. Any 'breach' of the Travel Plan targets in this regard will be managed by S106 planning obligations to establish an appropriate monitoring and enforcement mechanism in line with the 'Good Practice Guidelines: Delivering Travel Plans through the Planning Process', published by the Department for Transport (April 2009).
- 9.2.3 The proposed monitoring and enforcement mechanism would establish a default payment of financial obligations to mitigate the off-site traffic impact that would arise due to any additional traffic generation over and above the traffic generation forecast presented in this Transport Assessment.
- 9.2.4 The Travel Plan Framework is supported by measures not only to restrict and discourage private car use (through appropriate car parking restraint for instance), but also to actively encourage and enable less reliance on private cars. This latter objective would be achieved through a combination of measures to encourage non-car modes of transport.
- 9.2.5 Furthermore, some of these measures will also have 'spin-off' benefits that may influence travel patterns in adjacent communities, thereby delivering benefits.

9.3 Highways and Access Design Notes

Proposed Means of Access

- 9.3.1 The extent of the means of access that it is appropriate to apply for at the has been discussed with the local planning authority. Prior to the identification of building footprints it is not possible to fully define the detailed access requirements to each area within the Application Site.
- 9.3.2 The proposed means of access seeks to make efficient use of the existing physical access infrastructure illustrated on **Plan 5** where appropriate and in order to optimise the use of the developable land.
- 9.3.3 The outcome of this process is that the proposed means of access seeks to balance the needs of accommodating an increase in the vehicular traffic flows, with the needs of other more vulnerable road users (as the priority) and the redevelopment of the Application Site through the Masterplan design process.
- 9.3.4 All aspects of the proposed means of access and associated highway infrastructure improvements have adopted the approach recommended by current transport planning policy and best practice of only developing additional highway capacity when all other measures have been considered.

Pedestrian and Cycle Infrastructure

- 9.3.5 The design and provision of pedestrian facilities within the site will provide linkages to the surrounding network of public rights of way, predominantly to encourage and enable walking for leisure, but also to create connections to nearby communities, such as Whiston and Oakamoor.
- 9.3.6 The road network is the most basic (and important) cycling facility available, and the preferred way of providing for cyclists is to create conditions on the carriageway where cyclists are content to use it. There is seldom the opportunity to provide an off carriageway route within the highway boundary that does not compromise pedestrian facilities or create potential hazards for cyclists, particularly at side roads.
- 9.3.7 New-build infrastructure within the Application Site will provide good opportunities for creating attractive high quality infrastructure for cyclists, either in the form of quieter routes, or direct cycle routes away from motor traffic.
- 9.3.8 There are five core principles which summarise the desirable design requirements for pedestrians and cyclists. They are contained in the relevant DfT Local Transport Notes on Cycle Infrastructure Design and are supported by the Manual for Streets, having originally been established by the 'Guidelines for Providing for Journeys on Foot' (IHT et al., 2000) and advice included in 'Cycle Friendly Infrastructure' (IHT, 1996). These five core principles are summarised below.
- 9.3.9 **Convenience:** Networks should serve all the main destinations, and new facilities should offer an advantage in terms of directness and/or reduced delay compared with existing provision. Routes and key destinations should be properly signed, and street names should be clearly visible. Route maps should be made available, and on-street maps can be helpful.
- 9.3.10 Routes should be unimpeded by street furniture, pavement parking and other obstructions which can also be hazardous to visually impaired pedestrians. Trip-end destinations should be clearly marked, conveniently located and appropriate for the likely length of stay. Designers should consider the future ease of maintenance, including access to vehicles for sweeping, trimming grass verges and surface and lighting repairs along off-road routes.

- 9.3.11 **Accessibility:** Cycling networks should link trip origins and key destinations, including public transport access points. The routes should be continuous and coherent (type and colour of surfacing may be used to stress route continuity as appropriate). There should be provision for crossing busy roads and other barriers, and in some areas there should be a positive advantage over private motor traffic. Routes should be provided into and through areas normally inaccessible to motor vehicles, such as parks.
- 9.3.12 **Safety:** kerb lines and street furniture, providing right-turn refuges for cyclists or separating conflicting movements. The potential for conflict between pedestrians and cyclists should be minimised. Surface defects should not be allowed to develop to the extent that they become a hazard, and vegetation should be regularly cut back to preserve available width and sight lines.
- 9.3.13 The risk of crime can be reduced through the removal of hiding places along the route, provision of lighting and the presence of passive surveillance from neighbouring premises or other users. Cycle parking should be sited where people using the facilities can feel safe.
- 9.3.14 **Comfort:** Infrastructure should meet design standards for width, gradient and surface quality, and cater for all types of user, including children and disabled people. Pedestrians and cyclists benefit from even, well maintained and regularly swept surfaces with gentle gradients. Dropped kerbs are particularly beneficial to users of wheelchairs, pushchairs and cycles, and tactile paving needs to be provided to assist visually impaired people. Dropped kerbs should ideally be flush with the road surface. Even a very small step can be uncomfortable and irritating for users, especially if there are several to be negotiated along a route.
- 9.3.15 **Attractiveness:** Aesthetics, noise reduction and integration with surrounding areas are important. The environment should be attractive, interesting and free from litter and broken glass. Public spaces need to be well designed, finished in attractive materials and be such that people want to use the area.
- 9.3.16 These principles have been balanced against other objectives when designing for the differing priorities assigned to various aspects of the highways and access routes serving the Moneystone Park scheme. The resulting infrastructure design should take appropriate account of the needs of different highway users.
- 9.3.17 Some cyclists are more able and willing to mix with vehicular traffic than others. In order to accommodate the sometimes conflicting needs of various user types and functions, it may be necessary to combine measures or to create dual networks offering different levels of provision. The different categories of cyclists that may wish to use these different levels of provision include:
- fast cyclists – confident in most on-road situations and will use a route with significant traffic volumes if it is more direct than a quieter route;
 - utility cyclists – may seek some segregation at busy junctions and on links carrying high speed traffic;
 - inexperienced and/or leisure cyclists – may be willing to sacrifice directness, in terms of both distance and time, for a route with less traffic and more places to stop and rest;
 - children – may require segregated, direct largely off-road routes from residential areas to schools, even where an on-road solution is available. Designers need to take account of personal security issues. Child cyclists should be anticipated in all residential areas and on most leisure cycling routes; and
 - users of specialised equipment – includes users of trailers, trailer-cycles, tandems and tricycles, as well as disabled people using hand-cranked machines. This group requires

wide facilities free of sharp bends and an absence of pinch-points or any other features that force cyclists to dismount.

- 9.3.18 Pedestrians and cyclists will use high quality, well maintained, traffic free routes away from the carriageway if they are more direct than the equivalent on-road alternative and there are no personal security issues. The Moneystone Park scheme would deliver such alternative routes for many local journeys.

9.4 Public Transport Infrastructure

- 9.4.1 The proposals would require physical bus stop infrastructure to enable the site to be connected to services linking the site with other local destinations, such as Alton Towers, or potentially public bus services. The detailed design of such infrastructure would be dependent upon the level of utilisation of the existing bus service and hence, available capacity.

9.5 Residual Traffic Impacts

- 9.5.1 The traffic impact analysis, highway safety and operational assessments have identified that the proposed development will result in a significant increase in traffic levels on the local roads providing immediate access to the development. As distance from the development increases, the traffic impact of the scheme dissipates as development traffic distributes across the wider highway network.
- 9.5.2 The travel behaviour influences of the proposed Transport Strategy and Travel Plan Framework will act as a beneficial influence on transport impact, in that they support and encourage travellers to change their mode of travel away from the private car to other forms of transport that are more sustainable in the long-term.
- 9.5.3 As vehicle mileage increases on any fixed study area, so does the exposure to the risk of road traffic accidents that may result in personal injuries being sustained. However, given that the local highway network has been assessed as having a 'better than expected' highway safety record, it can be concluded that the development proposals are well located in this regard.
- 9.5.4 In addition to the works associated with the proposed means of access, the following junction improvement schemes are proposed to further mitigate potential residual traffic impacts relating to highway safety, as follows:
- The provision of a 'ghost island' layout at the junction of Whiston Eaves Lane and the A52, in order to provide a right-turn waiting area for inbound vehicles from the west; and
 - The provision of gateway traffic calming features on the A52 approaches to Whiston in either direction to slow traffic down and to raise awareness of drivers to the presence of the village and traffic turning into and out of Whiston Eaves Lane;
- 9.5.5 The improvements described above are considered to be sufficient to mitigate the impact of the additional traffic generated by the Moneystone Park proposals, accompanied by an effective Travel Plan.
- 9.5.6 During a Public Consultation Event held in Whiston Village Hall on 15 July 2014, both options were shown to residents of the property located on the north side of the A52, opposite the Whiston Eaves Lane junction. The residents stated a preference for Option 2, as providing a ghost island right turn facility (Option 1) would require the A52 carriageway to be widened, which would encroach into the grass verge fronting the property, reducing the distance between the property boundary wall and the carriageway.

9.6 Road Safety Audit/Quality Audit

- 9.6.1 As agreed with SCC, a Stage 1 Road Safety and Quality Audit have been undertaken for both options and are included in **Appendix G** and **H** respectively.
- 9.6.2 The Road Safety Audit raised a number of issues that would be taken into account when the agreed option is progressed to the detailed design stage, such as drainage, service boxes, signage, lining and lighting.
- 9.6.3 Both lateral and forward visibility was raised as an issue. As it can be seen from **Plan 9** and as highlighted previously in this TA, the existing junction layout has a visibility splay of 2.4m x 30m to the left and 2.4m x 34m to the right. In comparison, both proposed options would improve the existing situation. Option 1 (**Plan 7**) would increase visibility splays from an x-distance of 2.4m back from the carriageway to 49m to the left and maintain 34m to the right and Option 2 (**Plan 8**) would improve the existing situation further with 2.4m x 45m visibility splay to the left and 2.4m x 53m visibility splay to the right. Option 2 would be a significant improvement in comparison with the existing situation.
- 9.6.4 In terms of forward visibility, the Road Safety Audit highlights that an existing wall on the south side of the A52, east of the junction with Whiston Eaves Lane, restricts visibility for drivers travelling westbound along the A52. Option 1 would not improve the existing situation, however, the forward visibility would be significantly increased with Option 2, due to the build outs proposed at the junction.
- 9.6.5 The Quality Audit also considers both options and concludes that the build out option (Option 2) would be preferable in comparison with widening the A52 to accommodate a right turn ghost island facility (Option 1).

9.7 Car Parking Provision and Management

Background

- 9.7.1 The proposals would provide a total provision of 387 parking spaces, as shown on **Plan 4**, split as follows:
- P1 – Short stay parking for day visitors and visitors to lodges – 170 car parking spaces;
 - P2 – Staff car park – 36 car parking spaces;
 - P3 – Secure long stay parking for holiday makers staying in lodges/lodge owners. Vehicular access to rental lodges restricted to drop off only to promote rural, unspoilt character 150 car parking spaces;
 - P4 – Water sports car park on quarry ridge – 26 car parking spaces; and
 - P5 – Coach drop off – 5 coach bays.
- 9.7.2 In addition a parking provision of 1 space per lodge would be provided, although rental lodges would only park at the lodge to unload and load, and park for the duration of their stay in the secure long stay car park (P3).
- 9.7.3 The level of car parking to be provided needs to be considered due to the major influence that this has on the means of transport that people choose in undertaking journeys.

- 9.7.4 The current Outline Application does not seek detailed approval for the layout and provision of parking spaces. The proposed car parking provision that is identified is therefore for illustrative purposes and to provide a framework with which the level of car parking provision and hence the major influence on the means of transport can be considered.
- 9.7.5 The actual level of car parking to be provided at the reserved matters application would therefore be based on a holistic approach to the whole Application Site and can be further monitored through the mechanisms established by the Travel Plan Framework.
- 9.7.6 In this regard, the Travel Plan Framework and Car Parking Provision and Management are intrinsically linked, not only because the availability of car parking has a major influence on travel patterns.
- 9.7.7 This will reduce the need for a high car parking provision, reduce reliance on the private car and encourage people to consider the alternatives when choosing the means of transport for any given journey.

Proposed Car Parking Management

- 9.7.8 A detailed Car Park Management Plan would be operated by the Management Company and implemented by the Travel Plan Coordinator. The scope of the Car Park Management Plan will include:
- Allocating staff parking using a permit system based on travel needs;
 - Designated parking spaces will be assigned to car-sharers;
 - Financial incentives (i.e. discounts) for guests not to drive to the development;
 - Financial incentives for staff not to drive to work; and
 - Measures to deal with overspill and on-street car parking.
- 9.7.9 The allocation of parking spaces to each land use will restrict each occupier to a basic number of standard car parking spaces that are in proportion to the modal splits for the +10 year Travel Plan Targets relating to the maximum level of sole occupancy private car use within the Outline Travel Plan.

Monitoring and Review

- 9.7.10 Where practicable, the car movements and car parking demand generated by the Application Site could be surveyed and analysed on a regular basis to identify the realistic progress in taking the Travel Plan forward and for purpose of monitoring the Travel Plan performance.
- 9.7.11 The Car Park Management Plan and schedule of charges would be subject to monitoring, review and revision in agreement with the Council.

10 SUMMARY AND CONCLUSIONS

10.1 Summary of the Transport Assessment

- 10.1.1 This Transport Assessment provides information on the traffic, transport and highway aspects of the Moneystone Park scheme, submitted in support of an outline planning application for the site.
- 10.1.2 The vision for Moneystone Park is to create a high quality visitor destination, focusing on outdoor activities, wildlife and the local environment. It will be an attraction with outdoor sport and recreation opportunities at its core.
- 10.1.3 This Transport Assessment report presents a full description of the existing conditions relating to the Moneystone Park Application Site, providing a:
- full description of the site and location of the development
 - pedestrian accessibility and infrastructure audit
 - cycle accessibility and infrastructure audit; and
 - public transport accessibility and infrastructure audit
- 10.1.4 The requirements of the relevant transportation planning policies have been identified and considered along with the recommendations of current best practice & design guidance.
- 10.1.5 The detailed requirements of the above guidance have been applied to the preparation of the Travel Plan Framework that accompanies the planning application and that have been drawn up alongside the proposals for Moneystone Park.
- 10.1.6 The transport and traffic impact analysis presented for the proposals considers:
- background traffic growth rates;
 - the likely future trip generation for the development, which have been provided for an Annual Average and August Average forecast;
 - the total vehicular traffic generation of the proposals;
 - the distribution of trips & traffic assignment, and
 - the corresponding level of car parking demand and how this will be managed.
- 10.1.7 The highway safety assessments presented have used 5-years baseline data; with an analysis provided for both the existing/historic conditions, along with an assessment of the likely impact of the development proposals.
- 10.1.8 The scale of traffic impact arising from the proposals has been identified across the relevant local highway network study area, with detailed highway capacity and highway safety assessments undertaken for all key links and junctions experiencing a material traffic impact.
- 10.1.9 The transport strategy for the proposals sets out the detail of the staged implementation of the necessary means of access and highway infrastructure serving the Application Site. This infrastructure will mitigate the traffic impact of the Moneystone Park proposals in coordination with the Travel Plan Framework.

- 10.1.10 The extent of the proposed means of access applied for has been set out along with the access strategy envisaged for future development, the detail for which will come forward through subsequent reserved matters applications.
- 10.1.11 This Transport Assessment therefore provides an over-arching transport strategy that considers the full long-term implications of the development. The transport strategy also identifies appropriate physical highway works, where necessary, to mitigate the traffic impact of the scheme and enable the development to be accommodated by the local highway network.
- 10.1.12 The transport strategy also identifies how any residual traffic impact will be mitigated through the proposed Travel Plan Framework and through appropriate Car Parking Provision and Management.
- 10.1.13 An essential element of both of these measures is the establishment of a long-term management company with a presence on-site, secured funding and a commitment to appropriately manage both the on-site infrastructure and travel demands of the scheme in a sustainable manner.

10.2 Summary of the Proposed Transport Strategy

- 10.2.1 The primary mechanism for the delivery of transport mitigation measures for the Moneystone Park proposals is the Travel Plan Framework, which will deliver 'at source' traffic impact mitigation through the implementation of sustainable transport measures. These measures are described in more detail within the Travel Plan Framework (**Volume 3** to this Transport Assessment, bound separately).
- 10.2.2 However, in brief, the Travel Plan Framework seeks to mitigate traffic impact through a coordinated strategy of reduced car parking provision to restrain vehicular traffic generation, supported by sustainable transport measures to encourage car sharing and alternative modes of transport.
- 10.2.3 The Travel Plan Framework contains specific targets for modal split, which correspond to the traffic forecast and proposed car parking provision and management strategy. Similarly, the monitoring regime will also measure and act to constrain the total traffic generation of the proposals in relation to the total traffic forecasts.
- 10.2.4 This strategy will be supported by a robust monitoring regime to record the actual performance of the Travel Plan Framework against the outcomes required to mitigate the transport impact of the proposals.
- 10.2.5 The Travel Plan Framework and the associated management mechanisms will be secured by planning obligations set out in a Section 106 agreement between the key stakeholders (i.e. the developer, the local planning authority and the local highway authority in this case).

10.3 Conclusions

- 10.3.1 The transport and traffic impact analysis presented in this Transport Assessment demonstrates that the Outline Application proposals will be capable of being accommodated safely by the local highway network.
- 10.3.2 Furthermore, the location of the Application Site provides a very high potential level of accessibility by sustainable modes of travel, subject to the provision of measures set out in this Transport Assessment. In particular, the proposed development is supported by:
- A Travel Plan Framework that will provide the primary transport mitigation strategy to manage and control the traffic generated by the development;

- Off-site highway improvement measures, which have also been identified where appropriate and necessary to mitigate the impact of the development;
- Additional demand for and hence improved viability for existing and potential new local bus services; and
- Improved connectivity to public rights of way and cycle routes through the Application Site.

- 10.3.3 The site access proposals have been robustly tested to ensure that an appropriate means of access will be provided for the development. Residual traffic impacts and the generation of any excess traffic above the forecast level will be controlled by the measures, management strategy, monitoring regime, remedial actions and control mechanisms provided by the Travel Plan Framework.
- 10.3.4 The Moneystone Park scheme includes significant measures to promote more sustainable transport choices for people visiting & working within the development, as well as those who are visiting the area. The transport strategy thereby promotes accessibility to jobs, shopping, leisure facilities and services by public transport, walking and cycling; and will reduce the need to travel, especially by car.
- 10.3.5 The proposed transport strategy focuses on delivering further reductions in car usage (particularly single occupancy journeys) and increased use of non-car modes, through an effective Travel Plan. The measures delivered through this strategy will benefit the local community not only during peak periods of travel demand, but also throughout the day. This is particularly significant for those visitors to the development, members of the community and workforce who may not have access to a private car.
- 10.3.6 The scheme also promotes reduced traffic speeds both within the Application Site (through the future application of Manual for Streets design guidance to the design of internal infrastructure) and incorporates proposals to improve road safety on the A52.
- 10.3.7 The identification of an appropriate level of car parking provision for the Moneystone Park scheme has adopted a design-led approach to balance the forecast transport demand with an efficient and effective use of land.
- 10.3.8 In this way, the proposals seek to reduce the amount of parking as part of a combined package of physical highway works and other transport measures contained within the Travel Plan Framework, to promote more sustainable travel choices.

