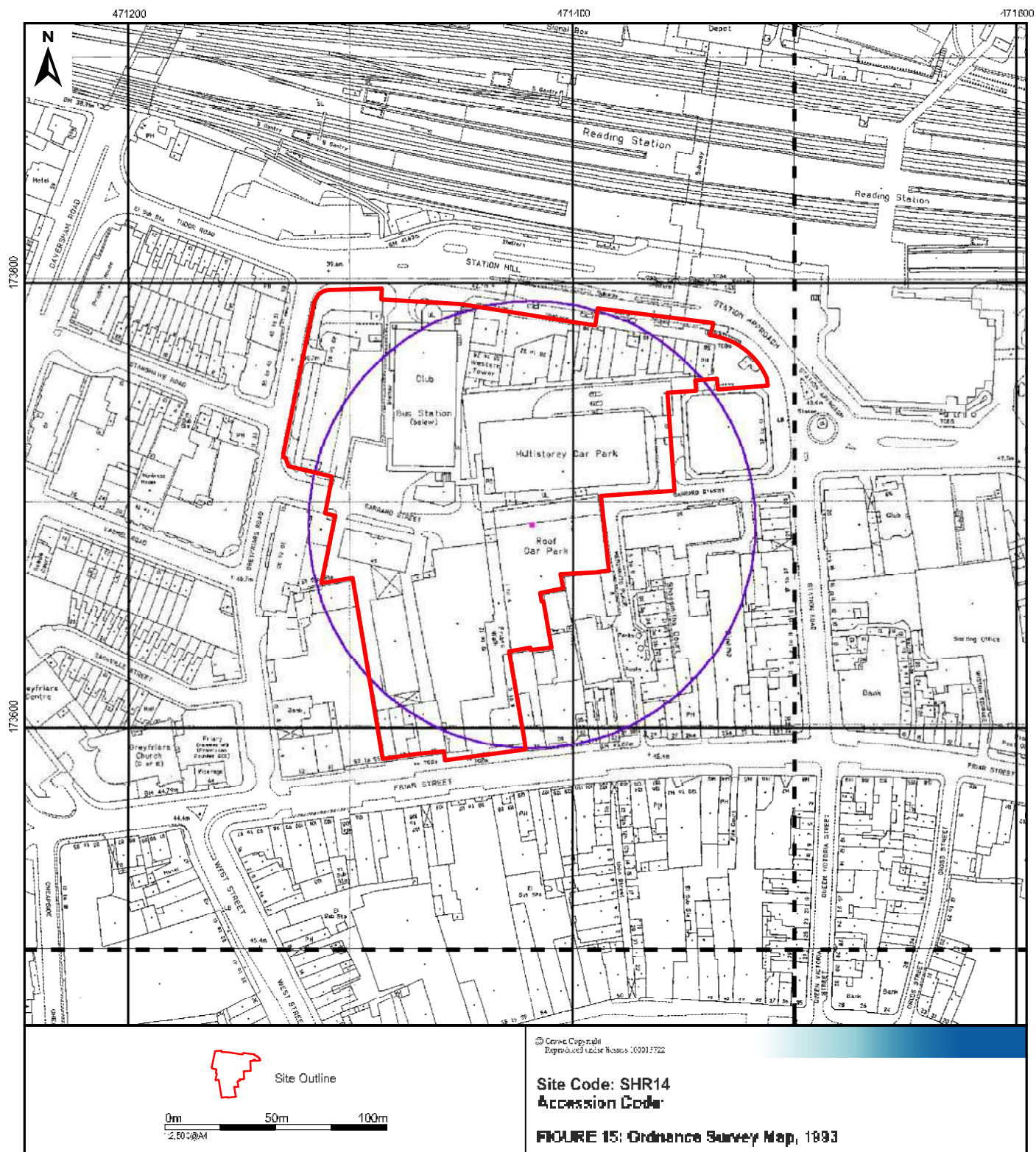
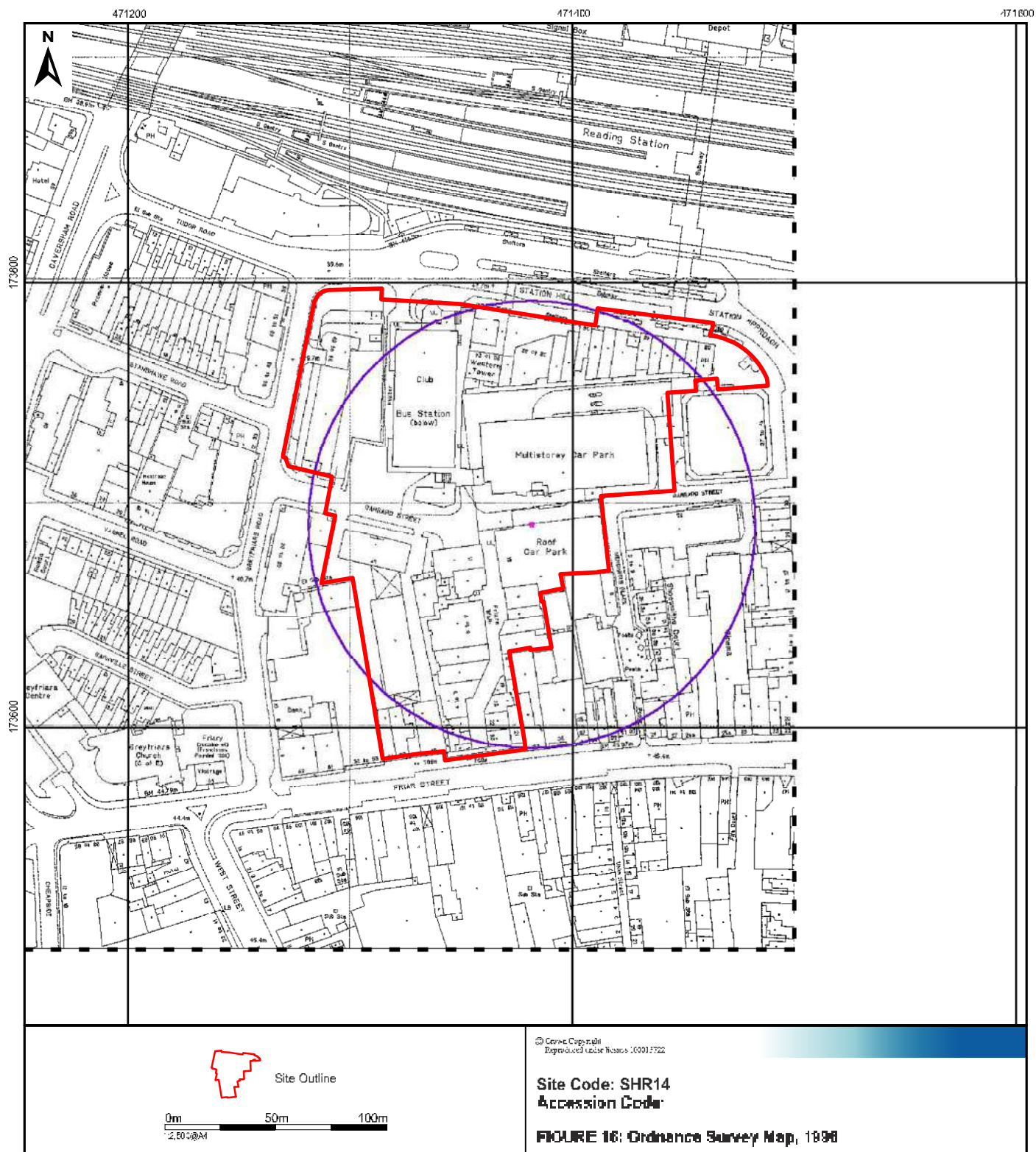
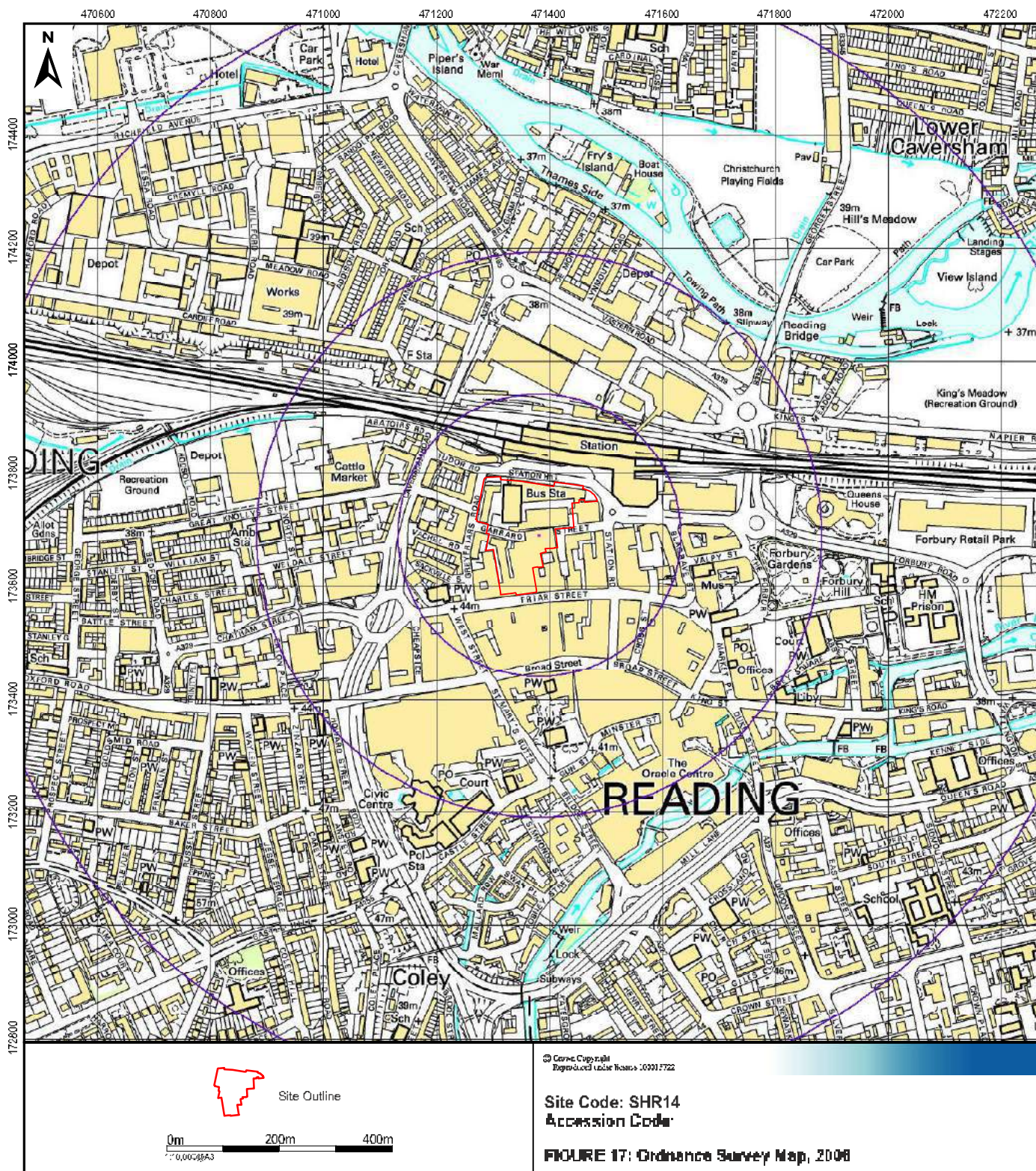










Appendix 8.2

Temporary Flexible Event Space – Archaeological Desk- Based Assessment

APPENDIX 8.2: HER DATA TABLE

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SCHEDULED MONUMENTS

MONUID	NAME	DESCRIPTION	PERIOD	NGR
MRD11181	Neolithic axe - The Forbury, Reading, Berkshire	Part of a ground axe was found in the Forbury	Neolithic	SU 71800 73600
MRD3943	St Laurence's School, Reading, Berkshire	In 1468 at the request of Edward IV a grammar school was established in buildings formerly part of the Hospital of St Laurence. The upper floor was used as a town hall from 1560.	Medieval - Post Medieval	SU 71690 73580

LISTED BUILDINGS

MONUID	NAME	DESCRIPTION	PERIOD	FoundID	NGR
MRD1374	Reading Abbey, Reading, Berkshire	Benedictine monastery founded in 1121 and consecrated as Cluniac monastery in 1164 by Henry 1st.	Medieval	LB17	SU 71909 73557
MRD1398	St Laurence's and hospitium- Reading, Berkshire	A hospital for thirteen poor persons was founded by the Abbey in the 1190's. It stood to the north of St Laurence's Church.	Medieval	LB1	SU 71710 73599
MRD15563	Reading Abbey - Hospitium	The Hospitium of St. John the Baptist for 13 poor people founded by the Abbey in the 1190s.	Medieval	LB2	SU 71714 73609
MRD3935	Church of St Mary, Reading, Berkshire	A Grade I listed church of Norman origin.	Medieval - Post Medieval	LB3	SU 71411 73318
MRD3936	St Laurence Church, Reading	The church, built next to the main gate of the abbey, is first documented (as a chapel) in the early 12th century.	Medieval - Post Medieval	LB4	SU 71708 73548
MRD3939	Greyfriars Church, Reading, Berkshire	Former Franciscan Friary church first built in 1282-85. After being surrendered to the Crown the main body of the church became a guildhall, but by 1611 it was being used as a prison. It was restored to church use in 1863 by the architect Woodman.	Post Medieval	LB5	SU 71206 73587
MRD5533	The Corn Exchange arcade entrance - Market Place, Reading, Berkshire	The Corn Exchange arcade entrance is a Grade II listed building, built in 1854 by J B Clacy and F Hawker.	Post Medieval	LB16	SU 71678 73471

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SHR14

MONUID	NAME	DESCRIPTION	PERIOD	FoundID	NGR
MRD6041	Main building of Reading General Station, Station Hill, Reading	Reading railway station was constructed in 1840, but none of the original survives. There is a grade II listed railway station building dated 1865-1867.	Post Medieval - Modern	LB6	SU 71450 73850
MRD6970	Post-medieval wall and sherd of medieval pottery - 15 Gun Street, Reading, Berkshire	A post-medieval wall and a single sherd of medieval pottery were revealed during a watching brief at the rear of 15 Gun Street.	Medieval -Post Medieval	LB7	SU 71500 73286
MRD7021	15 Gun Street, Reading, Berkshire	A Grade II listed 17th century timber framed building.	Post Medieval	LB8	SU 71492 73298
MRM15954	Wall and gatepiers of St Laurence's Graveyard, Reading, Berkshire, Reading	Grade II listed red brick gatepiers and retaining wall to the graveyard of St Laurence's in Reading.	Medieval - Post Medieval	LB9	SU 71777 73600
MRM16062	32 Market Place, Reading, Berkshire	A Grade II listed mid 19th century building, c. 1840-1853.	Post Medieval	LB10	SU 71678 73488
MRM16064	27 and 28 Market Place, Reading, Berkshire	Grade II listed building double jettied timber-frame building of early C17 date or possibly earlier.	Post Medieval	LB11	SU 71689 73501
MRM16066	The Coopers Public House, Market Place, Reading, Berkshire	Grade II listed 17th century timber-frame building, now The Coopers Public House.	Post Medieval - Modern	LB12	SU 71680 73499
MRM16111	Medieval flint and stone rubble walling - The Coopers Arms, Reading, Berkshire	Areas of flint and stone rubble walling in the basement of the Coopers Arms have been dated as medieval, with evidence of later Tudor brick repairs/redevelopments.	Medieval	LB13	SU 71679 73498
MRM16509	Maiwand Memorial, Forbury Gardens, Reading, Berkshire	A Grade II listed monument erected in 1886 to commemorate those who gave their lives for their country at Girisk Maiwand and Kandahar, during the Afghan Campaign 1879-1880.	Post Medieval	LB14	SU 7183 7361
MRM16752	The George Hotel - 8 and 9 King Street, Reading, Berkshire	A Grade II listed building first mentioned in 1423 and now a hotel.	Medieval - Modern	LB15	SU 71653 73367

EVENTS

EVUID	NAME	DESCRIPTION	FoundID	NGR
ERD21	Brigham Road Reading	An archaeological evaluation was carried out at land off Brigham Road, Reading. Overall, no archaeological features were present in any of the trenches and no artefacts were recovered.	1	SU 71391 74248
ERD27	172 Friar Street, Reading	The OAU carried out an excavation in August 1997 at Friar Street, Reading. A previous evaluation uncovered early post-medieval structures and a possible medieval hearth. Finds from the site include pottery, a fragment of window glass, an annular brooch and a pin with a wire wound head, as well as ceramic building material.	2	SU 71643 73533
ERD33	99 - 105 Friar Street	An evaluation comprising three trial trenches was undertaken by TVAS following the proposed redevelopment of the site. Features dated from 12th - 18th Century.	3	SU 71287 73540
ERD34	99 -105 Friar Street	Following Evaluation results, and Excavation was undertaken suggesting the development of 2 adjoining properties fronting Friar Street, with open plots of land to the rear. Evidence dated from 12th - 20th Century.	4	SU 71287 73540
ERD38	Old Shire Hall	Seven trenches were excavated by Wessex Archaeology in an area immediately south of the Old Shire Hall Building, in open areas around an existing building. Nothing of archaeological significance was encountered. Post medieval "terracing" was identified and in view of the nature of the site it is proposed that this post medieval "terracing" has removed the medieval layers	5	SU 71845 73490
ERD46	Bridge Street East, Reading	The archaeological evaluation formed the first stage of archaeological investigations at the site east of Bridge Street. Two transepts were excavated in order to attempt to identify the courses and meanders running across the valley floor. Revetted medieval watercourses and an area of 13th century chalk hard standing were uncovered. 12th -13th century pottery was also recovered from the site.	6	SU 71508 73134
ERD66	29-35 Station Road, Reading	Desk based assessment undertaken by CgMs Consulting. It concludes that other than possible evidence of a Civil War defensive ditch running through the area, the site is of limited archaeological potential, further reduced by 19th and 20th century disturbance on the site.	7	SU 71490 73693
ERD78	7/8 Broad Street, Reading	An archaeological watching brief was undertaken by Oxford Archaeology. A total of eight test pits were observed. The results of this watching brief combined with the 1960s foundation drawings, would indicate that it is likely that at least 50% of the archaeological deposits on the site have been removed by later activity, while the archaeology that does survive is clearly heavily truncated.	8	SU 71624 73447
ERD83	Forbury House, Forbury Square, Reading	An archaeological watching brief was carried out on all groundworks associated with the redevelopment of the Forbury House site. Features revealed included a Saxon pit filled with burnt daub and charcoal, a series of medieval features including a large gravel extraction pit, and numerous post-Medieval pits. Saxon and medieval pottery, Roman, Saxon and medieval tile (including a Roman tegula), iron slag and animal bone were recovered.	9	SU 71801 73489
ERD86	The Oracle Site	A total of 5 test pits were excavated by Oxford Archaeology within area 5 of the Reading Oracle Site.	10	SU 71678 73283
ERD89	The Oracle Site	5 test pits were excavated by Oxford Archaeology. Two in the centre of the site contained medieval deposits and evidence for at least two well-preserved medieval buildings while another revealed the 16th-17th C bank of the Minster Mill stream which had been partially removed by 19th C brick capping & revetment of the waterway.	11	SU 71515 73290
ERD90	Oracle Site, Yield Hall Car Park	Test pits 2-8 were excavated. Infilled water channels were visible in four test pits while the Yield Hall itself survived in two of the test pits.	12	SU 71601 73262
ERD92	Market Way, Broad St, Reading	A desk-based assessment was undertaken by Oxford Archaeology. The site is situated in the centre of the medieval street plan of Reading, just to the north of the likely Saxon core of the town. The area has produced occasional finds of prehistoric and Roman material although no sites have so far been identified.	13	SU 71639 73460
ERD94	90-93 Broad Street, Reading - Archaeological evaluation	An archaeological evaluation undertaken by Oxford Archaeology revealed the remains of walls, floors and basements belonging to 19th century properties that would have fronted Chain Street. A flint wall had been incorporated into one of the properties. Below this floor were layers overlying medieval pits and ditches.	14	SU 71439 73405
ERD96	The Former Boots Building	Oxford Archaeology undertook an architectural and archaeological study of the former Boots the Chemists buildings on Broad and Chain Streets in the historic heart of Reading. The present group of buildings includes two 19th century shops with a unified 1930s façade and an early 19th century block, with accommodation above a 19th century warehouse. The greater part of the building, however, consists of a massive modernist 1960s block that lies over earlier buildings, yards and gardens. The earlier buildings were incorporated into this block destroying much of the historic fabric.	15	SU 71424 73426

EVUID	NAME	DESCRIPTION	FoundID	NGR
ERD99	Tudor Road, Reading, Berkshire	A watching brief was undertaken in November 2000 by Foundations Archaeology at land on Tudor Road, Reading. The watching brief involved the archaeological monitoring of groundwork's associated with the construction of the vehicular crossover and site access for proposed offices at Tudor Road. No significant archaeological features or deposits were identified. The whole of the study area had been highly disturbed in the late post-medieval and modern periods.	16	SU 71233 73846
ERD101	Forbury House, Reading, Berkshire	An archaeological evaluation was undertaken by AOC Ltd in advance of proposed redevelopment of the site currently occupied by the Forbury House building and associated car parking areas. Nine test pits were opened, three of which contained medieval deposits and features along with limited evidence for Roman activity from the deepest deposits in two of these test pits. Structural evidence for the Suttons Seeds Factory, which occupied the site prior to Forbury House was found in seven of the test pits.	17	SU 71822 73456
ERD110	The Lion Public House, Great Knollys Street, Reading	A desk-based assessment was undertaken by CPM Environmental Planning and Design. The site lies in the historic St Mary's parish, to the west of Reading town centre. The SMR has no previously recorded archaeology within the site. There is evidence of a range of activity nearby, including prehistoric activity recovered close to the site. The assessment has confirmed that the site was redeveloped in the 1930s and it is very likely that the surviving building dates entirely to this period.	18	SU 71065 73737
ERD116	Boars Head, 25 Friars Street, Reading	Building survey undertaken by Foundations Archaeology. The examination of the historical fabric of the Boars Head building complex revealed that less than 10% of the complex dates to the 16/17th century. The majority of the complex had been rebuilt in the 19th and 20th century. The Malthouse was also an original structure and dated to the late 18th to early 19th century.	19	SU 71453 73605
ERD152	Rear of 1 Friar Street, Reading	An archaeological evaluation was carried out by TVAS at the rear of 1 Friar Street, Reading. The site lies on the boundary of the historic core of the town of Reading and the Abbey precinct, an area considered to have high archaeological potential. Beneath layers of made ground and demolition deposits of late post-medieval date, were a series of earthen and chalk floors, a probable flint and chalk wall, a posthole, a hearth and possibly flint nodule post pads. One of the deposits produced pottery of 12th-13th century date. From within the overlying layers of made-ground were a number of decorated and glazed tiles of medieval date which almost certainly originate from the Abbey buildings.	20	SU 71694 73585
ERD153	Rear of 1 Friar Street, Reading, Berkshire	The TVAS excavation took place in two phases. Six excavation trenches were dug prior to development. Several phases of activity were identified, the earliest being stray finds of probable Bronze Age, Roman and Saxon date. Elements of a Medieval building comprising walls, foundations, chalk floors and a drain were recorded and probably represent a part of the Hospitium Almshouses. Post-Medieval phases included evidence for the robbing out of the earlier walls, the digging of pits and evidence of metalworking.	21	SU 71692 73584
ERD156	7-8 Market Way	Excavations by Oxford Archaeology revealed two major phases of activity. A horizon of buried soil, possibly of Saxon date and only surviving in patches was overlain by a horizon of medieval buried soil. Cutting the buried soil horizons were sequences of medieval and post-medieval rubbish pits, the latest of which were contemporary with a flintlined cess pit and a flint-lined cellar.	22	SU 71644 73460
ERD157	Forbury House, The Forbury, Reading, Berkshire	An Archaeological Impact Assessment was undertaken by MoLAS. A variety of archaeological evidence could currently be present from prehistoric, Saxon, Viking, Medieval and post-medieval periods. Although no direct archaeological evidence has yet been recovered from the site the historical record and archaeological extrapolation from nearby sites suggest that a range of deposits of potentially local and regional significance could survive.	23	SU 71802 73505
ERD164	90-93 Broad St	Excavations revealed a possible Saxon soil and ditch which were sealed by a medieval garden soil and truncated by a sequence of medieval and post medieval pits and associated wall foundations. The pits may have related to industrial activity that continued into the post medieval period by which time the northern part of the site was occupied by related buildings.	24	SU 71430 73401
ERM226	29-35 Station Road, Reading	The same site has been the subject of a previous desk based assessment by CgMs Consulting. The MoLAS desk based assessment notes that the site is within an Archaeological Protection Area as identified in the adopted Reading Borough Local Plan. It concludes that archaeological deposits may survive, particularly in the western part of the site. Prehistoric material has been found nearby and the site is also close to the line of the Civil War defences.	25	SU 71486 73690
ERM228	Forbury Gardens and Abbey Ruins, Reading, Berkshire: An Archaeological Watching Brief	Watching brief carried out during the removal of 22 trees, including one ash tree in the vicinity of the Abbey Ruins. In all cases, only 0.15 to 0.20 metres of the topsoil surrounding each stump was affected. The work did not disturb any archaeological deposits and no finds were recovered.	26	SU 71868 73621
ERM249	Vastern Road, Reading	Archaeological investigation of a vacant lot bordering the River Thames prior to redevelopment. Sixteen machine excavated trenches were dug. The work revealed the present ground level to be largely artificial, resting on approximately 1.5m of made ground comprised chiefly of ash and cinder dumps. A single linear feature, most probably a land drain of 19th century date, was revealed running N-S across the west end of the site, normal to the line of the River Thames.	27	SU 71668 74047

EVUID	NAME	DESCRIPTION	FoundID	NGR
ERM279	The United Reform Chapel, Broad Street, Reading	This chapel had been redundant for many years and it was proposed to convert the building to retail use. The initial brief was to record a number of brick-lined vaults and overlying stones which had been uncovered under the floor of the vestry and behind the pulpit. The vaults were believed to have been emptied when the burial ground was deconsecrated in the second half of the 19th century. However, human remains were found within the vaults. Subsequent brief consisted of the recording of the vaults and burials during the exhumation of the burials. In total 47 vaults and 148 burials were revealed	28	SU 71389 73416
ERM283	21-23 Valpy Street, Reading, Berkshire	Wessex Archaeology carried out an archaeological watching brief and evaluation on the site of a proposed development at 21-23 Valpy Street, Reading. There were no archaeological deposits revealed during the course of the watching brief, although significant amounts of modern disturbance and truncation were identified.	29	SU 71710 73682
ERM284	21-23 Valpy Street, Reading, Berkshire	A desk based assessment was undertaken by Wessex Archaeology prior to a proposed development at this site. Within the Study area was evidence of Prehistoric, Roman Pottery, Saxon Burials, Medieval and Post Medieval features including Post Medieval Burials.	30	SU 71711 73685
ERM331	Rear of 7-9 Gun Street Reading, Berkshire	This site lies within the historic core of Reading and Gun Street was one of the original medieval streets. The evaluation involved the machine digging of two trenches. TVAS revealed 2, possibly 3 Medieval hearths and recovered Roman pottery.	31	SU 71466 73253
ERM333	Chatham Street, Reading - A Rapid Archaeological Desk-Based Assessment	A preliminary rapid archaeological appraisal was undertaken by Wessex Archaeology prior to the submission of a Development Brief for the redevelopment of this site. The appraisal noted that there were few prehistoric finds in the general area, and little in the way of Roman remains in the surrounding area. There were, however, a few isolated Roman coin and pottery find spots.	32	SU 71057 73512
ERM400	Forbury Gardens, Reading	A preliminary rapid archaeological appraisal was undertaken by Wessex Archaeology prior to the submission of a Development Brief for the redevelopment of this site. The appraisal noted that there were few prehistoric finds in the general area, and little in the way of Roman remains in the surrounding area. There were, however, a few isolated Roman coin and pottery find spots.	33	SU 71057 73512
ERM412	Forbury Gardens Restoration Project, Reading, Berkshire	An archaeological investigation was undertaken by Wessex Archaeology within the ruins of Reading Abbey and Forbury Gardens as part of the Forbury Gardens restoration project. A total of 39 Trenches were excavated.	34	SU 71901 73578
ERM449	5 Greyfriars Road, Reading, Berkshire	A desk top study and evaluation was carried out prior to the development of the site by TVAS followed by an Evaluation of two trenches. No finds or deposits of Archaeological significance were revealed.	35	SU 71236 73649
ERM483	25-26 Friar Street Reading, Berkshire	Foundations Archaeology undertook an archaeological evaluation, followed by an excavation revealing features of Medieval and Post Medieval date. Animal bone and charred cereal grains and chaff.	36	SU 71460 73636
ERM484	25-26 Friar Street and Shoemiths Court, Reading, Berkshire	A desk-based assessment was undertaken on land at 25-26 Friar Street, Reading following proposals to develop the site. It was determined that the potential for Prehistoric, Roman and Saxon remains is low. However, the site has a high potential for the recovery of archaeological deposits with particular regard to the medieval and early post-medieval period.	37	SU 71461 73617
ERM493	Forbury Roundabout, Reading	Groundworks for the construction of new carriageways revealed a length of the Plummery Wall and associated stratigraphy on the south side, along with burnt clay hearths along with animal and human remains.	38	SU 71764 73703
ERM494	Forbury Road, Reading	Observations of a deep service trench cut on the northern side of Forbury Road produced evidence of the course of what is interpreted as the Plummery Wall and its construction at foundation level.	39	SU 71817 73708
ERM500	Land at Station Hill, Reading	An archaeological desk-based assessment was carried out on land at Station Hill, Reading by Foundations Archaeology. Modern buildings including a multi-storey car park, bus station, a club and a number of commercial and office buildings presently occupy the site. The assessment concluded that the site has low to moderate potential for the recovery of archaeological deposits with particular regard to the later post-medieval period. Prehistoric, Roman, Saxon/Viking and medieval activity is also recorded within the vicinity of the site.	40	SU 71368 73746
ERM509	St Laurence's Church Yard, The Forbury, Reading, Berkshire	An archaeological watching brief was carried out during the hand-excavation of eight test pits preceding remedial works to the retaining wall of St Laurence's churchyard. The test pits were excavated on the outer and inner side of the wall.	41	SU 71770 73599
ERM511	Chatham Street, Reading, Berkshire	An archaeological evaluation was carried out at land in Chatham Street, Reading in advance of redevelopment of the site. All of these trenches suggested significant modern truncation and disturbance across the site. None of the trenches contained any archaeological deposits, features or finds. Overall, the site has been shown to have little or no archaeological potential.	42	SU 70997 73478

EVUID	NAME	DESCRIPTION	FoundID	NGR
ERM541	Shoemiths Court, Reading, Berkshire - Area 9	An archaeological excavation was undertaken at Shoemiths Court following previous archaeological work at the site. Evidence of 12-14th century traditional medieval backland activity was revealed in the form of a possible hearth, five pits of varying size and a linear ditch.. A number of late medieval and early post-medieval (14th-16th century) pits and ditches were also identified during excavations, which remain consistent with backland activity. A number of pits of Post-medieval date (16th-18th century) were also identified, late Postmedieval/ modern features and three undated pits. The archaeological features at the site contained limited quantities of pottery.	43	SU 71438 73644
ERM575	St Mary the Virgin Church, Reading, Berkshire	An archaeological watching brief was undertaken during alterations to the pathways and structures surrounding the church.	44	SU 71408 73318
ERM623	173-175 Friar Street, Reading, Berkshire	An archaeological desk-based assessment was undertaken by RPS Planning Transport and Environment, following proposals to refurbish and redevelop the current 1950's buildings on this site.	45	SU 71658 73516
ERM643	The Vicarage, 64 Friar Street, Reading, Berkshire	An archaeological watching brief was carried out by TVAS on groundworks at The Vicarage, 64 Friar Street, Reading during the conversion of the former Greyfriars Vicarage building into a nursery school.	46	SU 71237 73589
ERM650	Minster of St Mary the Virgin, Reading, Berkshire	An archaeological watching brief was carried out during consolidation of the cracked ledger stone at the Minster of St Mary the Virgin. This formed part of renovation work at the Minster.	47	SU 71405 73329
ERM715	5-21 Tudor Road, Reading, Berkshire	An archaeological desk based assessment was produced by CgMs Consulting to provide information on the archaeological potential of the site in response to proposed development.	48	SU 71224 73804
ERM754	Reading Civic Headquarters and Hosier Street Masterplan	An archaeological desk-based assessment was commissioned to inform the development process in relation to work on a new masterplan for the redevelopment of the Hosier Street area and the construction of a new Civic Centre for Reading.	49	SU 71349 73305
ERM760	Duke Street, Reading	During the re-laying of a road surface at Duke Street a bridge was revealed over the Holybrook. A watching brief was undertaken during the works, which revealed Pottery sherds, a silver coin and a bronze needle.	50	SU 71731 73378
ERM813	Tree Planting, Churchyards of St Mary's and St Laurence's, Reading, Berkshire	An archaeological recording action was undertaken at the site during a scheme of work scheduled to remove diseased trees and plant replacements in the churchyard's of St. Mary's and St. Laurence's in the centre of Reading. All digging within the churchyard was undertaken by archaeologists by hand, and any human remains recovered were reburied within the churchyard in an appropriate manner.	51	SU 71565 73423
ERM816	The Coopers Arms Complex	A buildings archaeological report was produced in order to provide a detailed understanding of the date and historic development of the Coopers Arms complex, in order to inform proposals for the redevelopment of the site for a variety of uses.	52	SU 71677 73494
ERM826	Reading Civic Headquarters and Hosier Street Masterplan	An archaeological field evaluation was carried out in advance of a planning application for the redevelopment of the Hosier Street area of Reading, and the construction of a new Civic Centre.	53	SU 71238 73273
ERM831	172 Friar Street, Reading	An archaeological evaluation was undertaken by Oxford Archaeology comprising of two trenches which identified a well stratified sequence of deposits whose earliest features comprised a hearth constructed of ceramic roof tile and a later pit or robber trench along with residual pottery sherds. Both features are likely to be medieval, although the assemblage of pottery recovered was too small to date features with certainty.	54	SU 71641 73528
ERM866	90-93 Broad Street, Reading, Berkshire	An archaeological desk-based assessment was produced in response to development proposals for a single plot of land comprising 90-93 Broad Street and 5-12 Chain Street, Reading.	55	SU 71415 73435
ERM869	Aldwych House, Blagrove Street, Reading, Berkshire	A desk-based assessment has been produced by CgMs Consulting in light of development proposals at Aldwych House.	56	SU 71644 73682
ERM871	Former NCP Car Park, Forbury Road, Reading, Berkshire	An archaeological evaluation and watching brief were carried out during the course of development of the former NPC car park at Forbury Road, Reading.	57	SU 71809 73745
ERM922	New Power Cable Trench, The Forbury and Abbey Street, Reading, Berkshire	An archaeological watching brief was carried out by TVAS at Abbey Street, Reading during the excavation of a new power cable trench in order to link new offices on Abbey Street with an existing power supply on The Forbury, Reading.	58	SU 71877 73569
ERM972	Reading Assize Courts, Berkshire	An archaeological watching brief was undertaken during groundwork's which required the demolition of an existing building and the clearance of the site. This was following planning permission for the redevelopment of the Assize Court.	59	SU 71871 73514
ERM1025	Replacement of Drainage Channel Minster of St Mary-the Virgin, Reading, Berkshire	An archaeological watching brief was carried out by Oxford Archaeology during the replacement of a drainage channel on the north side of the nave at the Minster of St Mary-the-Virgin, Reading, as part of ongoing site investigations during renovation work.	60	SU 71396 73344
ERM1041	Minster of St Mary-the Virgin, Reading, Berkshire	An archaeological watching brief of hand-excavated trial pits was carried out by Oxford Archaeology at the Minster of St. Mary-the-Virgin, Reading as part of the ongoing site investigations conducted during renovation work on the west and south walls of the church.	61	SU 71407 73336

EVUID	NAME	DESCRIPTION	FoundID	NGR
ERM1058	25-26a Friar Street, Reading, Berkshire	A desk based assessment was produced by TVAS comprising the first stage of a process to confirm the presence/absence of archaeological remains, which may be affected by redevelopment of the area.	62	SU 71460 73600
ERM1065	15 Gun Street, Reading, Berkshire	An archaeological watching brief was undertaken at a site at 15 Gun Street, Reading by TVAS following planning consent to refurbish and extend 15 Gun Street.	63	SU 71493 73290
ERM1072	Garages to the Rear of 55-56 St Mary's Butts, Reading, Berkshire	A desk-based assessment was produced by Foundations Archaeology to assess the impact of proposed development on an area of land to the rear of 55-56 St. Mary's Butts, Reading.	64	SU 7138 7336
ERM1112	The Vicarage Site, St Mary's Butts, Reading	Following notification that the Vicarage Site north of St Mary's Church might be developed in the near future, the Berkshire Archaeological Unit opened two trial trenches. A total of 9 sherds of pottery were found along with a single worked flint.	65	SU 713 733
ERM1134	Royal Mail Sorting Office, Caversham Road, Reading, Berkshire	Desk Based Assessment by CgMs Consulting concluding that the site has low to nil potential for settlement remains for all periods because of the topography but identifies that there is potential for further Saxon burials.	66	SU 713 739
ERM1135	55-56 St Mary's Butts, Reading, Berkshire	An archaeological evaluation was undertaken by Foundations Archaeology on land at 55-56 St Mary's Butts, Reading following planning permission for the demolition of garages to the rear of 55- 56 St Mary's Butts and the building of new apartments.	67	SU 71380 73358
ERM1173	Rear of 10-11 Gun Street, Reading, Berkshire	An archaeological evaluation was carried out by TVAS at the rear of 10-11 Gun Street, Reading which is located in the historic core of Reading.	68	SU 7147 7327
ERM1224	Water Pressure Manager, St Mary's Butts, Reading, Berkshire	An archaeological watching brief was undertaken at St Mary's Butts, Reading on 2nd November 2010 and 8th December 2010 by TVAS during the replacement of a sewer trench at the southern end of St Mary's Butts.	69	SU 71397 73275
ERM1267	The Greyfriars Day Nursery, 64 Friar Street, Reading	An archaeological evaluation was undertaken at Greyfriars Day Nursery, Reading, Berkshire in advance of piling for a new single storey side extension.were undertaken at the mill site of Reading Abbey, following plans to develop the area.	70	SU 7187 7345
ERM1320	Station Hill and Friars Walk, Friar Street, Reading, Berkshire	An archaeological evaluation was undertaken by Foundations Archaeology on land at Station Hill and Friars Walk, Friar Street, Reading, Berkshire in advance of the proposed redevelopment of the site.	71	SU 71337 73716
ERM1322	Greyfriars Church, Friar Street, Reading, Berkshire	An archaeological desk-based assessment was undertaken on land at Greyfriars Church, Reading following proposals to redevelop the site with the construction of a new dwelling along with landscaping.	72	SU 7123 7359
ERM1325	Land at Station Hill and Friars Walk, Reading	An archaeological desk-based assessment was carried out on land at Station Hill and Friars Walk, Reading following proposals to redevelopment the site with the demolition of the current buildings and the construction of new buildings for a mix of uses.	73	SU 7136 7375
ERM1350	Bridewell House and Samuel House, Friar Street, Reading	An archaeological Desk Based Assessment was undertaken at Samuel House and Bridewell House, Friar Street, Reading, to inform a planning application for the redevelopment of the site into student accommodation.	74	SU 7128 7359
ERM1397	Market Place/London Street Conservation Area Appraisal	A conservation area appraisal was undertaken in 2007 of the London Street/Market Place conservation area.	75	SU 7174 7325
ERM1401	Land at 5-21 Tudor Road, Reading, Berkshire	An archaeological evaluation was carried out by Foundations Archaeology on land at 5-21 Tudor Road, Reading following planning permission for the development of the land.	76	SU 71224 73796
ERM1434	Geoarchaeological Borehole Investigations, Energis House, Reading	Geoarchaeological borehole investigations were undertaken to produce a deposit model to inform the archaeological mitigation strategy in relation to the redevelopment of Energis House, Forbury Road, Reading	77	SU 7192 7372
ERM1449	Friar Street road repair, Reading, Berkshire	An archaeological watching brief was carried out on ground works at Friar Street in central Reading to investigate possible archaeological remains revealed during emergency repairs to a collapsed sewer.	78	SU 7149 7358
ERM1566	Aldwych House, Blagrove Street, Reading, Berkshire	A geo-archaeological investigation was undertaken by Quaternary Scientific (Quest) in connection with the proposed Thames Pedestrian/Cycle Bridge at Reading. The proposed site of the bridge is between Reading and Caversham Bridges. The BGS mapping shows that the site is located on the southern margin of the floodplain, adjacent to a west-east orientated spur of Langley Silt.	79	SU 71639 74207
ERM1567	The Oracle Shopping Centre site	An archaeological field evaluation was carried out at Aldwych House, Blagrove Street, Reading, following proposals to redevelop the property. The proposed development involves demolition of the existing structure and construction of a new building.	80	SU 7167 7368
ERM1630	Rear of 7-9 Gun Street, Reading, Berkshire	An archaeological recording action was carried out at the rear of 7-9 Gun Street, Reading following planning consent and listed building consent for redevelopment of the site comprising a new basement to the rear of the extant buildings and a bin store at the far south of the site.	81	SU 71463 73262
ERM1632	Aldwych House, Blagrove Street, Reading, Berkshire	An archaeological watching brief was carried out at Blagrove Street, Reading, following planning permission to redevelop the property of Aldwych House.	82	SU 7167 7368

EVUID	NAME	DESCRIPTION	FoundID	NGR
ERM1648	Land at Greyfriars Church, Friar Street, Reading, Berkshire	A programme of archaeological evaluation was undertaken on land at Greyfriars Church, Friar Street, Reading, Berkshire following proposals to construct an extension with an underground car park at the site. The project comprised the excavation and recording of archaeological evaluation trenches. The trenches were located within the proposed development area.	83	SU 7117 7358
ERM1703	Reading Station Southern Entrance, Borough of Reading	An archaeological desk based was undertaken to examine an area of land at Reading Station, Reading in order to assess the impact of proposed development on the known and potential archaeological resource. The archaeological assessment is to be used to form the basis for any further archaeological work.	84	SU 7146 7381
ERM1704	Reading Station Area Re-development	An archaeological desk based assessment was undertaken to provide baseline information for an Environmental Impact Assessment regarding the site of the Great Western Main Line (GWML), Reading, Berkshire, including the remodelling of the Reading Station area (RSA). The site is currently operational as a railway station and junction.	85	SU 7154 7384
ERM1723	Reading Station Area Redevelopment, Reading, Berkshire	Building recording of the former ticket Office and parcel depot at Reading Station was undertaken by Wessex Archaeology prior to the demolition of the building. The Parcel Depot is located within the Reading Station Area Redevelopment Scheme (RSAR: hereinafter 'the Scheme'), and as such will be demolished as part of the area improvements.	86	SU 7146 7390
ERM1724	Reading Station Area Redevelopment Reading, Berkshire - Western Wing of Station Buildings	Historic building recording was undertaken on the former western wing of station buildings at Reading Station (centred on NGR 71380 73840). The western wing is located within the Reading Area Redevelopment Scheme (RSAR) and as such is due for demolition as part of the area improvements.	87	SU 7138 7383

MONUMENTS AND FINDSPOTS

MONUID	NAME	DESCRIPTION	PERIOD	NGR
MRD11197	Prehistoric finds - Capital and Counties Bank, Cross Street, Reading, Berkshire	A stone/flint net sinker or loomweight and a bone needle were found.	Prehistoric	SU 71540 73480
MRD11209	St Laurence's Churchyard, Reading, Berkshire	A Neolithic flint axe was found in St Laurence's Churchyard, Reading.	Neolithic	SU 71690 73580
MRD11245	Iron Age coin - Market Place, Reading, Berkshire	A gold stater of Cominius was found in 1927 in Market Place, Reading, Berkshire	Iron Age	SU 71700 73460
MRD11254	Iron Age brooch - Friar Street, Reading, Berkshire	An Early Iron Age brooch was found at Friar Street, Reading	Iron Age	SU 71500 73600
MRD11255	Roman sherds - Market Place, Reading, Berkshire	Roman pottery sherds were found at Market Place, Reading.	Roman	SU 71700 73460
MRD11257	Romano-British sherds-Friar Street, Reading, Berkshire	Romano-British coarse sherds from the site of the former Littlewoods store.	Roman	SU 71350 73550
MRD11258	Roman coins - Vaudeville Theatre, Broad Street, Reading, Berkshire	Roman coins were found in Broad Street, Reading.	Roman	SU 7142 7350
MRD11262	Roman coin - Greyfriars Road, Reading	A 3rd brass of Magnentius was found in Greyfriars Road, Reading.	Roman	SU 7126 7369
MRD11341	Early medieval coffin and coin hoard - St Mary's Churchyard, Reading, Berkshire	An early medieval coffin containing human remains and a hoard of silver pennies.	Saxon	SU 71450 73350
MRD11365	Medieval jug - Blagrove Street, Reading, Berkshire	A 12th/13th century jug of red hard ware was found in Blagrove Street, Reading.	Medieval	SU 71620 73650
MRD11367	Medieval coin - Great Western Hotel, Reading, Berkshire	A silver halfpenny of Edward III was found below the ballroom of the Old Great Western Hotel in Reading.	Medieval	SU 71520 73680
MRD11369	13th century pottery - 10 Queen Victoria Street, Reading, Berkshire	A quantity of 13th century pottery was found 6ft down under no. 10 Queen Victoria Street in Reading.	Medieval	SU 71530 73550
MRD11370	Medieval pottery at Wiston Terrace, Reading, Berkshire	Sherds of medieval pottery, glass, copper gross, clay pipes etc. were found during foundations digging in Wiston Terrace, Reading.	Medieval	SU 71540 73660
MRD11371	Medieval sherds - New garage near railway station, Reading, Berkshire	Fragments of medieval pottery were found in the foundations of the new garage near the GWR Station.	Medieval	SU 71480 73750
MRD11375	14th century pottery sherds - The Vicarage, St Mary's, Reading, Berkshire	Unstratified 14th century pottery sherds found in a trial trench at this site.	Medieval	SU 71402 73388

MONUID	NAME	DESCRIPTION	PERIOD	NGR
MRD11377	14th century pottery sherds - 60 Broad Street, Reading	Quantities of 14th century sherds, a broken pipkin and a bone handled knife were found during rebuilding works at 60 Broad Street, Reading.	Medieval	SU 71340 73480
MRD11378	Medieval skeleton and finds - Broad Street, Reading, Berkshire	Part of a child's skeleton and a number of medieval finds were found on the site of The Oatsheaf, Broad Street, Reading.	Medieval	SU 71441 73479
MRD11381	Late Norman or early Medieval pot - Wellsteads, Broad Street, Reading	A late Norman or early medieval pot was found just above the chalk, below Wellsteads.	Medieval	SU 71570 73420
MRD11386	Post-medieval coin hoard - Yield Hall, Reading	A hoard of 17 gold coins dating from 1604 to 1632, all struck at the Tower Mint, London, found northwest of Yield Hall in April 1934.	Post Medieval	SU 71620 73270
MRD11389	Post-medieval token - Chain Street/Broad Street, Reading	A 17th century token of Francis Brown of Reading was found at Chain Street/Broad Street, Reading.	Post Medieval	SU 71430 73420
MRD11398	Pilgrim bottle found at Corn Exchange, Reading	A 14-15th century pilgrim's bottle was found during building work at the site of the old Corn Exchange.	Medieval	SU 71120 73830
MRD11400	Struck flint - Vicarage Site, St Mary's Church, Reading, Berkshire	A badly struck worked waste flake with an oblique platform was recovered from this site.	Prehistoric	SU 71402 73388
MRD1385	The Plummery Wall, Reading Abbey, Berkshire	A 17m stretch of the Plummery Wall was revealed during the construction of a roundabout.	Medieval	SU 71765 73707
MRD1386	Pits near the Plummery Wall, Reading Abbey, Berkshire	Pits revealed near the Plummery Wall were probably used for gravel and chalk required in the construction of the wall and the North Gate.	Medieval	SU 71764 73689
MRD1387	Hearths at The Forbury near the Plummery Wall, Reading, Berkshire	Two burnt clay hearths, not in situ were noted in a section during an archaeological excavation at the Plummery Wall.	Medieval	SU 71768 73687
MRD1388	Inhumations near The Plummery Wall, Reading, Berkshire	Human bones from at least three individuals were recovered above a hearth during excavations of a section of the Plummery Wall.	Saxon	SU 71770 73687
MRD15462	The Boar's Head, Friar Street, Reading, Berkshire	Unlisted public house possibly dating back to the 15th century. Now demolished and re-developed.	Medieval - Post Medieval	SU 71448 73612
MRD15493	Medieval hearth - 172 Friar Street, Reading, Berkshire	A ring of scorched silt, interpreted as a hearth was discovered during an archaeological excavation.	Medieval	SU 71643 73533
MRD15495	Medieval occupation layer - 172 Friar Street, Reading, Berkshire	A 13th/14th century occupation layer with 2 hearths and a robbed out brick feature.	Medieval	SU 71643 73533
MRD15496	Phases of occupation - 172 Friar Street, Reading, Berkshire	Excavation at 172 Friar Street indicated four phases of occupation on the site.	Medieval - Modern	SU 71643 73533

MONUID	NAME	DESCRIPTION	PERIOD	NGR
MRD15497	Medieval hearth - 172 Friar Street, Reading, Berkshire	Single course of overlapping bricks in lime mortar and vertically pitched roof tiles, interpreted as a hearth.	Medieval	SU 71643 73533
MRD15498	Fireplace support? - 172 Friar Street, Reading, Berkshire	Remains of a robbed-out medieval brick feature interpreted as the support for a fireplace.	Medieval	SU 71643 73533
MRD15499	Tile course - 172 Friar Street, Reading, Berkshire	A course of four medieval tiles at 172 Friar Street, Reading.	Medieval	SU 71643 73533
MRD15500	Late medieval/post-medieval pit - 172 Friar Street, Reading, Berkshire	C15th/C16th phase of activity comprising a large pit, interpreted as a robbing pit.	Medieval - Post Medieval	SU 71643 73533
MRD15501	C18th-C19th phase of activity - 172 Friar Street, Reading, Berkshire	18th-19th century phase of activity comprising a large robbing pit from which came C18th clay pipes.	Post Medieval	SU 71643 73533
MRD15502	Post-medieval pit - 172 Friar Street, Reading, Berkshire	A large post-medieval pit interpreted as a robbing pit at 172 Friar Street, Reading.	Post Medieval	SU 71643 73533
MRD15503	Post-medieval wall foundations - 172 Friar Street, Reading, Berkshire	The foundations for a possible external wall pre-dating the robbing pit at 172 Friar Street.	Post Medieval	SU 71643 73533
MRD15504	Post-medieval wall remains - 172 Friar Street, Reading, Berkshire	The possible remains of the base of a robbed-out wall.	Post Medieval	SU 71643 73533
MRD15505	Possible tile hearth - 172 Friar Street, Reading, Berkshire	A semi-circular tile structure, one course high, associated with wall	Post Medieval	SU 71643 73533
MRD15506	Pre 1920's phase - 172 Friar Street, Reading, Berkshire	The latest phase of activity, pre-dating the 1920's, comprising a floor of bricks and a wall.	Post Medieval - Modern	SU 71643 73533
MRD15507	Early 20th century floor - 172 Friar Street, Reading, Berkshire	A floor surface of bricks, arranged in a herringbone pattern, and laid into a mortar bed.	Post Medieval - Modern	SU 71643 73533
MRD15508	20th century wall -172 Friar Street, Reading, Berkshire	A wall consisting of a mix of brick and stone with a flint footing.	Post Medieval - Modern	SU 71643 73533
MRD15512	Phases of occupation from medieval to modern at 99-105 Friar Street, Reading, Berkshire	Excavations at 99-105 Friar Street, Reading have provided evidence showing the development of two adjoining properties fronting Friar Street with open plots of land to the rear from the 12th to 20th century.	Medieval - Modern	SU 71287 73540
MRD15513	12th-13th century occupation at 99-105 Friar Street, Reading, Berkshire	12th-13th century occupation represented by a series of possible post-pads and a dwarf stone wall on the street frontage and to the rear of the plot there were a series of pits.	Medieval	SU 71287 73540

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MONUID	NAME	DESCRIPTION	PERIOD	NGR
MRD15514	12th-13th century post holes and a post pad at 99-105 Friar Street, Reading, Berkshire	Seven post holes and a possible post pad were identified during archaeological investigations.	Medieval	SU 71284 73554
MRD15515	12th -13th century pits at 99-105 Friar Street, Reading, Berkshire	A series of pits, four of which contained 12th - 13th century pottery were revealed during archaeological investigations.	Medieval	SU 71284 73554
MRD15516	12th-13th century medieval floor layers at 99-105 Friar Street, Reading, Berkshire	A series of deposits interpreted as floor layers comprising a mixture of brickearth and chalk.	Medieval	SU 71284 73554
MRD15517	12th-13th century post holes at 99-105 Friar Street, Reading, Berkshire	A series of post pads and post holes, some of which may have formed part of a post-built structure.	Medieval	SU 71290 73555
MRD15518	12th-13th century pits at 99-105 Friar Street, Reading, Berkshire	Six medieval pits were revealed during archaeological investigations.	Medieval	SU 71290 73555
MRD15519	12th-13th century medieval hearth at 99-105 Friar Street, Reading, Berkshire	A medieval hearth was found during an archaeological excavation.	Medieval	SU 71290 73555
MRD15520	12th - 13th century floor layers at 99-105 Friar Street, Reading, Berkshire	A series of deposits interpreted as floor layers, consisting of a mix of brickearth and chalk.	Medieval	SU 71290 73555
MRD15521	12th - 13th century medieval wall at 99-105 Friar Street, Reading, Berkshire	A wall running parallel and fronting Friar Street constructed of two courses of chalk blocks and one course of flint.	Medieval	SU 71290 73555
MRD15522	12th -13th century pits and post holes at 99-105 Friar Street, Reading, Berkshire	A series of medieval pits were revealed found to the rear of the plot. Three of which may have been post holes.	Medieval	SU 71291 73532
MRD15523	12th-13th century ditches at 99-105 Friar Street, Reading, Berkshire	Two ditches, tentatively interpreted as property boundaries, produced C12th - C13th pottery.	Medieval	SU 71293 73544
MRD15524	Medieval pits at 99-105 Friar Street, Reading	A series of pits were revealed during archaeological investigations, none of which produced dating evidence.	Medieval	SU 71293 73544
MRD15525	12th -13th century quarry pits at 99-105 Friar Street, Reading, Reading	Three large pits, which have been interpreted as quarry pits, were revealed during archaeological investigations.	Medieval	SU 71289 73543
MRD15526	12th-13th century pit at 99-105 Friar Street, Reading, Berkshire	A small 12th-13th century pit was revealed during archaeological investigations.	Medieval	SU 71289 73543
MRD15527	12th-13th century post hole at 99-105 Friar Street, Reading, Berkshire	A 12th-13th century post hole was revealed during archaeological investigations.	Medieval	SU 71289 73543
MRD15528	12th-13th century pits at 99-105 Friar Street, Reading, Berkshire	A series of medieval pits was found during archaeological investigations.	Medieval	SU 71290 73546

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MONUID	NAME	DESCRIPTION	PERIOD	NGR
MRD15529	Mid 13th - 14th century occupation at 99-105 Friar Street, Reading, Berkshire	A mid 13th - 14th century phase of occupation comprising cut features and made-up floor deposits on the street frontage, and intercutting pits to the rear of the plots.	Medieval	SU 71287 73540
MRD15530	Mid 13th -14th century floor deposits at 99-105 Friar Street, Reading, Berkshire	A series of floor deposits were found during archaeological investigations.	Medieval	SU 71284 73554
MRD15531	Mid 13th-14th century pits at 99-105 Friar Street, Reading, Berkshire	Two pits containing 13th-14th century pottery were revealed in trench Z1A during archaeological investigations.	Medieval	SU 71284 73554
MRD15532	Mid 13th - 14th century floor deposit at 99-105 Friar Street, Reading, Berkshire	A deposit containing 13th-14th century pottery was revealed during archaeological investigations.	Medieval	SU 71293 73544
MRD15533	Mid 13th-14th century pits at 99-105 Friar Street, Reading, Berkshire	Five intercutting medieval pits were revealed during archaeological investigations.	Medieval	SU 71290 73546
MRD15534	14th - 15th century occupation at 99-105 Friar Street, Reading, Berkshire	14th - 15th century phase of occupation comprising a series of cut features and floor deposits, and a section of stone wall on the street frontage stone wall and a series of pits to the rear of the plot.	Medieval	SU 71287 73540
MRD15535	14th-15th century floor deposits at 99-105 Friar Street, Reading, Berkshire	A series of 14th-15th century floor deposits were revealed close to street frontage.	Medieval	SU 71284 73554
MRD15536	Pits and scoops at 99-105 Friar Street, Reading, Berkshire	Four pits and two scoops were revealed cutting through the floor deposits. Two of the pits may represent a period when there was no structure on this part of the site.	Medieval	SU 71284 73554
MRD15537	14th -15th century post holes at 99-105 Friar Street, Reading, Berkshire	Ten 14th -15th century post holes were revealed during archaeological investigations.	Medieval	SU 71284 73554
MRD15538	14th-15th century wall cuts at 99-105 Friar Street, Reading, Berkshire	Two cuts for a wall were revealed in trench Z1A during archaeological investigations.	Medieval	SU 71284 73554
MRD15539	14th-15th century hearths at 99-105 Friar Street, Reading, Berkshire	Two hearths, one of which was constructed of tiles laid on edge, were revealed during an archaeological excavation.	Medieval	SU 71284 73554
MRD15540	14th -15th century post holes at 99-105 Friar Street, Reading, Berkshire	Five medieval post holes were located during archaeological investigations.	Medieval	SU 71291 73555
MRD15541	14th-15th century floor deposit at 99-105 Friar Street, Reading, Berkshire	A 14th-15th century floor deposit was located during archaeological investigations.	Medieval	SU 71291 73555
MRD15542	14th-15th century ditch at 99-105 Friar Street, Reading, Berkshire	A small ditch which ran parallel to the late C12th - C13th chalk wall. The ditch indicates that this wall and associated structures were out of use by the C14-C15th.	Medieval	SU 71291 73555

MONUID	NAME	DESCRIPTION	PERIOD	NGR
MRD15543	14th-15th century pits at 99-105 Friar Street, Reading, Berkshire	One truncated pit containing C14th-C15th pottery and three smaller pits were revealed during archaeological investigations.	Medieval	SU 71289 73543
MRD15544	14th-15th century post holes at 99-105 Friar Street, Reading, Berkshire	Two 14th-15th century post holes were revealed during archaeological investigations	Medieval	SU 71289 73543
MRD15545	A 15th-16th century pit and another pit at 99-105 Friar Street, Reading, Berkshire	Two pits were found during archaeological investigations, one of which contained 15th-16th century pottery.	Medieval - Post Medieval	SU 71285 73542
MRD15546	16th-19th century occupation at 99-105 Friar Street, Reading, Berkshire	16th-19th century occupation comprising structures on the street frontage and pit digging and possible boundary ditches.	Medieval - Post Medieval	SU 71287 73540
MRD15547	16th-17th century tiled area and chalk/brickearth floor at 99-105 Friar Street, Reading, Berkshire	A tiled area and a chalk/brickearth floor of 16th-17th date was revealed during archaeological investigations.	Medieval - Post Medieval	SU 71291 73555
MRD15548	Post-medieval pits and a post hole at 99-105 Friar Street, Reading, Berkshire	Five post-medieval pits and a post hole were revealed at 99-105 Friar Street during archaeological investigations.	Post Medieval	SU 71291 73555
MRD15549	Post-medieval pits at 99-105 Friar Street, Reading, Berkshire	A pit containing C16th-C17th pottery, and four pits containing C16th-C18th pottery were revealed during archaeological investigations.	Post Medieval	SU 71291 73532
MRD15550	A post-medieval pit and post hole at 99-105 Friar Street, Reading, Berkshire	A post-medieval pit and post hole were revealed during archaeological investigations.	Post Medieval	SU 71293 73544
MRD15551	Post-medieval pits at 99-105 Friar Street, Reading, Berkshire	Five post-medieval pits were located during archaeological investigations.	Post Medieval	SU 71289 73543
MRD15568	Sandstone head of a knight - 4 Broad Street, Reading, Berkshire	Sandstone head of a knight originally part of a larger effigy found during the excavation of building foundations in 1895 at 4 Broad Street, Reading.	Medieval	SU 71637 73433
MRD15619	Foundations at land off Abbey Square, Rear of 26 the Forbury, Reading, Berkshire	Foundations to a structure measuring 4m in width which may represent either a small ancillary building to the abbey, or possibly a garden feature.	Medieval	SU 71849 73482
MRD15623	A flint and mortar wall at 7-8 Broad Street, Reading, Berkshire	A flint and mortar wall of medieval to post medieval date revealed during a watching brief.	Medieval - Post Medieval	SU 71639 73470
MRD15624	19th century basements at 7/8 Broad St, Reading, Berkshire	At least two 19th century basements were revealed during test-pitting.	Post Medieval	SU 71642 73468
MRD15633	Possible line of Danish Defences, Reading, Berkshire	Possible line of Danish Defences, as illustrated in G.G. Astill's Historic Towns in Berkshire	Saxon	SU 71646 73701

MONUID	NAME	DESCRIPTION	PERIOD	NGR
MRD15634	Saxon Reading	Possible extent of Saxon town is shown in G.G. Astill's 'Historic Towns in Berkshire'.	Saxon	SU 71428 73366
MRD15648	Oracle Site, Yield Hall Car park.	Water channels that had been infilled by the later medieval period.	Medieval	SU 71621 73279
MRD15659	Flint wall - 90-93 Broad Street, Reading, Berkshire	A flint wall had been incorporated into one of the properties at 90-93 Broad Street, Reading.	Unknown	SU 71437 73406
MRD15662	Early medieval features and finds - Forbury Square, Reading, Berkshire	Early medieval features and finds were revealed during archaeological works at Forbury Square, Reading.	Saxon	SU 71812 73482
MRD15663	Medieval pit - Forbury House, Reading, Berkshire	A circular pit containing medieval tile and pottery dating from the 12th-early 15th centuries.	Medieval	SU 71785 73530
MRD15664	Roman brick and tile - Forbury House, Reading, Berkshire	Roman brick and tile dating to AD 100-200 was recovered from two test pits during archaeological investigations.	Roman	SU 71822 73455
MRD15665	Post-medieval stakehole and postholes at Forbury House, Reading, Berkshire	A possible stakehole and two sub-circular postholes were revealed during archaeological investigations.	Post Medieval	SU 71767 73491
MRD15666	Remains of Sutton's Seeds Factory - Forbury House, Reading, Berkshire	Structural remains of the Sutton's Seeds factory were present in seven of the test pits and can be correlated with buildings on the site in 1870 and 1895.	Post Medieval	SU 71802 73491
MRD15667	Medieval gravel pit - Forbury Square, Reading, Berkshire	Gravel extraction pit with 26 fills containing a butchered skeleton of a calf, roof tile, slag and some pottery.	Medieval	SU 71766 73523
MRD15668	Medieval ditches - Forbury Square, Reading, Berkshire	Two sections of ditches were recorded running east-west, cut into sandy gravel. Finds of late 11th to 14th C pottery in fill.	Medieval	SU 71785 73476
MRD15669	Medieval pits and post hole - Forbury Square, Reading, Berkshire	A sub-rectangular pit, a sub-circular pit and a possible driven post hole were recorded. Finds of late 11- 15th C pottery and medieval peg tile have been identified.	Medieval	SU 71816 73447
MRD15670	Post-medieval pits - Forbury Square, Reading, Berkshire	Several pits dating to the post-medieval period containing finds of clay pipe, mid 17th- 18th century pottery, building material and animal bone.	Post Medieval	SU 71828 73486
MRD15671	Post-medieval cellar and well - Forbury Square, Reading, Berkshire	During archaeological investigations a series of red brick footings, chalk and flint footings were exposed and two circular brick wells.	Post Medieval	SU 71766 73503
MRD15703	Civil War Defences at Reading, Berkshire	Civil War Defences as shown on the 1643 siege of Reading map.	Post Medieval	SU 71058 73227
MRD15734	Medieval finds at rear of 1 Friar Street, Reading, Berkshire	Pottery of 12th -13th century date was found within an archaeological deposit at rear of 1 Friar Street, Reading.	Medieval - Post Medieval	SU 71694 73584

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MONUID	NAME	DESCRIPTION	PERIOD	NGR
MRD15735	Medieval features and multi-period finds - rear of 1 Friar Street, Reading, Berkshire	Multi-period finds and elements of a medieval building were identified during an archaeological excavation at the rear of 1 Friar Street, Reading.	Bronze Age - Post Medieval	SU 71690 73586
MRD15737	Saxon-Medieval pits at 7-8 Market Way (Broad Street), Reading, Berkshire	The earliest activity appears to be characteristic of backyard domestic rubbish disposal in the form of rubbish pits.	Saxon - Medieval	SU 71649 73465
MRD15738	Post-medieval cellar and cess pit - 7-8 Market Way (Broad Street), Reading, Berkshire	A building incorporating a cellar and a large cess pit which was in use in the early 17th century.	Post Medieval	SU 71646 73465
MRD15744	Former Boots Building, Broad Street, Reading, Berkshire	Historic building analysis on the former Boots the Chemists premises on Broad Street and Chain Street.	Post Medieval - Modern	SU 71416 73436
MRD15745	Saxon findspot - 90-93 Broad St, Reading, Berkshire	Late Saxon period (800-1100 AD) pottery finds were recovered from 90-93 Broad Street during an archaeological excavation.	Saxon	SU 71432 73400
MRD15746	Medieval features - 90-93 Broad St, Reading, Berkshire	Phase 2 of the excavation dates to the early medieval period from 1100-1250 AD and included evidence of early medieval structures and features.	Medieval	SU 71429 73415
MRD15747	Late medieval pits at 90-93 Broad Street, Reading, Berkshire	Phase 3 dates to the late medieval period and is represented by further pitting.	Medieval	SU 71416 73431
MRD15748	Post-medieval features - 90-93 Broad St, Reading, Berkshire	Phase 4 at this site dates to the post-medieval period and in the 16th or 17th centuries a building or buildings were constructed.	Medieval - Post Medieval	SU 71436 73403
MRD15751	Gold stater - site of Lloyds Bank, Market Place, Reading, Berkshire	Gold stater of Commius found on the site of the "Broad Face" (now Lloyds bank) in 1927.	Iron Age	SU 717 734
MRD3883	Romano-British settlement at Reading?	Victoria County History conjectures some sort of Romano British settlement at Reading.	Roman	SU 71500 73500
MRD3891	Burial near the engine sheds at Reading Station, Reading, Berkshire	In 1831, a burial of a man and a horse, together with an 8th century sword was discovered near the engine sheds at Reading Station.	Saxon	SU 71520 73900
MRD3906	Saxon royal vill at Reading?	Reading is first documented in the Anglo-Saxon Chronicle for 870-871 as the site of a Danish winter camp.	Saxon	SU 71400 73300
MRD3909	Saxon town at Reading	10th century possible Late Saxon borough at Reading, possibly focused on the Old Market.	Saxon	SU 71400 73250

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MONUID	NAME	DESCRIPTION	PERIOD	NGR
MRD3910	Nunnery at Reading, Berkshire	A nunnery may have been founded at Reading during Edgar's reign (AD 959-978).	Saxon	SU 71400 73250
MRD3911	Reading - Medieval town	The Domesday survey records Reading as a town by 1066.	Medieval	SU 71400 73250
MRD3913	A pre-conquest market at Reading	Domesday records a pre-conquest market at Reading.	Saxon	SU 71400 73250
MRD3914	An early medieval mint at Reading	Coins indicate that Reading operated a mint between c.1044 and 1046.	Saxon	SU 71400 73250
MRD3916	Medieval mills at Reading, Berkshire	Six mills are recorded in Reading in Domesday powered by the Kennet, the Holybrook and the Minister Mill stream.	Medieval - Post Medieval	SU 71500 73250
MRD3917	Medieval Reading	With the foundation of Reading Abbey in 1164 there was a shift in economic activity away from St Mary's to the Abbey gates.	Medieval	SU 71500 73500
MRD3918	Saxon mint at Reading	A mint operated in Reading from the early 11th century.	Saxon	SU 71500 73500
MRD3919	Old Market/ St Mary's Butts, Reading, Berkshire	Old Market/ St Mary's Butts area of Reading was probably the focus of the late Saxon town.	Saxon	SU 71350 73300
MRD3920	Possible medieval burials - St Mary's Butts, Reading, Berkshire	Skeletons of suggested early medieval date were located during building works.	Medieval	SU 71350 73290
MRD3921	Minster Street/Gun Street, Reading	Part of the presumed road system of the late Saxon town which continued with minor changes of alignment (e.g. diversion around St Mary's graveyard) in the medieval town.	Saxon	SU 71550 73360
MRD3922	Rubbish pit feature at 52-53 Minster Street, Reading	A depression filled with black soil and containing 12th-13th century sherds, chicken bones and the bone handle of a knife	Medieval - Unknown	SU 71590 73350
MRD3926	Market Place, Reading	The market place, situated at the Abbey gates was presumably laid out by the Abbey to attract trade from the St. Mary's area.	Medieval	SU 71690 73440
MRD3927	Medieval pit or ditch - East side of Market Place, Reading, Berkshire	A long ditch or elongated pit containing a large amount of medieval pottery.	Medieval	SU 71740 73450
MRD3928	Broad Street/King Street, Reading	Broad Street/King Street formed part of the grid of roads laid out to focus on the market place at the Abbey gates.	Medieval	SU 71480 73470
MRD3929	Flint and tile wall at Broad Street, Reading, Berkshire	Medieval flint and tile walling was discovered during excavations at 14 Broad Street in 1933.	Medieval	SU 71600 73450
MRD3930	Well in Cross Street, Reading, Berkshire	A medieval well was located during building works in Cross Street, Reading.	Medieval	SU 71540 73490
MRD3931	New Street/Friar Street, Reading, Berkshire	New Street/Friar Street was first documented in 1186.	Medieval - Modern	SU 71500 73590

MONUID	NAME	DESCRIPTION	PERIOD	NGR
MRD3932	Medieval cess pits at 160-163 Friar Street, Reading, Berkshire	At 160-3 Friar Street a complex of medieval cess and rubbish pits were revealed.	Medieval	SU 71600 73520
MRD3933	Medieval wall - 7 Greyfriars Road, Reading, Berkshire	Fragmentary remains of the flint and mortar footings of a substantial building, was found in Greyfriars Road.	Medieval - Unknown	SU 71242 73644
MRD3938	Greyfriars - Reading, Berkshire	Founded in 1233 near Caversham Bridge, but moved to present site c1282-85. It surrendered to the Crown in 1538, but the church building was used as a prison until it was restored to church use in 1863.	Medieval - Post Medieval	SU 71216 73588
MRD3941	Minster Mill, Reading, Berkshire	The 13th century Minster Mill probably stood on a channel of the Kennet called Minster Mill Stream.	Medieval - Post Medieval	SU 7150 7325
MRD3944	St Edmund's Chapel - Reading, Berkshire	St Edmund's Chapel was founded in 1204 on permission of Abbot Helias. It was built on land near to the present Greyfriars Church.	Medieval - Post Medieval	SU 71140 73570
MRD3946	13th-15th century bridge over the Holybrook, Duke Street, Reading, Berkshire	During the re-laying of a road surface at Duke Street a bridge was revealed over the Holybrook.	Medieval	SU 71730 73380
MRD3964	Wall at Blagrove Street, Reading, Berkshire	An undated flint wall was revealed under the service yards of the Grand Hotel.	unknown	SU 71580 73700
MRD3965	Old market/St. Mary's Butts, Reading	Old market/St. Mary's Butts.	Post Medieval - Modern	SU 71350 73300
MRD3966	Flint lined well - St Mary's Butts, Reading, Berkshire	A flint lined well was discovered during constructional works in St. Mary's Butts on 28th March 1931.	unknown	SU 7134 7341
MRD3967	Findspot at back of Minster Street, Reading, Berkshire	Part of a human cranium was found at the back of Minster Street in Reading.	unknown	SU 71550 73360
MRD3970	Market Place - Reading, Berkshire	The markets continued to be held in the Market Place until 1973.	Post Medieval - Modern	SU 71690 73440
MRD3971	Flint lined well - Butter Market, Reading, Berkshire	A flint lined well was found on the site of No 1, Butter Market. Its total depth was about 16ft.	unknown	SU 71660 73430
MRD3972	Broad Street/King Street, Reading	Broad Street/King Street formed part of the grid of roads laid out to focus on the market place at the Abbey gates.	Post Medieval - Modern	SU 71480 73470

MONUID	NAME	DESCRIPTION	PERIOD	NGR
MRD3973	Possible late/post-medieval brick footings - Broad Street, Reading, Berkshire	Brick footings recorded in Broad Street, c.12-15ft wide and approximately 10ft out from the (north) pavement, running in the same direction (parallel) as the street.	Post Medieval	SU 71600 73440
MRD3978	Skeletons and finds - Friar Street, Reading, Berkshire	In 1881 the remains of approximately six skeletons were recovered in Friar Street, Reading. Also found was a Charles I farthing and two brass hand-made pins.	Post Medieval - Unknown	SU 715 735
MRD3979	St Edmund's Chapel, Reading used as a fort during the Civil War	During the Civil War St Edmund's Chapel was converted to a Civil War fort.	Post Medieval	SU 71130 73590
MRD3984	The Forbury, Reading Berkshire	A road between the Forbury Gardens and Forbury Square, part of the outer court of Reading Abbey.	Post Medieval to Modern	SU 71800 73550
MRD3985	Post-medieval-modern well at 22 The Forbury, Reading, Berkshire	A well was discovered in the basement of 22 The Forbury during demolition work.	Post Medieval to Modern	SU 71800 73540
MRD3987	Blagrove Street, Reading, Berkshire	Blagrove Street is a post-medieval street in the centre of Reading.	Modern	SU 71640 73634
MRD3988	Former Victoria Buildings, Reading, Berkshire	The Victoria Buildings (shops, offices and warehouse) fronting Blagrove Street and Valpy Street were demolished in 1975.	Post Medieval to Modern	SU 71650 73650
MRD3989	Well at Reading Chronicle Building, Valpy Street, Reading	A post-medieval well was found whilst renovating a floor beneath the Reading Chronicle Building.	Post Medieval to Unknown	SU 71680 73680
MRD4467	Graves at Greyfriars Vicarage, Reading, Berkshire	Two extended skeletons were found during the digging of foundations for the new Greyfriars Vicarage.	unknown	SU 71230 73580
MRD5503	St Marys Butts stall - St Marys Butts, Reading, Berkshire	A stall possibly built to serve Market Place in Hosier Street.	Modern	SU 713 732
MRD5504	Cross Keys Pub, corner of Gun and Bridge Street, Reading, Berkshire	Recorded by Berkshire Industrial Archaeological Group (BIAG) as 'a large town centre pub with patterned brickwork and tiles. At the rear a medieval timber framed building: also at the rear the Holy Brook can be seen emerging from a conduit'.	Post Medieval to Modern	SU 71424 73256
MRD5534	Hall of the Corn Exchange, Market Place, Reading	The hall of the corn exchange was designed by Clacy and Hawkes, completed 1854 and later demolished when shops expanded.	Post Medieval to Unknown	SU 71662 73478
MRD5535	Campanile at Corn Exchange - Market Place, Reading	Built in 1854, all that remains of the Reading Corn Exchange is the narrow entrance campanile.	Post Medieval to Unknown	SU 71678 73471
MRD5909	A4 Bath Road through Reading	The A4 Bath Road from London to Bristol was a coach road and a major route west.	Post Medieval to Modern	SU 71400 73300

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MONUID	NAME	DESCRIPTION	PERIOD	NGR
MRD6024	Great Western Railway (GWR) - London to Reading Station	By 1840 The Great Western Railway ran from London to Reading.	Post Medieval - Modern	SU 68174 74676
MRD6122	Reading to Mortimer Station, Berkshire	Section of Basingstoke branch railway line between Reading and Mortimer Station.	Post Medieval to Modern	SU 69932 72232
MRD6125	South Eastern and Chatham Railway - Reading line	The South Eastern and Chatham Railway had a line to Reading.	Post Medieval to Modern	SU 72290 73719
MRD6180	Toll road from Reading to Wallingford	The toll road route went north west from Reading, through Pangbourne and Streatley to Wallingford.	Post Medieval	SU 71112 73411
MRD6289	The Forbury Garden, Reading, Berkshire	Mid C19 public garden, 2ha, occupying part of former site of Reading Abbey.	Post Medieval to Modern	SU 71850 73630
MRD6376	Undated wall at Jacksons Corner, Reading	A 250mm thick brick wall running out from Jacksons shop frontage on north side of King's Road angled at 90 degrees to the Holy Brook.	unknown	SU 7173 7340
MRD6571	Post-medieval linear ditch at Vastern Road, Reading, Berkshire	V-shaped linear ditch containing post-medieval porcelain and earthenware.	Post Medieval to Modern	SU 71650 74060
MRD6573	Cinders and hoggin layer - Vastern Road, Reading, Berkshire	A layer of cinders and hoggin containing ceramic drainpipe was revealed during an archaeological evaluation.	Post Medieval	SU 71650 74060
MRD6624	Burials at United Reform Chapel, Broad Street, Reading, Berkshire	One hundred and forty-eight 18th-19th century burials recorded during exhumation.	Post Medieval	SU 71400 73420
MRD6695	Burials - St Mary the Virgin Church, Reading, Berkshire	Burials and post-medieval gravestones were revealed during an archaeological watching brief in the churchyard.	Medieval to Post Medieval	SU 7140 7330
MRD6696	Human inhumations - St Mary the Virgin Church, Reading, Berkshire	Human inhumations were revealed during an archaeological watching brief in the churchyard.	Medieval to Post Medieval	SU 7140 7330
MRD7108	Medieval wall - 26 The Forbury, Reading, Berkshire	Flint and lime mortar wall about 30cm wide, observed 80cm below the pavement.	Medieval	SU 71840 73550
MRD7305	Post-medieval features at 21-23 Valpy Street, Reading, Berkshire	A number of Post-medieval features were identified during an archaeological evaluation at 21-23 Valpy Street, Reading.	Post Medieval	SU 71714 73671
MRD7306	Robber trench at 21-23 Valpy Street, Reading, Berkshire	A possible 17th-18th century robber trench of a medieval/post-medieval wall at 21-23 Valpy Street, Reading.	Post Medieval	SU 71714 73671
MRD7307	Post hole at 21-23 Valpy Street, Reading, Berkshire	This post hole was probably originally associated with a robbed out structure inside the Abbey precinct.	Medieval	SU 71714 73671
MRD7308	Pit at 21-23 Valpy Street, Reading, Berkshire	A possible pit with a single fill containing post-medieval pottery, animal bone and shell.	Post Medieval	SU 71724 73691

MONUID	NAME	DESCRIPTION	PERIOD	NGR
MRD7309	Pit at 21-23 Valpy Street, Reading, Berkshire	A vertical sided pit with four distinct fills and finds including animal bone, ceramic building material, nails and 17th-18th century pottery.	Post Medieval	SU 71714 73671
MRD7368	Victorian well at 5 Greyfriars Road, Reading, Berkshire	A Victorian well was revealed during an archaeological evaluation at 5 Greyfriars Road, Reading, Berkshire.	Post Medieval	SU 71240 73650
MRD9047	Hand axe - Vachel Road, Reading, Berkshire	An ovate handaxe was found at Vachel Road in 1903.	Lower Palaeolithic	SU 712 737
MRD9048	Levalloisian flake - Caversham Road, Reading, Berkshire	Finely struck Levalloisian flake was found in Caversham Road, Reading.	Lower Palaeolithic	SU 711 737
MRD9049	Hand axe at Station Road, Reading, Berkshire	In 1904 a hand axe was found in a drainage trench in Station Road, Reading.	Lower Palaeolithic	SU 71500 73650
MRM15805	Roman and medieval finds at 7-9 Gun Street, Reading, Berkshire	Medieval pottery and tile and Roman pottery were recovered during an archaeological evaluation.	Roman and Medieval	SU 71461 73260
MRM15914	Possible section of Plummary Wall at Forbury Road, Reading, Berkshire	A section of wall located on the northern side of Forbury Road east of the junction with Vastern Road.	Medieval to Modern	SU 71819 73706
MRM16013	12th-14th century medieval activity at 25-26 Friar Street and Shoemiths Court, Reading, Berkshire	A number of features and finds indicating medieval backland activity were revealed at this site off Friar Street.	Medieval	SU 71457 73636
MRM16014	14th -16th century medieval activity at 25-26 Friar Street and Shoemiths Court, Reading, Berkshire	Late-medieval to early post-medieval features were revealed during an archaeological investigations.	Medieval to Post Medieval	SU 71448 73638
MRM16015	Vastern Meadows, Reading, Berkshire	Vastern meadows comprised land given to the Friars Minor by the Abbot and Convent of Reading in 1233.	Medieval to Post Medieval	SU 71379 73785
MRM16016	16th - 18th century post-medieval activity at 25-26 Friar Street and Shoemiths Court, Reading, Berkshire	Post-medieval activity in the form of pits and ditches was revealed at this site during archaeological investigations.	Post Medieval	SU 71456 73630
MRM16017	Sherd of Saxon pottery at Shoemiths Court, Reading, Berkshire	A single sherd of residual Saxon pottery recovered from a Post-medieval pit.	Saxon	SU 71435 73659
MRM16206	'Requiem' (Spanish Civil War monument), outside Civic Centre, Reading, Berkshire	Requiem' by local sculptor Eric Stanford, was designed to commemorate the men and women of Reading who were involved in the conflict (1936-1939). The memorial was unveiled on May 5th 1990.	Modern	SU 71221 73267

MONUID	NAME	DESCRIPTION	PERIOD	NGR
MRM16211	Medieval activity, Reading Civic Headquarters and Hosier Street, Reading, Berkshire	Two pits were revealed during an evaluation. Their position in the stratigraphic record and the recovery of a piece of medieval tile, would indicate they are of medieval date.	Saxon	SU 71261 73280
MRM16212	16th century activity, Reading Civic Headquarters and Hosier Street, Reading, Berkshire	A ditch and a series of pits, containing mid-16th century finds, indicate 16th century activity at the site.	Medieval to Post Medieval	SU 71238 73276
MRM16213	17th century activity, Reading Civic Headquarters and Hosier Street, Reading	Pits containing finds dated to the 17th century were revealed during an archaeological evaluation at the site.	Post Medieval	SU 71242 73278
MRM16214	18th century activity, Reading Civic Headquarters and Hosier Street, Reading, Berkshire	An infilled cellar containing 18th century pottery finds, as well as a brick wall constructed of late 18th century bricks, indicating activity of that date on the site.	Post Medieval	SU 71238 73276
MRM16215	19th century activity, Reading Civic Headquarters and Hosier Street, Reading, Berkshire	A series of walls, and an associated soakaway, and a rubbish pit were revealed. The walls can be associated with St. Mary's School.	Post Medieval	SU 71255 73278
MRM16224	Undated human remains-Reading Civic Headquarters and Hosier Street, Reading, Berkshire	Undated human remains representing two individuals were revealed during an archaeological evaluation. The bones are residual, and had been redeposited into a modern pit feature.	unknown	SU 71246 73278
MRM16314	Human remains (pre 16th century), Minster of St Mary-the-Virgin, Reading, Berkshire	The remains of an articulated adult human skeleton and charnel remains were recovered during an archaeological watching brief. The remains predated the construction of the church tower, dated to between 1550-1553.	Post Medieval	SU 71394 73323
MRM16392	Medieval pottery sherds - Vicarage Site, St Mary's Church, Reading, Berkshire	Three sherds of 14th century pottery were found during trial trenching at this site.	Medieval	SU 7140 7338
MRM16503	Medieval activity at rear of 10-11 Gun Street, Reading, Berkshire	A number of medieval occupation layers were revealed during an archaeological evaluation at the rear of 10-11 Gun Street, Reading.	Medieval to Post Medieval	SU 71474 73274
MRM16504	Post -medieval features and finds at rear of 10-11 Gun Street, Reading, Berkshire	Post-medieval brick walls, brick surfaces and artefacts were revealed during an evaluation at the rear of 10-11 Gun Street, Reading.	Post Medieval to Modern	SU 71475 73272
MRM16505	Medieval features at 56-56 St Mary's Butts, Reading, Berkshire	Linear features and a pit were revealed during an archaeological evaluation at 55-56 St Mary's Butts, Reading.	Medieval	SU 71380 73358
MRM16508	First World War memorial - Forbury, Reading, Berkshire	A cenotaph memorial commemorating the men of Reading and Berkshire who gave their lives during the First World War (1914-18).	Modern	SU 71794 73566

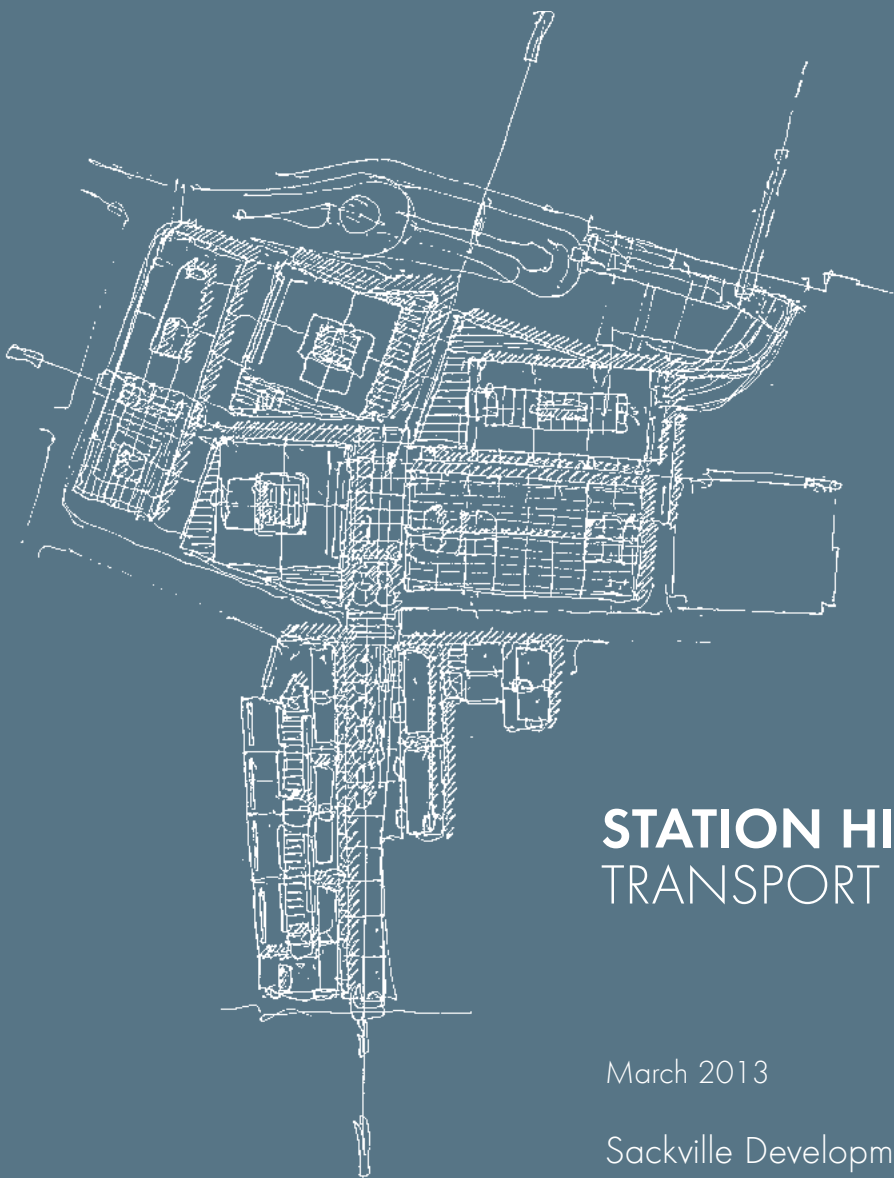
MONUID	NAME	DESCRIPTION	PERIOD	NGR
MRM16548	Grave at Greyfriars, Friar Street, Reading, Berkshire	The remains of a suspected articulated skeleton were discovered at Greyfriars Day Nursery during an archaeological evaluation.	unknown	SU 71244 73583
MRM16549	Medieval pottery sherds and tile at Greyfriars, Friar Street, Reading, Berkshire	Two sherds of medieval pottery and three fragments of medieval tile were recovered during an evaluation at Greyfriars, Friar Street, Reading.	Medieval	SU 71250 73582
MRM16550	Post-medieval activity at Greyfriars, Friar Street, Reading, Berkshire	A post-medieval well and post-medieval pottery sherds were revealed during an archaeological evaluation.	Post Medieval	SU 71247 73583
MRM16558	Medieval/early post-medieval feature - Station Hill, Reading, Berkshire	During archaeological investigations, a medieval or early post-medieval feature was identified cut into the natural gravel.	Medieval to Post Medieval	SU 71329 73701
MRM16665	Jackson's Department Store, 1-6 King's Road, Reading, Berkshire	An early-mid Victorian department store with an 18th century stable block and 1930s warehouse behind.	Post Medieval to Modern	SU 7174 7340
MRM16715	Caversham Road Underbridge, Reading	Steel girder railway underbridge, constructed c. 1890s.	Post Medieval	SU 7121 7390
MRM16784	Medieval deposits and artefacts - Friar Street, Reading, Berkshire	Layers of medieval material of 14th to 15th century date, including leather shoe parts were revealed during repairs to the road in Friar Street.	Medieval	SU 71494 73590
MRM17565	Earlier post-medieval and possible medieval deposits at rear of 7-9 Gun Street, Reading, Berkshire	Deposits seen close to the bottom of the excavations in Area A and in Area C are possibly Medieval or Post-Medieval. Also in Areas B and D two undated pits were revealed and the stratigraphic evidence suggests that a possible early post-medieval /medieval date for these features is not out of the question.	Medieval to Post Medieval	SU 7146 7326
MRM17581	Possible Medieval activity at land at Greyfriars Church, Reading, Berkshire	During an archaeological evaluation at Land at Greyfriars Church evidence of medieval activity was identified. Four sherds of medieval pottery were recovered from deposits which appeared to represent a sequence of tipped/dumped layers, as well as a separate single sherd of medieval pottery.	Medieval	SU 7117 7358
MRM17606	Former Ticket Office and Parcel Depot - Reading Station, Reading, Berkshire	The ticket office and parcel depot were located on the north side of the main Reading Station and on the north side of the railway tracks.	Post Medieval to Modern	SU 7146 7390

MONUID	NAME	DESCRIPTION	PERIOD	NGR
MRM17607	Former western wing of station buildings - Reading Station, Reading, Berkshire	The western wing of Reading station was part of the original composition constructed in 1865-8. The Station building comprised a central two-storey main station building flanked by two single-storey wings to the east and west.	Post Medieval to Modern	SU 7138 7384



Appendix 9.1

Transport Assessment



STATION HILL, READING TRANSPORT ASSESSMENT

March 2013

Sackville Developments (Reading) Limited (SDRL)

Peter Brett Associates
Transport

**Sackville Developments
(Reading) Ltd**

Station Hill

Transport Assessment

Project Ref: 16996/010

Doc Ref: 001

March 2013

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Document Control Sheet

Project Name: Station Hill
Project Ref: 16996/010
Report Title: Transport Assessment
Doc Ref: 001
Date: March 2013

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Revision	Date	Description	Prepared	Reviewed	Approved

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Appendices

Appendix A – Transport Assessment Scoping Documents

Appendix B – Collision Data

Appendix C – Mode Share Calculations

Appendix D – Garrard Street Pedestrian Crossing VISSIM Model

Appendix E – Reading Transport Model (RTM) Outputs

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1 Introduction

1.1 Introduction

- 1.1.1. Peter Brett Associates LLP (PBA) has been commissioned by Sackville Developments (Reading) Ltd to undertake a Transport Assessment (TA) in support of the outline planning application to redevelop the Station Hill site in Reading.
- 1.1.2. The development proposal is for a mix of uses including; office/commercial; retail; residential; leisure; with the retention of the existing Garrard Street car park. The scheme seeks planning permission for the following maximum land uses:
- Up to 122,000m² of B1 office use (GEA);
 - Up to 13,500m² of A1-A5 retail uses (GEA);
 - Up to 2,200m² of D2 leisure use (GEA); and
 - Up to 300 residential dwellings.
- 1.1.3. The development proposes car parking for up to 1000 vehicles, with up to 900 provided within the existing Garrard Street multi storey car park. Up to 100 spaces may be provided within Plot E to the south of Garrard Street.
- 1.1.4. The Station Hill site is situated directly south of Reading Station and the Interchange and to the north of the town centre's retail core. The site is bordered by Station Hill to the immediate north, Garrard Street and Friar Street to the south, and Greyfriars Road to the west.
- 1.1.5. The site, both currently and historically, has accommodated several businesses and associated parking, including:
- Various mixed retail uses – within the Friars Walk Arcade and Station Hill Frontage (the majority of which are now closed);
 - A restaurant;
 - Food outlets;
 - A bingo hall (now closed);
 - Garrard Street public car park;
 - A public house (now closed); and
 - The old bus depot.

- 1.1.6. The Station Hill development site previously received planning consent for a mixed use scheme incorporating residential, commercial, retail, leisure and community uses. This development was previously referred to as Station Hill 2. The previous development scheme is considered to be un-viable given the current economic climate. The assessment described within this TA compares the Station Hill proposal against the extant land uses within the site rather than against the Station Hill 2 consented scheme.
- 1.1.7. A key component in the preparation of this TA has been the review and appreciation of the policies that have been put in place at a national and local level to guide the development and regeneration of the site through the Local Development Framework process. Inherent to this, the strategy draws from the proposals set out in the Third Local Transport Plan 2011–2026 for Reading. These local transport proposals have been embraced as part of the proposed Station Hill scheme, helping to provide a sustainable city development.
- 1.1.8. This report provides a summary of the assessment and reviews undertaken to understand the impact that the proposed redevelopment will have on the transport network, from a local and strategic perspective. This has been carried out using a four stage assessment process that quantifies and appraises the generation, distribution, modal split and assignment of trips from the proposed development.

1.2 Report Structure

- 1.2.1. The structure of this document is set out below:
- **Section 2** Provides a review of transport planning policy within the context of the proposed development;
 - **Section 3** Provides details of the scoping exercise that has defined the elements of this TA;
 - **Section 4** Sets out the baseline conditions in relation to the site including: on-site characteristics; strategic and local accessibility; and a summary of the local road safety record;
 - **Section 5** Explains the integrated Transport Strategy which underpins and has influenced the transport proposals for Station Hill.
 - **Section 6** Describes the development proposals that are pertinent from a transport perspective;
 - **Section 7** Forecasts the multi-modal travel demand relating to the development proposal, including existing and proposed trip rates;
 - **Section 8** Derives the multi-modal trip distribution and modal share relating to the travel demand of the proposed development;
 - **Section 9** Covers sustainable transport considerations in relation to accommodating the forecast travel demand of the proposed development;

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- **Section 10** Contains the highway impact assessment carried out using the Reading Transport Model;
- **Section 11** Describes the Transport Proposals associated with the proposed development;
- **Section 12** Provides the overall conclusions.

2 Planning Policy Context

2.1 Introduction

- 2.1.1 The transport strategy and proposals for the development have been considered against national and local policy.

2.2 National Policy Guidance

National Planning Policy Framework (2012)

- 2.2.1. The Government recently published a radical review of national planning policy. This is set out in the National Planning Policy Framework (NPPF) published in March 2012. The NPPF replaces planning policy statements (PPSs) and planning policy guidance (PPGs) and ministerial planning circulars that currently shape local planning.
- 2.2.2. Paragraph 17 states that the Government expects the planning system to “proactively drive and support sustainable economic development to deliver the homes, business and industrial units, infrastructure and thriving local places that the country needs. Every effort should be made objectively to identify and then meet the housing, business and other development needs of an area, and respond positively to wider opportunities for growth. Plans should take account of market signals, such as land prices and housing affordability, and set out a clear strategy for allocating sufficient land which is suitable for development in their area, taking account of the needs of the residential and business communities”.
- 2.2.3. Paragraph 19 also highlights the importance of the planning system in supporting the delivery of economic growth: “the Government is committed to ensuring that the planning system does everything it can to support sustainable economic growth. Planning should operate to encourage and not act as an impediment to sustainable growth. Therefore significant weight should be placed on the need to support economic growth through the planning system”.
- 2.2.4. The NPPF sets out a presumption in favour of sustainable development and in relation to decision making identifies the following approach:

“at the heart of the National Planning Policy Framework is a presumption in favour of sustainable development, which should be seen as a golden thread running through both plan-making and decision-taking.....

For decision-taking this means:

approving development proposals that accord with the development plan without delay; and

where the development plan is absent, silent or relevant policies are out of date, granting permission unless:

any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole; or

specific policies in this Framework indicate development should be restricted”.

- 2.2.5. The NPPF confirms the need for Transport Assessments to be carried out for significant new developments and that these should account for opportunities for sustainable travel, safe access and cost effective improvements to limit the significant impacts of the development. The NPPF confirms that development should only be refused where the residual impact is severe. Paragraph 32 states 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. Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe”.

Paragraph 29 states that

“transport policies have an important role to play in facilitating sustainable development but also in contributing to wider sustainability and health objectives. Smarter use of technologies can reduce the need to travel. The transport system needs to be balanced in favour of sustainable transport modes, giving people a real choice about how they travel. However, the Government recognises that different policies and measures will be required in different communities and opportunities to maximise sustainable transport solutions will vary from urban to rural areas”.

- 2.2.6. The document goes on to state that 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:

*“accommodate the efficient delivery of goods and supplies;
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;

incorporate facilities for charging plug-in and other ultra-low emission vehicles; and

consider the needs of people with disabilities by all modes of transport”.

2.3 Local Guidance

Adopted Core Strategy (2008)

- 2.3.1. RBC adopted its Core Strategy in January 2008. This document together with the ‘saved’ policies of the Local Plan form the suite of policies at a local level by which planning applications are judged.
- 2.3.2. Policy CS20 (Implementation of the Reading Transport Strategy) specifically relates to highways and provide guidance with regard to development proposals and their impact upon the highway network and the promotion of alternatives to the use of the private car.
- 2.3.3. The Core Strategy refers to the adoption of the development brief to guide the development of the Station Hill/Station South area and the Reading Central Area Action Plan (RCAAP).

Reading Borough Council Third Local Transport Plan, 2011-2026

- 2.3.4. Reading’s third Local Transport Plan (LTP3 covering the period 2011 to 2026) was published in April 2012
- 2.3.5. The LTP3 Strategy Plan provides the context for Reading in terms of the economy, environment and quality of life. The long-term vision for transport in Reading is the aim of better ‘connecting Reading’ through a transport system that enables people to move around easily, safely, sustainably and in comfort promoting inclusion, intervention and innovation. This is reflected in the key LTP objectives which are:
 - To facilitate more physically active travel for journeys in a healthy environment
 - To improve personal safety on the transport network
 - To provide affordable, accessible and inclusive travel options for everyone
 - To ensure that the transport network operates safely and efficiently to meet the needs of all users
 - To align transport and land use planning to enable sustainable travel choices, improve mobility, reduce the need to travel and preserve the natural environment
 - To deliver balanced packages of value for money transport solutions and make best use of existing transport investment

- To offer sustainable transport choices for the Travel to Work Area and beyond, integrating within and between different types of transport
- To improve journey times, journey time reliability and the availability of information
- To reduce carbon emissions from transport, improve air quality and create a transport network which supports a mobile, affordable low carbon future

Reading Borough Local Development Framework, Adopted Reading Central Area Action Plan (RCAAP), 2009

- 2.3.6. The Reading Central Area Action Plan establishes a planning framework for the central area providing general guidelines and proposals for the area and also considers how these proposals should be implemented.
- 2.3.7. The vision for the centre and a set of key principles underpin the planning policy documents in the centre and inform development proposals. The transport related principles are listed below:
- The centre will contain a broad range of different but complementary uses within an area easily accessed by foot.
 - Access to the centre by foot, cycle and public transport will be improved.
 - Access within the centre by foot and cycle will be improved and barriers to this improved access will be overcome, particularly in a north-south direction through the core.
 - Development in the centre will benefit from and contribute towards forthcoming major transport improvements.
- 2.3.8. Policy RC1 explains a number of transport related requirements that development in the Station/River Major Opportunity Area must meet:
- Help facilitate greater pedestrian and cycle permeability, particularly on the key movement corridors. North-south links through the centre and across the railway line, IDR and River Thames centred on the new station are of particular importance;
 - Provide developments that front onto and provide visual interest to existing and future pedestrian routes and open spaces;
 - Safeguard land which is needed for:
 - Improvements to Reading station;
 - Reading station interchange;
 - Mass rapid transit routes and stops;
 - Provide additional areas of open space where possible, including a direct green link between the station and the River Thames.

- 2.3.9. There is clearly focus on the need to improve accessibility by public transport and permeability for pedestrians and cyclists, particularly in the north-south direction between the shopping core, the station and the Thames. It is believed that station/river development can contribute to altering the perception that the area north of the station is a separate entity.

Station Hill South Planning and Urban Design Brief, Adopted, 2006

- 2.3.10. Station Hill South Planning and Urban Design Brief provides specific urban design and planning principles for the Station Hill area for the improved freedom of movement, including the establishment of a high quality walking and cycling environment that is easy to use and understand, that is well designed, is attractive, safe and well integrated into the surrounding area.

3 Scoping Methodology

3.1 Introduction

- 3.1.1. The scope and key input assumptions of this TA have been discussed with RBC's Transport Strategy and Development Control groups, with a 'Transport Assessment Scoping Report' being submitted in January 2012 and a traffic modelling scoping note (16996/009/TN004) issued in February 2013. These scoping documents along with further correspondence are included in **Appendix A**.
- 3.1.2. The scoping report set out the principles to be adopted in this assessment report, and was later updated to reflect the current proposals for the site, and to allow for any other changes to baseline information since that time. The principles for evaluation have been agreed with RBC Transport Strategy and Development Control groups at each stage of assessment.

4 Baseline Conditions

4.1 Introduction

4.1.1. This section sets out the baseline context of Station Hill within which the development proposals have been considered. It provides an understanding of strategic and local site accessibility.

4.1.2. **Figure 4-1** illustrates the location of the Station Hill site.

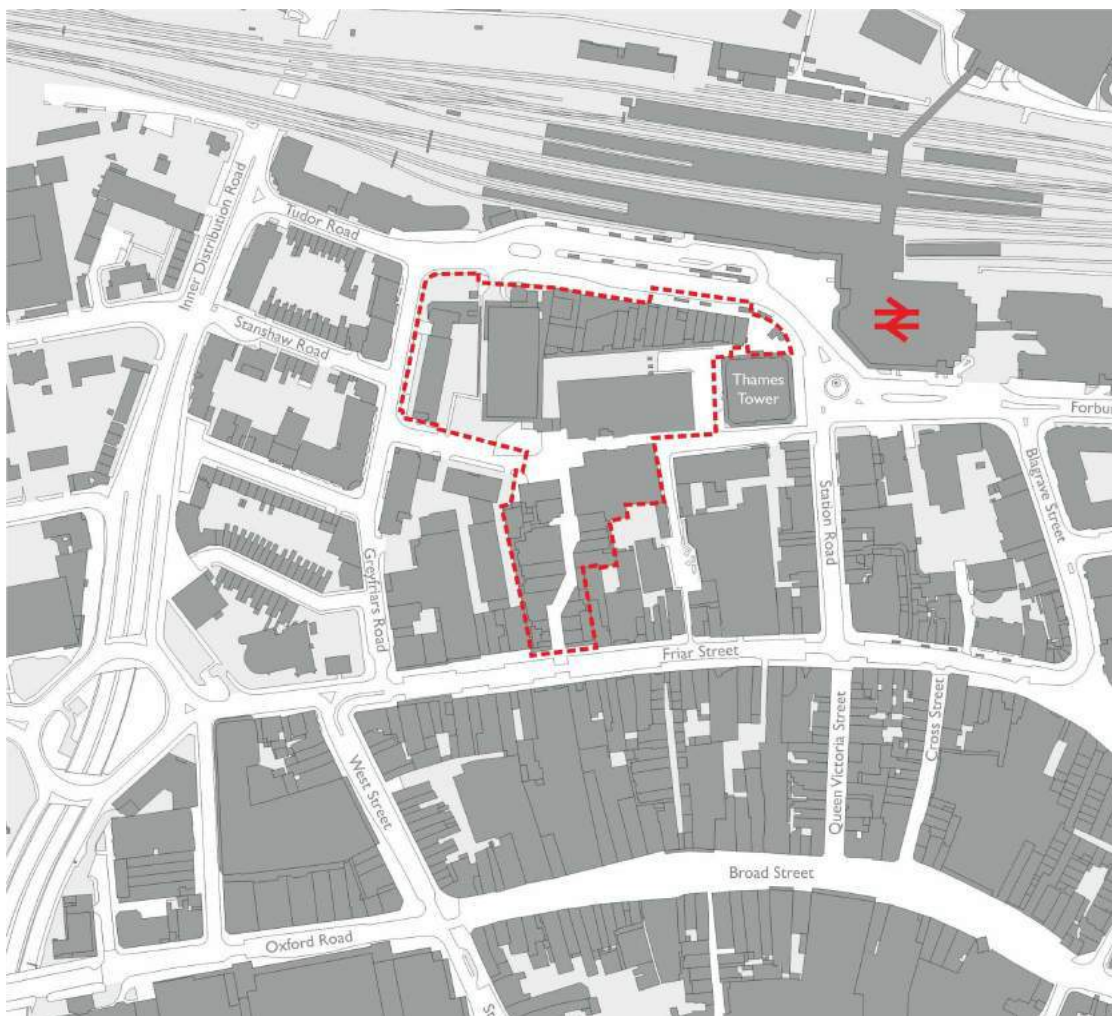


Figure 4-1 Location Plan

Pedestrian Accessibility

- 4.1.3. The proposed development at Station Hill, as shown in **Figure 4-1**, is ideally placed to benefit from national, regional and local transport connections which directly serve the site.

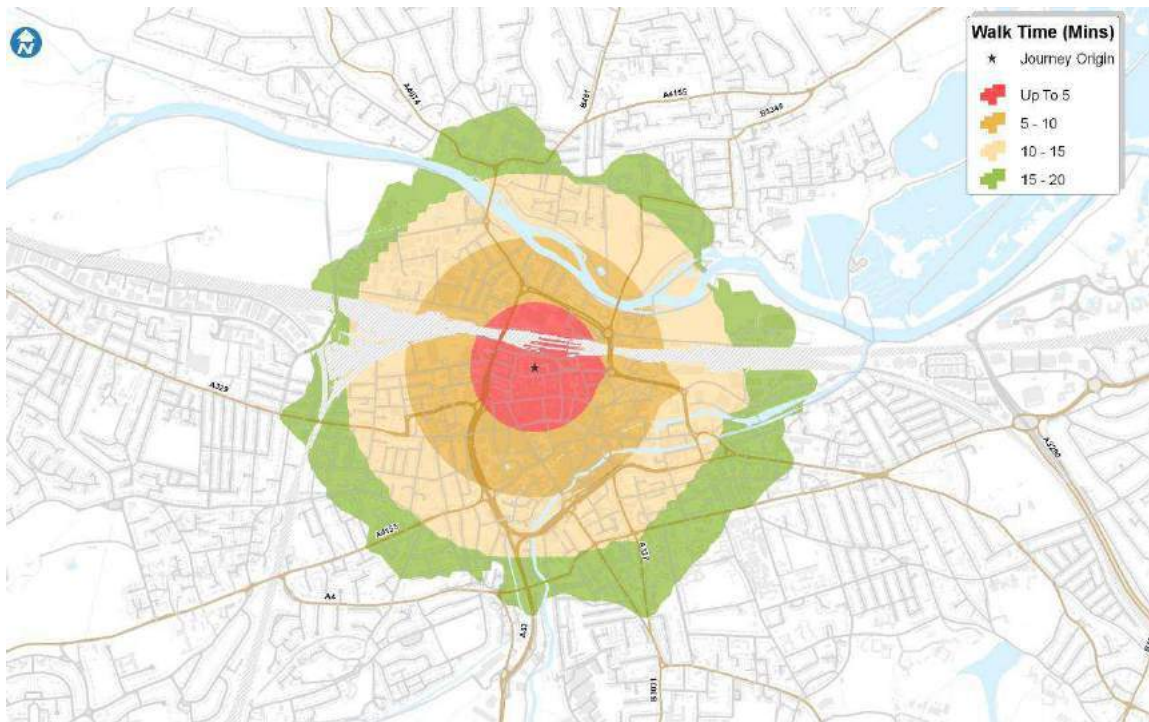


Figure 4-2 Pedestrian Accessibility Journey Times

- 4.1.4. It is evident from **Figure 4-2** that the site is ideally located to encourage walking from a relatively large population catchment. All of the town centre amenities and shops are within a 15 minute walk of the site. The Station Hill scheme capitalises on its location within the centre of Reading acknowledging the role walking can play both in delivering accessibility at the local level and in contributing towards sustainable development patterns.
- 4.1.5. Although pedestrian access to and from the site is very good, current access through the site is considered to be very limited. The only access through the northern part of the site is an informal route using the old bus station. The site acts as a barrier between the existing retail and leisure activities on Friar Street and the main public transport Interchange at Reading Station.

Cycling Accessibility

- 4.1.6. Cycle isochrones radiating from the Station Hill site are shown in **Figure 4-3**. This assumes a cycle speed of 16 kph. The isochrones demonstrate that almost the entire RBC boundary is within a 20 minute cycle ride of the Station Hill site, making cycle trips to the site a realistic mode of travel for a large number of people.

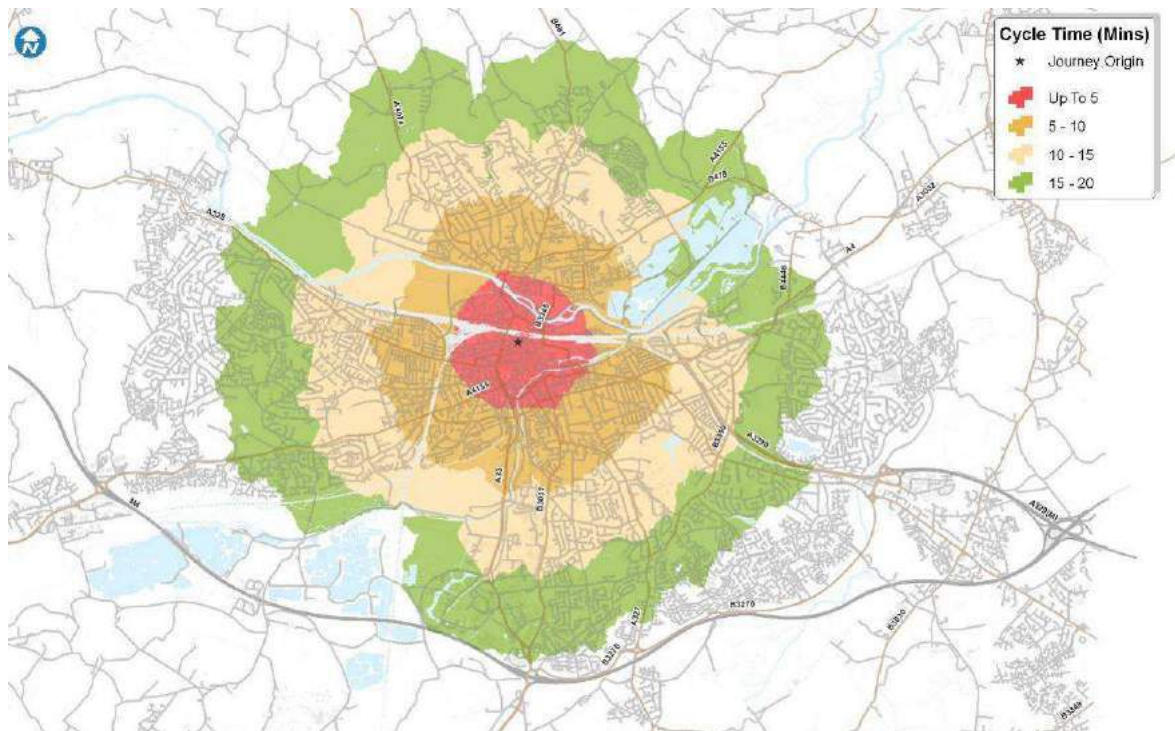


Figure 4-3 Cycle Accessibility Journey Times

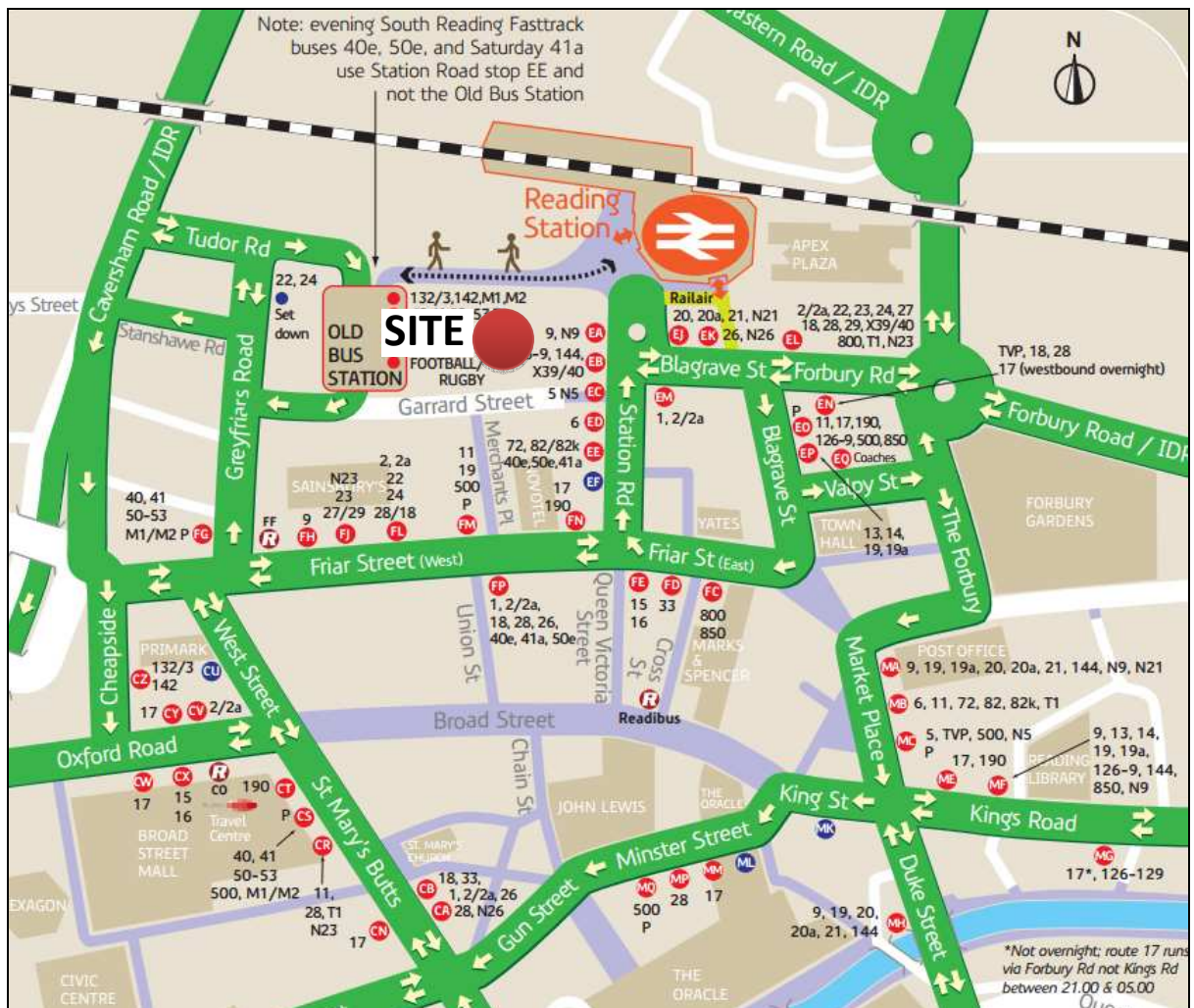
- 4.1.7. Central Reading currently has a good level of cycle connectivity to the south of the site through a combination of 'Quiet Roads', cycle paths and cycle lanes within the carriageway. Beyond the immediate centre of Reading, dedicated cycle paths are present on the main routes into Reading, including via Oxford Road and Portman Road to the west; A33 to the south; and routes through Caversham and across Caversham Bridge to the north. Leisure routes are also present along the River Kennet and River Thames.

Bus Accessibility

- 4.1.8. Strategic bus routes (including the 'Fasttrack' and 'Nighttrack' services) operate along the A33 corridor between GreenPark, the Madjeski Park and Ride and Reading International Business Park (RIBP) from the interchange area adjacent to Reading Station, old bus depot located within the site below the bingo hall and bus stops located throughout the town centre. The

main interchange area is located close to the site to the east on Station Road and Forbury Road adjacent to Reading Station.

- 4.1.9. The 'Fasttrack' services provide connections between the site and the Park and Ride site at Loddon Bridge to the east of the town centre as well as to the Madjeski Stadium. Stewarts Coaches operates services between the town centre and Thames Valley Park. Direct and frequent services operate along these routes.
- 4.1.10. The 'Rail-Air' Link, located outside Reading Station, provides a frequent coach service to and from Heathrow Airport.
- 4.1.11. The location of the site in context to the town centre bus stops is highlighted on **Figure 4-4**.



Source: <http://www.reading-buses.co.uk/files/maps/5%20Nov%2012/town%20centre%20map.pdf>

Figure 4-4 Reading Central Bus Network

- 4.1.12. The wider bus network provides access to/from all of the Reading urban area as well as Bracknell, Twyford, Wokingham, Spencers Wood, Aldershot, Theale, Newbury, Pangbourne, Woodcote, Wallingford, Sonning Common, Henley-on-Thames and High Wycombe.
- 4.1.13. The site benefits from excellent access to a wide choice of bus services due to its close proximity to the town centre bus stops, providing the opportunity for a significant level of trips to be accommodated by bus. Approximately 100 buses per hour serve the area around the development site in the peak hours.
- 4.1.14. This includes access to Reading's premier bus route network, offering frequent, reliable services with improved facilities and comfort. These routes also benefit from bus priority measures, real time information, and better provision for people with reduced mobility.
- 4.1.15. Currently the old bus depot, which is located within the application boundary, under the Bingo Hall is used by a number of bus services including the Green Park route. This area had previously been disused but has been reopened for bus and taxi use during the Reading Station upgrade works. Once these are completed busses will return to the interchange stops in Station Hill.

Rail Accessibility

- 4.1.16. The development site is located opposite Reading Station which is identified as a regional transport hub and the focus of significant regeneration and redevelopment. The Station is the second busiest interchange in the UK outside London, with 60,000 passengers using the station daily.
- 4.1.17. Rail services from Reading Station provide connections to the regional and national rail network where the following train companies offer services to a variety of destinations:
- First Great Western operate trains to destinations which include London Paddington, Slough, Basingstoke, Gatwick Airport, Oxford, Hereford, Worcester, Bristol, South Wales and the South West of England;
 - Cross Country Trains operate trains to destinations including Bournemouth, Southampton, Guildford, Banbury, Coventry, Birmingham, the North of England and Scotland; and
 - South West Trains provides services to Wokingham, Staines, Richmond, Clapham Junction, London Waterloo, Basingstoke, Winchester, Southampton, Portsmouth and Brighton.
- 4.1.18. The Reading Station area major upgrade scheme received funding through the UK High Level Output Specification to remove the significant operational bottleneck at this key junction on the Trans European Network (TEN). The works currently under construction include track grade separation, new platforms, new station building and passenger transfer deck to access the platforms, replacement depot and signalling.

- 4.1.19. RBC has also committed to three improved transport interchange facilities to complement the Station improvement, these are located to the south east, south west and north of the Station. These works are due to be completed in 2014.

Highway Access

- 4.1.20. The existing highway access routes (to the Station Hill site) in a strategic context are shown in **Figure 4-7** below. This shows the strong links to the strategic road network, such as Reading's Inner Distributor Road (IDR) and a number of radial routes to/from Reading Town Centre.
- 4.1.21. The principal vehicle routes to the site are via the IDR. The IDR is for the most part a dual, two lane orbital route which provides the following connections into Reading town centre:
- North: Via Reading and Caversham Bridges;
 - East: Via the A329 Kings Road and the A4 London Road;
 - South: Via the A33, leading to Junction 11 of the M4;
 - West: Via the A4, the junctions with A4155 Castle Hill and the A329 Chatham Street.

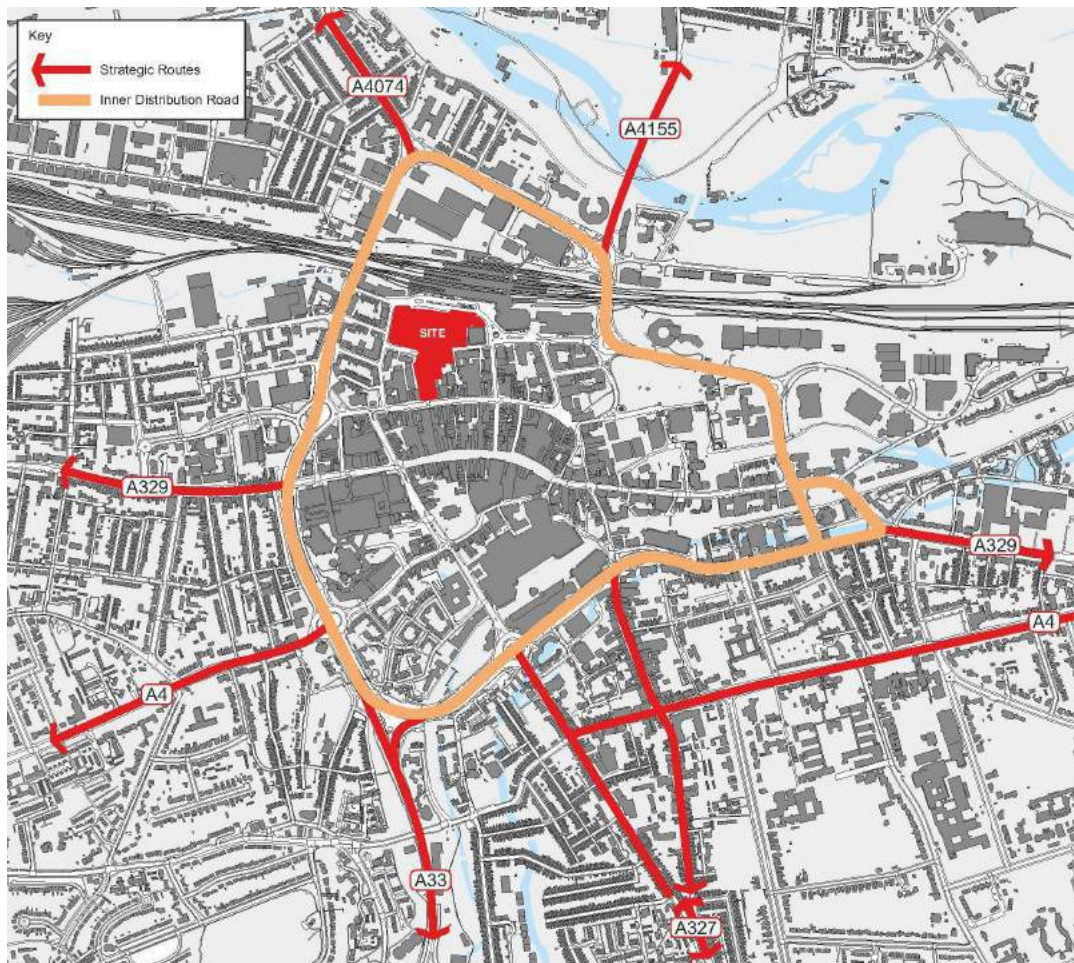


Figure 4-7 – Existing Vehicle Access (Strategic Network)

- 4.1.22. There are two existing points of access to the site from the wider area. The first is from the Tudor Road / IDR (Caversham Road) to the north. The second is via Greyfriars Road, which is a one-way street and provides access for vehicles from the south. Greyfriars Road is reached from the grade separated Chatham Street roundabout.
- 4.1.23. All vehicles have to exit the site via the Tudor Road junction with the IDR (Caversham Road). Drivers wishing to travel north must perform a U-turn at the Chatham Street roundabout. The Stanshawe Road junction with the IDR is restricted to bus, taxi and cycle movements only.
- 4.1.24. Vehicular access from the east is effectively restricted to bus, taxis and cycle access only where Forbury Road meets the access road to the eastern Station drop off area.
- 4.1.25. Garrard Street is located to the south of the main part of the Station Hill site and provides vehicular access to the existing mix of land uses within the Station Hill site. Through movement between Greyfriars Road and Station Road is not possible for general traffic. Taxis are currently permitted to exit Greyfriars Road onto Station Road as part of the taxi queuing arrangement for the taxi rank outside the Station. The queuing of taxis along Garrard Street is

a temporary arrangement that is being utilised while the station improvement works are taking place. The taxis will be relocated to the station interchanges once the improved interchange areas are completed

4.1.26. There are currently five vehicle access points provided into the Station Hill site, four are located on Garrard Street and one from Station Hill. The existing accesses currently serve:

- The Garrard Street multi-storey National Car Parking (NCP) car park in the east of the Site;
- A separate egress to the Garrard Street car park, forming the access to the servicing and delivery area for Thames Tower adjacent to the east of the Site;
- An access/egress to the Western Tower car park in the west of the Site; and
- An access/egress to the Xafinity House office buildings situated on the western side of the Site;
- An access into the old bus depot is located from Station Hill with an access out of the depot on to Garrard Street.

4.1.27. The existing local highway access routes to and from the site are shown in **Figure 4-8**.

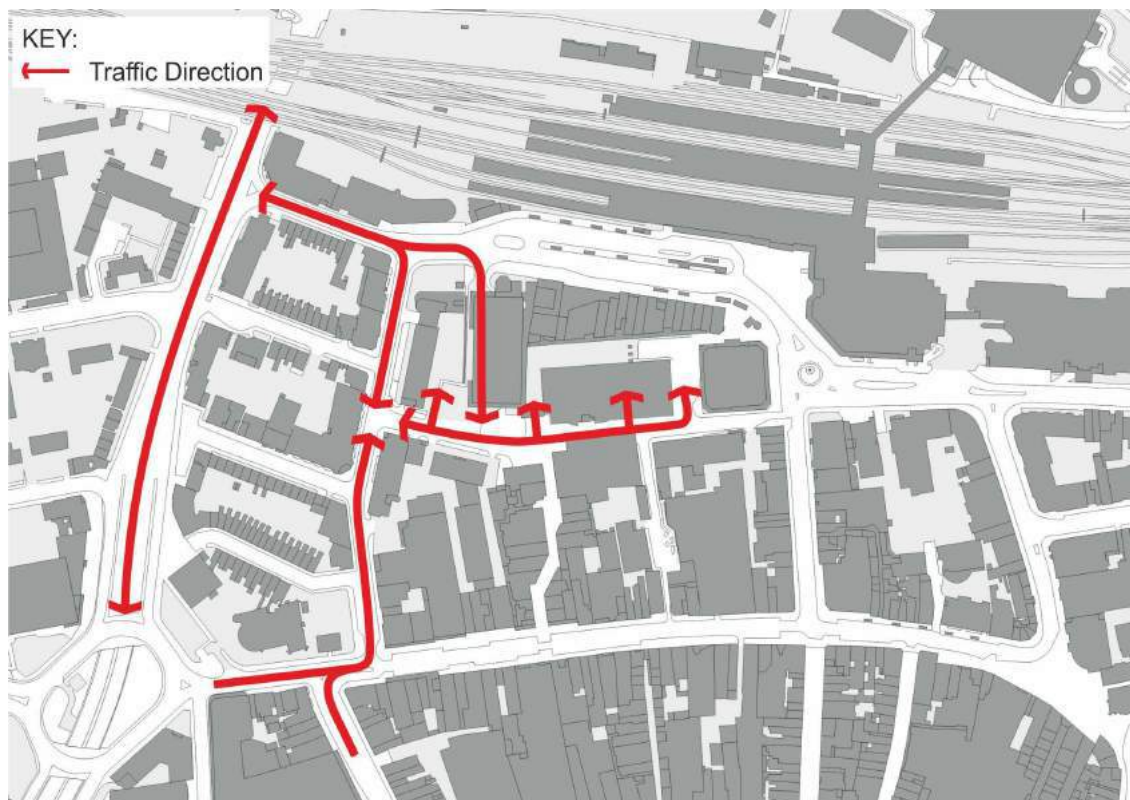


Figure 4-8 – Existing Vehicle Access (Local Network)

4.2 Parking

4.2.1. The existing Station Hill development site has the following car parking provision across the site:

- Garrard Street Multi-Storey Car Park – 950 Spaces;
- Friars Walk – 94 Spaces located on the roof that can be accessed from Garrard Street Car Park;
- Western Tower – 280 Spaces
- Xafinity House – 81 Spaces

4.2.2. It should be noted that the 94 spaces located above Friars Walk have been inaccessible to the public for some time. The spaces were previously accessed from Garrard Street car park and provided additional car parking for the retail uses within Friars Walk. Due to the period of time this area of the car park has been inaccessible these parking spaces have not been accounted for within the baseline trip generation assessment discussed within Section 7 in order to evaluate a current 'worst case' impact assessment.

4.2.3. The Garrard Street public multi-storey car park within the Station Hill site currently accommodates 950 parking spaces. Information on the current traffic profiles of the car park were provided by RBC for the period of 1/07/12 to 7/07/12. During the same period car parking data for Reading's other town centre multi-storey car parks was also provided. A typical weekday is summarised overleaf in **Table 4-1**:

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Time Period	Car Park (Capacity)					
	Garrard Street (950)	Broad Street Mall (750)	Chatham Street (585)	Oracle Riverside (1665)	Queens Road (700)	Station (1600)
0700 - 0800	137	77	64	29	19	266
0800 - 0900	352	96	68	40	109	547
0900 - 1000	525	176	119	94	270	833
1000 - 1100	571	351	166	325	379	980
1100 - 1200	588	441	186	571	425	1045
1200 - 1300	598	453	193	771	441	1071
1300 - 1400	588	456	201	919	440	1073
1400 - 1500	562	456	189	932	438	1043
1500 - 1600	523	400	181	835	413	993
1600 - 1700	410	367	162	684	364	934
1700 - 1800	270	313	140	550	278	814
1800 - 1900	136	283	131	522	259	756

Table 4.1: Average Hourly Parking Occupancy

- 4.2.4. The parking accumulation is discussed in Section 10 of this report, where the proposed displacement of public car parking from Garrard Street is analysed.

4.3 Personal Injury Accidents

4.3.1. PBA have obtained collision records for all the roads within the study area. These have been obtained for the five year period from 1st January 2008 to 31st December 2012, a copy of which is attached in **Appendix B**. This information was obtained from Reading Borough Council. The collisions are classified into three categories: slight, serious and fatal, a definition of which is provided below:-

- **Slight Injury:** Injuries of a minor nature, such as sprains, bruises, or cuts not judged to be severe, or slight shock requiring only roadside attention (medical treatment is not a pre-requisite for an injury to be defined as slight);
- **Serious Injury:** Injuries for which a person is detained in hospital, as an in-patient, or any of the following injuries, whether or not a person is detained in hospital; fractures, concussion, internal injuries, severe cuts and lacerations, severe general shock requiring medical treatment and injuries which result in death 30 days after the collision. The serious category, therefore, covers a very broad range of injuries; and
- **Fatal Injury:** Injuries which cause death either immediately or any time up to 30 days after the collision.

4.3.2. A summary of five years of annual rolling 12 month collision data (January to December) within the study area is provided within **Table 4-2**.

Table 4-2: Summary of Collision within Study Area

Casualty	Severity of Casualty	Year					Total
		1	2	3	4	5	
All Collisions	Fatal	1	0	0	0	0	1
	Serious	2	0	0	0	5	7
	Slight	11	10	14	11	13	59
	Total	14	10	14	11	18	67
Pedestrians	Fatal	0	0	0	0	0	0
	Serious	2	0	0	0	4	6
	Slight	2	3	6	4	6	21
	Total	4	3	6	4	10	27
Cyclist	Fatal	0	0	0	0	0	0
	Serious	0	0	0	0	1	1
	Slight	0	2	4	1	6	13
	Total	0	2	4	1	7	14

Source: TRAFFMAP AccsMap – Accident Analysis System

4.3.3. From Table 4-2 it can be seen that during the 60 month period between the 1st January 2008 to 31st December 2012 there were 67 recorded collisions resulting in 1 (1%) fatality, 7 (10%) serious injuries and 59 (88%) slight injuries.

4.3.4. The fatal collision (Police Ref W0840808) involved a motorcycle (over 500cc) and a car, occurred at the A329 Caversham Road junction with Great Knollys Street. The data states the collision was very likely attributed to motorcyclist's disobeying the automatic traffic signal and

possibly exceeding the speed limit, junction overshoot and being careless / reckless or in a hurry.

4.3.5. Over the entire 5 year period 61% (41) of collisions involved a cyclists or pedestrian, resulting in 0 fatalities, 7 serious injuries and 34 slight injuries. For the individual years, the proportion of collisions involving either cyclists or pedestrian is as follows: Year 1: 29% (4), Year 2: 50% (5), Year 3: 71% (10), Year 4: 45% (5) and Year 5: 17 (94%). The annual average of 61% over the 60 month period is higher than national average of collisions involving pedestrians and cyclists in urban areas of 37% (calculated from Road Casualties GB 2010, Table RAS40004). This is to be expected considering the town centre location and relatively high levels of conflicting movements.

4.3.6. All (7) of the collisions resulting in serious injury involved a pedestrian (6) or a cyclist (1). These collisions are reviewed below:

- Police Ref W1130308, Location Tudor Road junction with Greyfriars, collision involved a taxi and 2 pedestrians. The data states that the very likely attributing factors in the collision was the pedestrian being impaired by alcohol, wrong use of pedestrian crossing and failing to look properly.
- Police Ref W0461108, Location Friar Street junction with Station Road, collision involved a taxi / private hire car and a pedestrian. The data states that no very likely contributory factors was attributed to the collision, however the possible contributory factors in the collision was attributed to the pedestrian failing to look properly and wrong use of the pedestrian crossing.
- Police Ref W0180212, Location Station Road approximately 60m north of Friar Street, collision involved a taxi / private hire car and a pedestrian. The data states the very likely attributing factor in the collision was the pedestrian failing to look properly and being impaired by alcohol and the driver of the vehicle failing to look properly.
- Police Ref W1410212, Location Friar Street junction with Cheapside, collision involved a single cyclist. The data states that the very likely attributing factor in collision was a broken saddle causing loss of control.
- Police Ref W1590912, Location A329 IDR grade separated roundabout with Friars Street, collision involved a 4 year old male pedestrian and a car. The data states that no very likely or possible contributory factors were attributed to the collision.
- Police Ref W0111212, Location Stanshawe Road approximately 30m east of A329 Caversham Road, collision involved a 3 year old pedestrian and a bus or coach. The data states the very likely attributing factor in the collision was the pedestrian running across the road to father.
- Police Ref W2151212, Location Friar Street junction with Greyfriars Road, collision involved a Bus or Coach and 4 pedestrian 3 of which were children (under the age of 16) resulting in a serious injury to the adult and slight injuries to the 3 children . The data states the collision was very likely attributed to the pedestrian (49 year old female) failing to look properly, wrong use of pedestrian crossing facility, careless / reckless / in a hurry and Disability or illness (mental or physical).

- 4.3.7. It can be seen from the above that 5 (83%) of the 6 collisions resulting in a serious injury to a pedestrian or cyclists were very likely attributed to pedestrian's or cyclist's behaviour.
- 4.3.8. Upon further analysis of the 27 collisions involving a pedestrian the following can be concluded:
- 63% (17) where very likely attributed to pedestrian contributory factors.
 - 14 of 17 (82%) where attributed to the pedestrian failing to look properly;
 - 4 of 17 (24%) where attributed to the pedestrian being impaired by alcohol;
 - 30% (9) of the 27 collisions occurred between 20:00 hours to 04:00 hours; and
 - 81% (22) of the 27 collisions involved a vehicle going ahead (no turn)
- 4.3.9. Upon further analysis of the 14 collisions involving a cyclist the following can be concluded:
- 93% (13) involved 2 vehicles of 8 (62%) involved a car;
 - 93% (13) resulted in a slight injury to the cyclists;
 - 64% (9) where very likely attributed to the rider or driver failing to look properly
 - 36% (5) where very likely attributed to the driver / rider failing to judge other persons path or speed

Collision Contributory Factors

- 4.3.10. A summary of the collision contributing factors with the study area is provided within **Table 4-3**.

Table 4-3: Summary of Collision Contributory Factors

	Very Likely	Possible	Total
Road Environment Contributed	5	0	5
Vehicle Defects	0	1	1
Injudicious Action	12	2	14
Driver Rider Error or Reaction	43	24	67
Impaired or Distraction	9	4	13
Behaviour or Inexperience	9	6	15
Vision Affected by	3	3	6
Pedestrian Only	27	8	35
Special Codes	0	1	1
Total	108	49	157

- 4.3.11. Over the entire 60 month period 75% (43) of the collisions were very likely attributed to driver/rider error or reaction. This is similar to the national average of driver / rider error or

reaction contributory factors of 72% (calculated from Road Casualties GB 2011, Table RAS50001).

- 4.3.12. From Table 4-3 it can also be seen that 3% (5 all very likely) collisions were attributed to the road environment over the entire 5 year period. This is lower than the national average of 13% (calculated from Road Casualties GB 2011, Table RAS50001).
- 4.3.13. Slippery road (due to the weather) contributed to 3 (60%) of the total 5 collisions attributed to the road environment factors. Road Layout (e.g. bend, hill, narrow carriageway) contributed to 2 (40%) of the total 5 collisions attributed to the road environment, these collisions are discussed below:
- Police Ref W0400312, Location Station Road junction with Friar Street. Collision involved a bus / coach and a 96 year old pedestrian resulting in a slight injury to the pedestrian. The data states that no very likely contributory factor was attributed to the collision, however possible contributory factors attributed to the pedestrian failing to look properly and disability or illness (mental or physical) and the driver failing to look properly and the road layout.
 - Police Ref W1060412, Location Friar Street junction with Queen Victoria Street. Collision involved a taxi / private hire car and cyclists resulting in a slight injury to the cyclists. The data states the very likely contributory factors was attributed to the cyclist entering the road from the pavement and failing to look properly and the driver disobeying give way or stop sign or marking, failing to look properly and road layout (e.g. bend, hill etc.).

Junction Cluster Analysis

- 4.3.14. The defining radius / extent around a junction has been set at approximately 25 metres. It should be noted the collision location description has also been reviewed to ensure the collisions have been accurately mapped in the correct geographical location. The review covers the 60 month period therefore the threshold for each junction has been set at a minimum of 2 collisions. Table 4-4 overleaf summarises the junction cluster analysis.

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Table 4-4: Junction Cluster Analysis

Junction	Junction Type	Year	Severity of Injury			Road User				Total
			Fatal	Serious	Slight	Pedestrian	Cyclist	Motorcycle	Vehicles Only	
Caversham Road / Great Knollys Street / Stamshawe Road	Signal Cross Road	1	1	0	3	0	0	1	2	3
		2	0	0	3	1	1	0	1	3
		3	0	0	1	0	0	1	0	1
		4	0	0	0	0	0	0	0	0
		5	0	0	0	0	0	0	0	0
Total		1	0	7	1	1	2	3	7	
A329 / Chatham Street / Friar Street	Grade Separated Roundabout	1	0	0	2	0	0	0	2	2
		2	0	0	3	1	0	0	1	2
		3	0	0	3	0	1	1	1	3
		4	0	0	4	0	0	1	3	4
		5	0	2	3	2	2	0	1	5
Total		0	2	15	3	2	0	1	5	
West Street / Friar Street / Greyfriars Road	Signal Cross Road	1	0	0	0	0	0	0	0	0
		2	0	0	1	0	1	0	0	1
		3	0	0	2	0	1	0	1	2
		4	0	0	0	0	0	0	0	0
		5	0	1	3	3	1	0	0	4
Total		0	1	6	3	3	0	1	7	
Greyfriars Road / Garrard Street	Priority T Junction	1	0	0	0	0	0	0	0	0
		2	0	0	0	0	0	0	0	0
		3	0	0	0	0	0	0	0	0
		4	0	0	2	2	0	0	0	2
		5	0	0	0	0	0	0	0	0
Total		0	0	2	2	0	0	0	2	
Tudor Road / Station Hill / Greyfriars Road	Signal T Junction	1	0	1	1	1	0	0	1	2
		2	0	0	1	0	0	0	1	1
		3	0	0	0	0	0	0	0	0
		4	0	0	0	0	0	0	0	0
		5	0	0	0	0	0	0	0	0
Total		0	1	2	1	0	0	2	3	
Station Hill / Station Approach	Priority T Junction	1	0	0	0	0	0	0	0	0
		2	0	0	1	1	0	0	0	1
		3	0	0	2	2	0	0	0	2
		4	0	0	1	1	0	0	0	1
		5	0	0	0	0	0	0	0	0
Total		0	0	4	4	0	0	0	4	
Station Approach / Station Road	Roundabout	1	0	0	0	0	0	0	0	0
		2	0	0	0	0	0	0	0	0
		3	0	0	0	0	0	0	0	0
		4	0	0	0	0	0	0	0	0
		5	0	0	2	0	2	0	0	0
Total		0	0	2	0	2	0	0	2	
Station Road / Friar Street	Signal T Junction	1	0	1	0	1	0	0	0	1
		2	0	0	0	0	0	0	0	0
		3	0	0	1	1	0	0	0	1
		4	0	0	1	1	0	0	0	1
		5	0	0	3	2	1	0	0	3
Total		0	1	5	5	1	0	0	6	

Summary & Conclusion

- 4.3.15. Analysis of the collision records has not identified any specific concern with regard to the geometric design / road layout of the local highway network. There are no re-occurring patterns of the frequency of severity of collisions recorded. The data does not highlight any specific concerns to clustering of collisions or locations within the study area.

It should be noted that due to the station upgrade works and the town centre public realm improvements, a number of the collisions reported upon throughout this section have occurred on highway that has subsequently been improved or is due to be altered as the station area is upgraded.

5 Integrated Transport Strategy

5.1 Introduction

- 5.1.1. This section describes the rationale and the approach taken to ensure that the Station Hill development is integrated with the wider transport strategy.

5.2 The Rationale & Approach

- 5.2.1. The rationale that underpins the transport proposals for Station Hill has been based on the concept of a Transport Development Area – a high density mixed use development located in a highly accessible area. The approach has been to ensure that the development can work in and take advantage of these very high accessibility levels at Reading Station, whilst providing sufficient flexibility to support emerging longer-term transport proposals. In essence this approach has been based around the following:

- Placing *Reading Station* at the heart of the access and movement strategy and integrating the development with the station
- Working with RBC on the development of the *South Western Interchange* proposals and the associated improvements planned for the streets in the station area.

- 5.2.2. In addition, the Station Hill scheme has been designed to integrate with wider interchange and public realm proposals being promoted by RBC. These proposals will provide a series of high quality streets and squares and will help to strengthen the north-south axis linking the River Thames, station area and central Reading.

5.3 Reading Station Redevelopment Project

- 5.3.1. Reading's Railway Station is undergoing a £850m transformation, with significant track, platform and concourse improvements to improve rail capacity and passenger facilities.
- 5.3.2. RBC has been working closely with local stakeholders and Network Rail (NR) to deliver a series of phased high quality improvements to the local transport network to integrate the re-development into the town centre environment. These improvements comprise three multi-functional transport interchanges around the station area.
- 5.3.3. These plans cover three separate areas or quarters around the station (northern, south-eastern and south-western) and a number of additional streets in the wider town centre. Each of these quarters will provide interchange facilities for pedestrians, cyclists, buses, taxis, short term/longer stay/drop off car parking.

- 5.3.4. The changes required for each of these quarters are being driven by different factors, as follows:
- The changes proposed in the **northern quarter** are being driven by and will take advantage of a new northern station entrance.
 - The changes in the **south-eastern quarter** which has been delivered included more bus stops/facilities and an enhanced public realm.
 - The changes proposed in the **south-western quarter** are being driven by the creation of a new southern station entrance, Station Hill and the reduction in the size of the bus/taxi provision and an improved drop off/pick up interchange area than previously located on Station Hill.
- 5.3.5. The first phase (south east quarter and town centre roads) was completed in May 2011 and involved closing the main vehicle route past the front of the station to improve passenger transit, enhance integration and facilitate works to the new station.
- 5.3.6. The works on the second phase (northern interchange) are currently underway and due to be operational for buses and taxis in July 2013. The improvements will enhance the approach and access to the station from the north. The scheme comprises: new taxi provision, bus stops, enhanced pedestrian routes, cycle parking, cycle hire and enhanced public realm.
- 5.3.7. The works on the third phase (south west quarter) are currently underway and due for completion in 2014. The new subway route for pedestrians is now open.
- 5.3.8. The applicant, Sackville Developments (Reading) Ltd and, its team have been working with NR and RBC to ensure that the development proposals are well integrated with the wider station plans. This has been particularly important for the schemes that RBC/NR have been developing for the southern station entrance.

5.4 South Western Interchange

- 5.4.1. As discussed above RBC is promoting a scheme that will re-configure the existing south-western interchange area adjacent to the Station Hill site. This scheme forms part of an area plan of improvements to local transport interchange and the public realm around the station and Station Hill site.
- 5.4.2. The changes proposed in the South-western quarter are also being driven by the desire to have better north-south linkages under the railway (through a newly opened public route that is associated with the new southern and northern station entrances) and better connections through the Station Hill development to Friar Street. The plans for the south-western quarter include the reconfiguring and lowering of the existing Station Hill (or south-western) interchange and enhancements to Greyfriars Road and its junction with Tudor Road.
- 5.4.3. As with the station proposals, the applicant and its team have been working with RBC to ensure that the development proposals join with the south-western interchange plans.

6 Development Proposals

6.1 Introduction

- 6.1.1. This section describes the development proposals that are pertinent from a transport perspective, and also explains the methodology and calculations used to forecast the multi-modal travel demands for the development proposals.

6.2 Land Uses

Proposed Floor Areas

- 6.2.1. The development proposal is for a mix of uses including; office/commercial; residential; leisure; and retail. The proposals for the redevelopment of the Station Hill site are indicated in the **Table 6-1** below.

Land Use	Total Minimum Floorspace (sqm)	Total Maximum Floorspace (sqm)
Retail & Related Uses (Use Class A1 – A5) m ²	6,000	13,500
Leisure (Use Class D2) m ²	0	2,200
Residential (Use Class C3) m ²	14,500	29,500
Office (Use Class) m ²	69,000	122,000
Car Parking (spaces)	550 spaces	1000 spaces

Table 6-1: Proposed Development Land Uses (Gross External Area)

Assessed Floor Areas

- 6.2.2. It should be noted that the GFA has been estimated using a conversion factor of 85% of GEA, which are included in Table 6-1.
- 6.2.3. Technical Note 16996/009/TN004 (contained within Appendix A) sets out the agreed methodology for the TA. The maximum floor space for each land use has been tested within the TA as worst case.
- 6.2.4. A summary of the assessed floor area is outlined below:

Land Use	Total Maximum Floorspace (sqm)
Retail & Related Uses (Use Class A1 – A5) m ²	11,475
Leisure (Use Class D2) m ²	1,870
Residential (Use Class C3) Dwellings	300
Office (Use Class) m ²	103,700
Car Parking (spaces)	1000 spaces

Table 6-2: Assessed Development Land Uses (Gross Floor Area)

6.3 Proposed Access and Parking

- 6.3.1. Figure 6-1 shows the proposed access to the site and the adjacent transport proposals discussed in section 5.

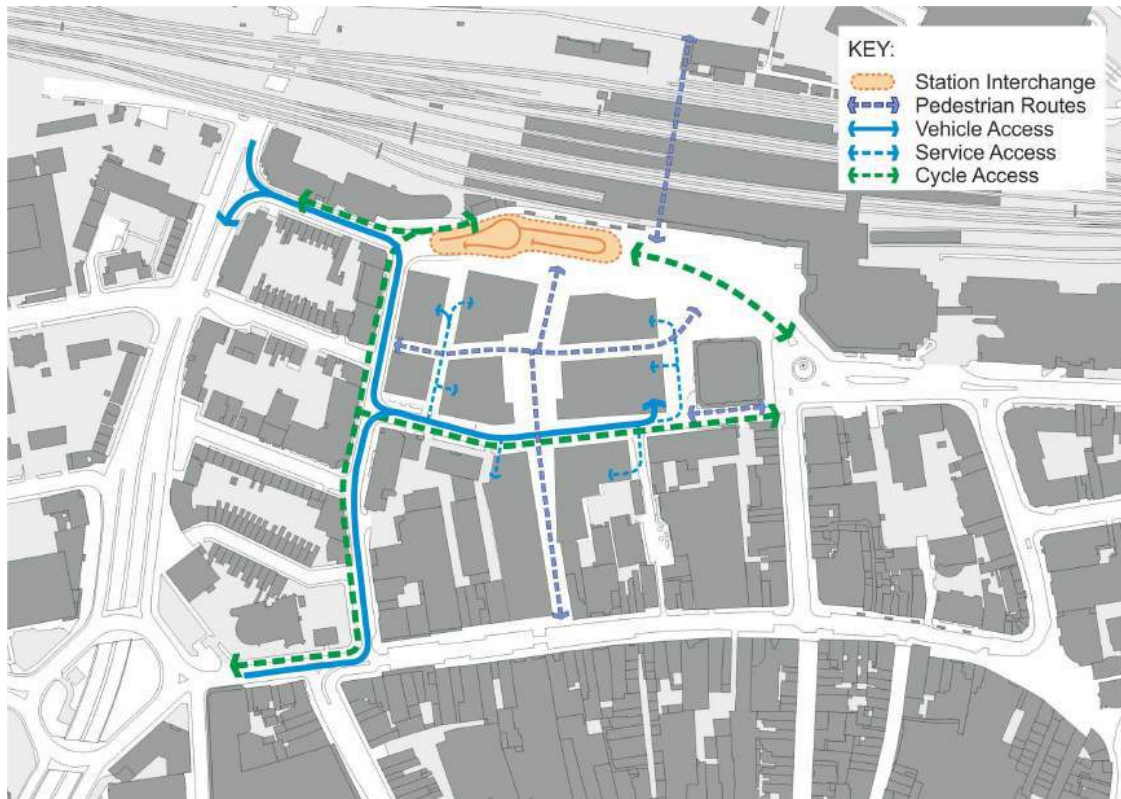


Figure 6-1 – Access Proposals

Pedestrian Access

- 6.3.2. Pedestrian access will be gained via Friar Street, Garrard Street, Greyfriars Road and Station Hill/Station Square. Connections within the development site will improve pedestrian integration between Friar Street, Station Hill and the railway station. These enhanced connections support RBC's aspirations to improve pedestrian linkages over the railway line, which is highlighted within the RCAAP and LTP3.

Vehicle Access

- 6.3.3. Access for vehicles travelling from the south would be via the IDR roundabout with Chatham Street onto Friar Street. From Friar Street, vehicles would proceed along Greyfriars Road and into Garrard Street.
- 6.3.4. Access to the Station Hill site for vehicles travelling from the north will be via the IDR (Caversham Road) junction with Tudor Road, proceeding on to Greyfriars Road and into Garrard Street.

- 6.3.5. All vehicles leaving the site will travel via the IDR (Caversham Road) junction with Tudor Road. Vehicles travelling north will U turn at the Chatham Street/IDR roundabout.

Car Parking

- 6.3.6. Up to 1000 parking spaces are proposed within the development. The allocation of this parking provision for each land use is summarised in **Table 6-3**.

Land Use	Parking Allocation (Maximum)	Parking Ratio
Use Class B1a (offices)	415	1 space per 250m ²
Use Class C3 (residential)	150	0.5 spaces per unit
Public Car Parking Spaces	255	
Provision for Thames Tower	180	20% of total parking in MSCP
Total	1000	

Table 6.3: Proposed and Assessed Parking Allocation

- 6.3.7. The above parking allocation is considered to represent a worst case in terms of vehicle trip generation since a higher proportion of public spaces on site would lead to a lower overall traffic generation. The use of this allocation of parking is explained and was agreed with RBC within the Traffic Modelling Scoping Note 16996/009/TN004 included in **Appendix A**.
- 6.3.8. It should be noted that 20% of the total provision of the 550 to 900 spaces proposed to be provided within the Garrard Street Car Park will be allocated to Thames Tower as agreed in an existing contract. This equates to up to 180 spaces.
- 6.3.9. Office car parking has been allocated on the basis of the maximum RBC parking standards of 1 parking space per 250m² of office development.
- 6.3.10. Up to 150 car parking spaces will be allocated to the 300 residential dwellings. This represents 1 space per 2 dwellings, in line with RBC maximum parking standards for dwellings with 1-2 bedrooms.
- 6.3.11. The proposed retail and leisure uses will not be allocated any car parking. People driving to these facilities will be required to park within the proposed public car park.
- 6.3.12. In all of these areas, disabled bays will be provided in accordance with appropriate RBC standards. This will equate to a total of 17 spaces in the public car parks, up to 10 spaces for the residential units (depending on accessible apartment provision), and 18 spaces for the offices (i.e. would fall within the up to 255 spaces that would be allocated as public parking).

6.4 Completion Year

- 6.4.1. The completion year for the Station Hill development is assumed for the purposes of this assessment to be 2018.
- 6.4.2. The traffic impact assessment undertaken for the Station Hill development has been assessed using the Reading Transport Development Control Forecast Model. This model includes background traffic growth to 2015 plus all committed developments and therefore reflects a year between 2015 and 2026. As the forecast model does not include the construction phasing of committed developments it does not represent a specific future year. It has been agreed with RBC that the use of this model is suitable in order to assess the potential impacts of the development, as set out in Section 10.

7 Travel Demand Forecast

7.1 Introduction

- 7.1.1. This section explains the methodology and provides forecasts for the multi-modal travel demands relating to both the development proposal and the extant uses on the site if they were fully utilised.

7.2 Person Trip Rates

- 7.2.1. A detailed review of trip rates has been undertaken for the range of land-uses at the Station Hill site. These trip rates were submitted to RBC in the 'Transport Assessment Scoping Report' (included in [Appendix A](#)) and subsequently agreed in principle with RBC.
- 7.2.2. As outlined within the Scoping Report, the determination of trip rates for each land use has been undertaken using similar development sites/land uses within the TRICS and TRAVL databases.
- 7.2.3. The tables below (**7-1 to 7-6**) summarise the agreed person trip rates. The AM and PM peak periods referred to represent the peak hours of 0800-0900 and 1700-1800.

B1a (Office) Trip Rates

- 7.2.4. The following 'All Modes' trip rates have been derived to base the assessment of impact of the B1a (offices) element of the development:

Location	AM (IN)	AM (OUT)	PM (IN)	PM (OUT)	Daily
Trip Rates per 100m ² All Modes	2.19	0.16	0.13	1.97	16.80

Table 7.1: B1 Office Person Trip Rates

- 7.2.5. This is based on sites from both the TRICS and TRAVL databases.

Residential Trip Rates:

Location	AM (IN)	AM (OUT)	PM (IN)	PM (OUT)	Daily
Residential All Modes (per household)	0.103	0.556	0.386	0.223	5.568

Table 7.2: Residential Person Trip Rates

- 7.2.6. The residential person trip rates have been determined from similar development sites within the TRICS database.

Retail Trip Rates:

- 7.2.7. A trip rate has been defined for the retail uses proposed within the development, this has been based on neighbourhood / community shops:

Location	AM (IN)	AM (OUT)	PM (IN)	PM (OUT)	Daily
Neighbourhood Shopping All Modes (per 100m ²)	12.43	10.06	21.45	21.15	370.11

Table 7-3: Retail Person Trip Rates

- 7.2.8. This has been selected through the interrogation of the TRICS and TRAVL databases and was previously accepted for the Station Hill 2 planning application.

Leisure Trip Rates:

- 7.2.9. For the purpose of the assessment the trip rate for the proposed leisure use has been based on a bowling alley. Although the TRICS database did include a number of bowling alleys, all surveys were undertaken at weekends and are therefore not appropriate for assessing the weekday peak hour trip rates. The TRAVL database however included a number of sites for which a weekday person trip rate could be utilised.

TRAVL Sites: Trip Rates per 100sqm	AM (IN)	AM (OUT)	PM (IN)	PM (OUT)
A.M.F. Bowling 11-29 Belmont Hill 09/10/1998	0	0	2.375	3.44
Bexley Superbowl Albion Road 20/06/1997	0	0	3.792	2.209
Streatham Mega Bowl 142-144 Streatham Hill 06/06/1997	0	0	1.667	1.077
Wessex Superbowl 112 Brighton Road 27/02/1998	0	0	2.350	1.850
TOTAL AVERAGE	0	0	2.436	1.828

Table 7-4: Bowling Alley Person Trip Rates

- 7.2.10. It is proposed that the total average trip rate is utilised for the purpose of this assessment.

Bingo Hall Trip:

- 7.2.11. There is currently a Bingo Hall on the development site. The following trip rates have been utilised to determine the base level of traffic:

Source	Trip Rates	
	Arrivals	Departures
TRICS Wednesday Survey: Site ST-07-H-01 Gala Bingo, Stoke on Trent, Staffordshire, 2140 Seats, 475 Parking Spaces Multi-modal, All Modes Arrivals Peak Hour 18:00 to 19:00, Departures Peak Hour 21:00 to 22:00. Trips Rates per Seat	0.22	0.30

Table 7-5: Bingo Hall Person Trip Rates

- 7.2.12. There is limited data available for Bingo Halls. However, the data available does highlight that the Bingo Hall currently has limited impact on peak hour conditions.

7.3 Existing Use Trip Generation

- 7.3.1. The commercial floor area of the Western Tower complex is not currently fully occupied, but this commercial space could be refurbished and occupied without the need for planning permission. This is also the case for the retail and leisure floor area within the Western Tower complex and Friars Walk. Therefore the baseline for the development assumes that the extant floor space could be fully utilised as agreed with RBC. The existing trip generation has been derived upon the extant quantum of each land-use on site. These extant floor areas are detailed below in **Table 7-6**.

Land Use	Floorspace (sqm)
Retail & Related Uses (Use Class A1 – A5) m ²	11,917
Leisure (Use Class D2) m ²	3,033
Office (Use Class) m ²	13,240

Table 7-6: Baseline Development Land Uses (Gross Floor Area)

- 7.3.2. A large proportion of trips to the vacant retail facilities on site are likely to have been linked or 'pass by' trips due to its proximity to the town centre. It has been assumed that 75% of the trips to the retail uses would have been linked trips, i.e. the primary trips will have been made to another use at the development or within the town centre. The number of trips generated at the retail units has therefore been reduced by 75%.
- 7.3.3. The DfT Guidance on Transport Assessment document classifies linked trips as "trips that have multiple destinations within the proposed development site." The guidance suggests that "it is customary only to 'count' those trips once for the development as a whole, and not effectively double-count them by attributing two visits and departures affecting the sections of highway network being assessed"
- 7.3.4. A survey (undertaken in 1998) of 97,500 people at retail facilities in the Broadway Shopping Centre, Hammersmith aimed to pinpoint the type of trips to its shopping facilities. This survey separated retail visitors into two main categories;
- Primary trips – travelling from home to shops then back home again
 - Linked/Pass-by trips – trips which have multiple destinations
- 7.3.5. This study highlighted that 18% of retail visitors made a primary trip to the Shopping Centre.

- 7.3.6. According to the TRICS report 95/2 in most circumstances 10% or less of the total trips to a new retail store are completely new. In addition, TRICS Report 97/1 highlights that even at retail parks more than one store is usually visited.
- 7.3.7. Therefore when calculating the trip generation of the extant retail floor space only 25% of trips have been considered as primary trips generated by the retail land use.
- 7.3.8. As previously explained in section 5, the Garrard Street car park has been surveyed. The person trips by car to the car park have been determined assuming car occupancy of 1.2 and are based on arrival and departure flow data supplied by RBC for July 2012.
- 7.3.9. The estimated level of primary person trips at the current site are summarised in the table below.

Location	AM (IN)	AM (OUT)	PM (IN)	PM (OUT)
Retail	370	300	639	261
Office	290	21	17	261
Leisure (Bingo Hall)	0	0	7	9
Garrard Street CP	268	11	28	196
Total	928	331	691	1096

Table 7-7: Extant Person Trip Generation

7.4 Proposed Development Trip Generation

- 7.4.1. The development proposal is for a mix of uses including; office/commercial; residential; leisure, retail and the assessment assumes some provision for public car parking (up to 255 spaces). The majority of the retail units will effectively be ancillary to the development and the local area, and will therefore generate mainly trips from other land uses nearby such as offices, town centre retail and residential, and from public transport services.
- 7.4.2. Similar to the extant retail uses, it is also assumed that 75% of the trips to the proposed retail uses will be linked trips. The number of trips generated at the retail units has therefore been reduced by 75% to account for 25% of the trips being primary trips generated by the future development.
- 7.4.3. **Table 7-8** summarises the potential person trips likely to be generated by the development site. These figures are gross development trips and not net increase. This assumes the maximum floor areas are delivered for all land uses, i.e. the worst case assessment.

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Location	AM (IN)	AM (OUT)	PM (IN)	PM (OUT)
Retail	357	289	615	607
Office	2271	166	135	2043
Residential	31	167	116	67
Leisure	0	0	46	34
Garrard Street CP	117	5	12	86
Total	2776	626	924	2836

Table 7-8: Development Person Trips Generation

- 7.4.4. It should be noted that as this is a mixed use development, there will be an opportunity for people to live and work at Station Hill. However, the trip generations have not been reduced to reflect this opportunity and it is therefore considered that a robust assessment of trip generations has been undertaken.
- 7.4.5. **Table 7-9** summarises the net change in person trips between the extant land uses and the proposed Station Hill development.

Location	AM (IN)	AM (OUT)	PM (IN)	PM (OUT)
Net Change in People Trips	1847	294	233	1740

Table 7-9: Net Change Person Trips

- 7.4.6. The table above shows that the development is anticipated to generate 2141 additional people trips in the AM peak hour and 1973 additional people trips in the PM peak hour when compared against the extant uses.

8 Trip Distribution and Mode Share

8.1 Introduction

- 8.1.1. The methodology utilised to determine the trip distribution and mode share relating to the travel demand of the proposed development is explained and reported on in this section.

8.2 Development Distribution

- 8.2.1. The distribution of highways development trips has been undertaken directly within the Reading Transport Model (RTM) using the existing distribution matrix within the Development Control Forecast Model. This existing distribution matrix has been built using 2001 journey to work Census data and 2007 RSI data.
- 8.2.2. Distribution data for non-highways trips is based on 2011 census for residential trips and 2001 census for other trips since 2011 data is not yet available.

8.3 Mode Share

Residential Land-Uses

- 8.3.1. The site benefits from excellent public transport links and a wide range of facilities accessible by walking and cycling and it is therefore considered that it provides excellent opportunities to deliver sustainable development.
- 8.3.2. The mode share of the residential trips has been based upon 2011 Census data which inherently allows for development distribution variations. The whole town centre ward, known as the Abbey ward, was selected rather than a smaller central areas as there is a low level of housing in the smaller town centre output area.
- 8.3.3. It has been assumed and agreed with RBC that the mode share for Abbey Ward would be similar to the trips generated by the proposed residential units at the development. The residential vehicle arrival and departure profile has been reviewed against the parking accumulation of the development to ensure it does not exceed the allocated residential parking provision of 0.5 spaces per unit.

Employment Land-Uses

- 8.3.4. The town centre output area (Ref: OOMCMR000022), which covers all employment within the boundary of the Inner Distributor Road (IDR) has been analysed to determine the trips from home to work that finish within the output area. This data was used to calculate the mode share of employees travelling to the town centre which inherently allows for development distribution variations. Data from the 2001 Census has been utilised to calculate the

employment mode share. (Note: The 2011 Census output for journey to work trip destinations have not been released).

- 8.3.5. The output area includes: Apex Plaza; Prudential; Yell; Civic Offices, Thames Tower; Oracle and other town centre employment areas. It has been agreed with RBC that this provides a broad spread of employment uses which reflects the mixed use proposals at Station Hill.
- 8.3.6. The mode share has been used for both the existing land uses and as the basis for the proposed land uses.
- 8.3.7. The agreed person trips generated by the offices have been converted by mode, on the basis that the office parking would be fully utilised and the remaining trips would arrive/depart by the other modes in the same relative proportions as census data.
- 8.3.8. As previously discussed, the site is highly accessible by foot, cycle, bus and rail due to its central location and is therefore considered to provide excellent opportunities to deliver sustainable development. Car parking provision for the proposed office facilities is based on RBC's maximum permitted car parking standards. The proposed car driver mode share has therefore been capped at a level which could be accommodated within the car park and the other modes have been adjusted on a pro-rata basis. This is based on the fact that there is no available free town centre parking close to the site and that all day parking charges are a major deterrent to drive to work. The rail mode share has been increased from 15.9% to 32.4% to account for the increased attractiveness of rail use as part of the Reading Station Area Major Upgrade scheme. The mode share for other means have been adjusted accordingly.
- 8.3.9. The mode share calculations are provided in [Appendix C](#).

Retail and Leisure Land-Uses

- 8.3.10. Similarly to the Employment Land use, the town centre output area (Ref: OOMCMR000022), which covers all employment within the boundary of the Inner Distributor Road (IDR) has been analysed to determine the trips from home to the retail and leisure area within the output area and the related mode share.
- 8.3.11. Car parking is not allocated to retail and leisure use in the existing or proposed situation. It is assumed that people using these facilities will be required to park within Garrard Street Car Park or will be an employee or resident at the development or within the local area. Therefore, the 2001 Census Mode Share has been adjusted on a pro-rata basis to achieve a 0% car driver mode share.

8.4 Summary of the Overall Development Mode Share

- 8.4.1. A spreadsheet was created to determine the mode shares of the proposed Station Hill development, based upon the above assumptions, considering each land use and each trip purpose.
- 8.4.2. **Table 8-1** summarises the results and shows that the majority of trips made to and from the site will be by bus and rail. These figures are gross development trips and not net increase.

Mode	AM 2-Way Trips	AM Mode Share	PM 2-Way Trips	PM Mode Share
Work Mainly at or From Home	13	0.39%	14	0.36%
Underground, Metro, Light Rail, Tram*	2	0.07%	2	0.06%
Train	1070	31.47%	1228	32.66%
Bus, Minibus or Coach	1146	33.70%	1313	34.92%
Taxi	4	0.13%	5	0.13%
Motorcycle, Scooter or Moped	16	0.48%	19	0.50%
Driving a Car or Van	371	10.91%	324	8.62%
Passenger in a Car or Van	65	1.91%	57	1.50%
Bicycle	116	3.41%	132	3.50%
On Foot	590	17.36%	661	17.58%
Other Method of Travel to Work	6	0.17%	6	0.17%
Total	3401	100.00%	3760	100.00%

Table 8-1: Gross Person Trip Generation by Mode

*Trips from London added to rail

9 Sustainable Transport Considerations

9.1 Introduction

9.1.1. This section describes the sustainable transport considerations in relation to accommodating the predicted demand for non-car trips set out in Section 8.

9.1.2. **Table 9.1** below summarises the two way generation for the existing land uses and the proposed land uses. This also shows the difference in person trips by means of travel.

	Extant Use		Proposed Development		Difference	
Mode	AM 2-Way Trips	PM 2-Way Trips	AM 2-Way Trips	PM 2-Way Trips	AM 2-Way Trips	PM 2-Way Trips
Work Mainly at or From Home	2	3	13	14	12	11
Underground, Metro, Light Rail, Tram*	0	1	2	2	2	2
Train	261	489	1070	1228	809	739
Bus, Minibus or Coach	305	545	1146	1313	842	768
Taxi	1	2	4	5	3	3
Motorcycle, Scooter or Moped	4	8	16	19	12	11
Driving a Car or Van	418	352	371	324	-47	-28
Passenger in a Car or Van	81	68	65	57	-16	-12
Bicycle	30	53	116	132	86	78
On Foot	156	264	590	661	434	397
Other Method of Travel to Work	1	2	6	6	4	4
Total	1260	1787	3401	3760	2142	1973

Table 9-1: Gross Person Trip Generation by Mode

*Trips from London added to rail

9.1.3. **Table 9.1** shows that largest increases are expected by bus and rail, then on foot. Cycle use is also expected to increase, with trips by car decreasing.

9.1.4. The proposals and any assessment work related to walking, cycling, bus use and rail use are discussed in the sections below.

9.2 Walking

9.2.1. The Development is intending to be a sustainable and high-density mixed use city centre development. It therefore follows that a large proportion of the trips generated will access the site by foot.

9.2.2. The analysis undertaken shows that approximately 397-434 additional people are likely to travel to/from the site as a primary trip on foot during the peak hours.

- 9.2.3. As discussed in section 6.3, access on foot will be achieved via a number of points via Friars Street, Garrard Street, Greyfriars Road and Station Hill/Station Square/station subway, improving accessibility and providing capacity to accommodate this level of walking trips.
- 9.2.4. The proposals also deliver a new direct link between Friar Street, Station Hill and the railway station, as well as to the connection under the railway line to the north. This helps the delivery of RBC's aspirations highlighted within RCAAP and LTP3.
- 9.2.5. A VISSIM model has been developed to demonstrate that the proposed informal pedestrian crossing located on Garrard Street can operate satisfactorily without creating a material impact to the safety and operation of the public highway.
- 9.2.6. Details of the model have been described and included within Appendix D and include screenshots of the operation of the crossing with 10 seconds intervals. The screenshots demonstrate that while a group of people form a queue while waiting to cross Garrard Street, this group is quickly dispersed as a gap in traffic materialises (approximately every 20 seconds), hence providing the confidence that an uncontrolled, potentially 'shared space' crossing could operate effectively. It should also be noted that the modelled scenario described within **Appendix D** has a higher level of vehicle and pedestrian flow than the currently proposed Station Hill development, since it related to an earlier version of the masterplan.

9.3 Cycling

- 9.3.1. It is expected that the development will result in 78-86 additional people arriving or departing the development on bicycles during each of the peak hours.
- 9.3.2. Greyfriars Road, Station Hill and Blagrove Street are identified as 'on-road cycle routes with traffic calming or quiet residential roads'. Friar Street provides an on-road route shared with buses and taxis during peak periods, and access is also possible via Station Road northbound. There are a number of radial cycle routes to/from the town centre providing connections to destinations within the urban area and further afield.
- 9.3.3. Cycling will be encouraged through the provision of new facilities and links, as well as through the travel plan. In terms of cycle parking on site, Reading Borough Council's "Supplementary Planning Document: Parking Standards and Design" has been reviewed and based upon the quantum of office floor area, residential units, leisure floor area and retail floor area the cycle parking requirement under that policy would be approximately 860 spaces.
- 9.3.4. It is considered that a proportion of the cycle parking will be shared between the land uses. Separate secure covered cycle parking is proposed to serve the residents and employees/retail staff. Surface level 'Sheffield' type parking will be shared by all users, particularly visitors to the residential, retail and leisure uses. These shared facilities will be

provided throughout the scheme in multiple locations to ensure convenience. It is therefore proposed that, assuming the maximum floor area is delivered, approximately 600-650 cycle parking spaces will be provided for private and/or public use, which is considered to be more than sufficient to provide for the proposed development.

- 9.3.5. The multi-modal assessment shows that approximately 116-132 people will travel to/from the site in the peak hours by cycle, with the parking accumulation of bicycles serving the office facilities not exceeding 165 bicycles. This level of provision is therefore considered to be sufficient to meet the needs of the development with significant reserve capacity. It is worth noting that the level of cycle parking proposed will be linked to the final detailed scheme. The provision described in paragraph 9.3.4 is based on the maximum floor area for all land uses tested.

9.4 Bus

- 9.4.1. Station Hill is located at the very centre of Reading's bus network, where a considerable number of urban and inter-urban services arrive and depart. It therefore follows that buses will be a very attractive mode of access.
- 9.4.2. The analysis undertaken highlights that the development could potentially generate an additional 842 and 768 two-way person trips during the AM and PM peak hours respectively.
- 9.4.3. Significant improvements are being made to the interchange facilities within the northern quarter, south-eastern quarter and south-western quarter, as discussed in section 5.3. These improvements will relocate bus stops, taxi ranks and drop-off/pick up facilities outside the new/improved station entrances.
- 9.4.4. Given the commercial nature of bus services and Reading's role as a regional transport hub, it is expected that local bus operators will respond to the additional demand generated (and associated income from fares) by the future development and will not require additional subsidy to provide new services, as would have been the case for a less accessible location with no baseline patronage.

9.5 Rail

- 9.5.1. Station Hill is located adjacent to Reading Station, and provides excellent opportunity for people to use the railway.
- 9.5.2. The analysis described in the previous section shows that approximately 809 and 739 additional rail trips to/from the development will be made during the AM and PM peak hours respectively.
- 9.5.3. The Reading Station area major upgrade scheme is currently being constructed to remove the significant operational bottleneck at this key junction on the Trans European Network (TEN).

The improvements include track grade separation, new platforms, replacement depot, signalling and a new passenger transfer deck to access the platforms. It is understood that the new station will accommodate a doubling of passenger numbers from today's figures.

- 9.5.4. The proposals will enable pedestrians to enter the railway station directly from either the new Station Square access point or the improved south western interchange. It is believed that the close proximity of the station will attract employees and residents wishing to use the railway as their primary means of travel rather than private car.
- 9.5.5. The increased capacity at the station coupled with a new rail franchise for Great Western services will mean that the additional rail capacity needed will be provided without the need for further subsidy from the development.

10 Highway Impact Assessment

10.1 Introduction

- 10.1.1. This section contains the net highway impact assessment (assuming full occupation of the existing Station Hill site), which has been carried out using the Reading Transport Model (RTM). Further details on the methodology used to assess the highway impact are included within technical note 16996/009/TN004 within [Appendix E](#).
- 10.1.2. Table 5 within technical note 16996/009/TN004 includes a comparison between the anticipated vehicle generation of the extant/baseline land uses and the proposed development scheme (with maximum floor areas). This has been recreated below in [Table 10-1](#).

	Baseline/Extant		Development (including Thames Tower parking)		Net Change		
	Arrival	Departure	Arrival	Departure	Arrival	Departure	Two-way
AM Peak	487	28	392	72	-96	+44	-52
PM Peak	39	401	60	347	+21	-54	-33
Daily	1920	1749	1741	1659	-180	-89	-269

Table 10-1: Vehicle Trip Generation

- 10.1.3. It can be seen from the above table that the development will reduce the number of two way vehicle trips generated by the site in both the morning and afternoon peak hours. This is due to the reduction in available car parking spaces within the site.
- 10.1.4. The estimated vehicle arrival and departure numbers included above have been assigned and assessed using the RTM to form the highway impact assessment detailed throughout this section.

10.2 Methodology

- 10.2.1. The trip generation and mode share analysis (Sections 7 and 8) was undertaken to ensure that the forecast development traffic could be correctly input into the RTM model. The analysis estimated the vehicle trip generation of the site for the baseline/extant uses on site and for the proposed development. The following scenarios have been tested through the use of the Development Control Forecast Model for both the AM and PM weekday peak hours:
- Development Control Forecast Model with Extant – AM Peak Hour;
 - Development Control Forecast Model with Extant – PM Peak Hour;
 - Development Control Forecast Model with Development – AM Peak Hour;
 - Development Control Forecast Model with Development – PM Peak Hour.

- 10.2.2. The traffic model includes background traffic growth to 2015 plus all committed developments and therefore reflects a year between 2015 and 2026. This is because the forecast model does not include the construction phasing of committed developments and therefore does not represent a specific future year. A list of the major developments included within the traffic model is included within the RTM outputs included within **Appendix E**.

Parking

- 10.2.3. A key issue in terms of highway impact is the potential displacement of car trips resulting from the reduced number of public car parking spaces proposed within Garrard Street car park. This section therefore provides an analysis of the assumptions that have been built into the modelling to ensure this displacement is assessed. Technical note 16996/009/TN004 included within Appendix A provides further details on the methodology.
- 10.2.4. The assessment assumes that the car park at the proposed development will be reduced to 255 public car parking spaces, all other spaces being privately allocated to office or residential uses (and Thames Tower). The parking accumulation surveys undertaken between 2nd July – 6th July 2012 show that Garrard Street car park accommodated on average a maximum of 598 vehicles during weekday daytimes. The majority of this demand for parking will remain once the development is occupied and it is assumed that the proposed 255 spaces will be fully occupied and the remaining 343 vehicles will be displaced to the other car parks within the local area.
- 10.2.5. The redistribution of the Garrard Street Car Park users has been based on the distance from Garrard Street car park to alternative car parks within the town centre. This means that car parks located closer will get a greater weighting of trips being distributed to it. The walking distance, rather than the drive distance, was used, as drivers will select a particular car park based on the distance from their next destination (such as their place of work/shops/rail station), which will be made on foot.
- 10.2.6. **Table 10-2** details the proportion used for the re-distribution of vehicles from Garrard Street car park to alternative car parks and the maximum number of vehicles this displacement equates to. It also details the maximum occupancy of each of the local car parks currently and the occupancy including the estimated future re-distribution from Garrard Street.

Location	Proportion of Trips Assumed to Utilise Each Car Park (from Garrard Street Car Park)	Number of spaces assuming a reallocation of 343 vehicles from Garrard Street Car Park	Parking Space Availability (before reallocation of Garrard Street Car Park)	Parking Space Availability (after reallocation of Garrard Street Car Park)
Station	27.24%	93	527	434
Chatham Place	17.90%	61	384	323
Broad St	15.66%	54	294	241
Riverside	12.53%	43	733	690
Holybrook	15.28%	52	N/A	N/A
Queens Road	11.39%	39	259	220
Total	100%	343	2397	2054

Table 10-2: Estimated displacement of car parking space use to other public car parks

- 10.2.7. Based on a reallocation of 343 vehicles from Garrard Street Car Park, this will redistribute the majority of trips to the Station Car Park, with 93 additional vehicles. These levels are based on the average maximum daily occupancy recorded within the data supplied by RBC. It should be noted that car parking occupancy data for Holybrook Car Park could not be supplied by RBC, however the above table shows there is sufficient capacity throughout the town centre to cater for the estimated additional users.
- 10.2.8. The traffic modelling work assess the redistributions of vehicles within the peak hours based on the arrival and departure profile recorded at Garrard Street car park.

10.3 Results

- 10.3.1. The model results show that the development would have limited impact on the local network during the peak hours. The results of the RTM assessment are included in [Appendix E](#). Outputs have been assessed in terms of traffic flow impact, link capacity and junction operation.
- 10.3.2. There are some changes in the traffic flows for the following reasons:
- the reduction in overall parking provision on the site results in reduction in trips arriving to the site in the AM peak hour and departing in the PM peak hour;
 - the introduction of residential development, results in more trips leaving the site in the AM peak hour and arriving in the PM peak hour, in comparison to the existing car park and employment uses; and
 - the re-assignment of trips to alternative car parks from Garrard Street car park.
- 10.3.3. **Table 10-3** summarises links showing traffic flow changes of greater than 5% in one direction which are generally in the immediate vicinity of the site and related to the reasons above. Traffic flows are summarised for each direction to show the changes in traffic flows. **Table 10-4** summarises the corresponding reserve capacity (V/C) on those links with a 5% or greater flow change, where 100% means the link is at capacity.

Station Hill

Transport Assessment

Description	Extant/Baseline		Development		% Change		Actual Change	
	AM Actual Flow	PM Actual Flow	AM Actual Flow	PM Actual Flow	AM Actual Flow	PM Actual Flow	AM Actual Flow	PM Actual Flow
Station car park inbound	153	71	206	78	35%	9%	53	7
Station car park outbound	70	150	76	199	8%	33%	6	49
Garrard St eastbound	446	50	350	72	-22%	43%	-97	22
Garrard St westbound	46	393	83	333	81%	-15%	37	-60
Greyfriars Rd northbound	110	441	148	385	34%	-13%	38	-56
Greyfriars Rd southbound	143	27	118	31	-18%	13%	-26	4
Tudor Rd westbound	89	436	127	381	42%	-13%	38	-56
Friar St eastbound	399	61	329	83	-18%	36%	-70	22
Friar St eastbound	519	184	449	206	-14%	12%	-70	22
Duke St slip to Queens Rd	20	17	19	16	-5%	-3%	-1	-1
Oracle car park inbound	358	404	374	406	5%	1%	16	2
Bridge St northbound	158	195	168	196	6%	1%	10	1
Queens Rd car park inbound	185	117	199	121	7%	3%	13	3
Queens Rd car park outbound	121	260	122	274	1%	5%	1	14
Tudor Rd eastbound	133	21	108	25	-19%	16%	-25	3
Greyfriars Rd northbound	373	60	303	82	-19%	36%	-70	22
Chatham St roundabout	525	431	473	432	-10%	0%	-52	0
Chatham St roundabout	1307	854	1246	876	-5%	3%	-61	21
Castle St roundabout	205	195	218	204	6%	4%	13	9
Castle St eastbound	573	280	600	283	5%	1%	27	3
Broad St Mall CP inbound	314	166	334	168	6%	1%	20	2
Broad St Mall CP outbound	57	133	59	142	3%	7%	2	9
Holybrook car park inbound	379	295	397	297	5%	1%	18	2
IDR slip northbound to Chatham St	970	1076	925	1092	-5%	1%	-45	16
Broad St Mall car park inbound	70	43	81	45	16%	4%	11	2
Broad St Mall car park outbound	21	103	23	122	9%	19%	2	20

Table 10-3: Changes in Traffic Flow where One-Way Flow is Greater than 5%

Station Hill

Transport Assessment

Description	% Flow Change		Extant/Baseline		Development		% Change	
	AM Actual Flow	PM Actual Flow	AM V/C %	PM V/C %	AM V/C %	PM V/C %	AM V/C %	PM V/C %
Station car park inbound	35%	9%	6	3	8	3	2	0
Station car park outbound	8%	33%	9	20	9	26	1	7
Garrard St eastbound	-22%	43%	36	4	28	6	-8	2
Garrard St westbound	81%	-15%	11	67	18	58	7	-9
Greyfriars Rd northbound	34%	-13%	34	91	46	79	12	-12
Greyfriars Rd southbound	-18%	13%	18	4	15	4	-3	0
Tudor Rd westbound	42%	-13%	12	57	17	50	5	-7
Friar St eastbound	-18%	36%	50	8	41	10	-9	3
Friar St eastbound	-14%	12%	65	23	56	26	-9	3
Duke St slip to Queens Rd	-5%	-3%	27	25	26	26	-1	0
Oracle car park inbound	5%	1%	14	16	15	16	1	0
Bridge St northbound	6%	1%	12	14	12	14	1	0
Queens Rd car park inbound	7%	3%	15	9	16	10	1	0
Queens Rd car park outbound	1%	5%	10	22	10	23	0	1
Tudor Rd eastbound	-19%	16%	17	3	13	3	-3	0
Greyfriars Rd northbound	-19%	36%	51	11	41	14	-10	3
Chatham St roundabout	-10%	0%	18	14	16	14	-2	0
Chatham St roundabout	-5%	3%	44	28	42	29	-2	1
Castle St roundabout	6%	4%	20	15	22	16	1	1
Castle St eastbound	5%	1%	44	22	46	22	2	0
Broad St Mall CP inbound	6%	1%	13	7	13	7	1	0
Broad St Mall CP outbound	3%	7%	4	8	4	9	0	1
Holybrook car park inbound	5%	1%	30	24	32	24	1	0
IDR slip northbound to Chatham St	-5%	1%	39	43	37	43	-2	0
Broad St Mall car park inbound	16%	4%	6	3	6	4	1	0
Broad St Mall car park outbound	9%	19%	2	9	2	10	0	2

Table 10-4: Changes in link capacity where flow change is greater than 5% (V/C)

- 10.3.4. The analysis of the RTM assessment included within **Table 10-3** shows where the greatest change to traffic flows are occurring. It can be seen that generally the local links used to arrive and depart the development such as Garrard Street, Greyfriars Road, Tudor Road and Friars Street are showing changes to traffic flow, as would be expected.
- 10.3.5. On the wider network, changes in traffic flows are generally on the approaches to the other town centre car parks, occurring as a result of the reduction in public car parking spaces at Garrard Street car park and the use of alternative car parks. These include the Station Car Park, Oracle Car Park, Queens Road Car Park, Holybrook Car Park and Broad Street Mall Car Park links.
- 10.3.6. The largest change to traffic flow occurs on Garrard Street in a westbound direction during the AM peak hour, with traffic flow increasing by 37 vehicles. This is due to the reversal in traffic flows with the introduction of the proposed residential dwellings.
- 10.3.7. The largest change in actual vehicle flows is at the Station Car Park access link. The RTM outputs show an increase of 53 vehicles entering the car park in the AM peak and 49 vehicles leaving the car park in the PM peak hour.
- 10.3.8. Comparing the changes to traffic flow against the reserve capacity of the links using **Table 10-4** shows that while the percentage increase in flows may appear high, the impact on the reserve capacity of the link is considered to be non-material.
- 10.3.9. The highest impact on reserve capacity due to the development occurred along Greyfriars Road where the capacity utilisation of the road was increased by 12% to 46% V/C in the morning peak, which is still well within operational capacity.
- 10.3.10. Across the links illustrated within Table 10-4 the link with least reserve capacity in the development scenario is Greyfriars Road during the PM peak hour with the capacity utilisation of the link at 79%. This is however a 12% improvement on the link which was shown to be operating close to capacity at 91% during the Extant Scenario.
- 10.3.11. Overall the change to traffic flow across the road network can be considered as insignificant given the results provided from the RTM. This is also the case for the capacity, with none of the links approaching capacity (100% V/C) due to development traffic impacts.
- 10.3.12. In term of junction operation, further analysis of the junction specific V/C for the turning movement closest to capacity has also been included within the RTM outputs contained within Appendix D. The maximum turning movement V/C has been shown for the following junctions:

Station Hill

Transport Assessment

Junction \ V/C	Exant AM	Exant PM	Dev't AM	Dev't PM
IDR / Tudor Road	69%	74%	68%	75%
Greyfriars Road / Station Hill	26%	91%	39%	79%
Greyfriars Road / Garrard Street	48%	67%	38%	58%
Greyfriars Road / Friar Street	59%	27%	49%	27%
IDR / Chatham Street / Friar Street / Cheapside	74%	64%	73%	64%
IDR Caversham Road / Vastern Road	104%	52%	105%	52%
Reading Station Car Park	106%	79%	107%	80%
Queens Road Car Park	15%	22%	16%	23%
Holybrook Car Park	38%	62%	40%	64%
Oracle Car Park	70%	66%	70%	67%
Broad Street Car Park	30%	14%	32%	14%
Broad Street Car Park/IDR	54%	9%	55%	10%

Table 10-5 - V/C for the maximum turning movement

- 10.3.13. The outputs from the RTM at these junctions therefore show that the development scenario does not cause a material impact to the capacity on any turning movements.

10.4 Personal Injury Accidents

- 10.4.1. A review of the accident data presented in Section 4 has highlighted that the number of accidents within the vicinity of the site would not be of concern to delivering a development in this location. The cluster analysis undertaken did not highlight any areas or junctions with a significant clustering of collisions.
- 10.4.2. The Station Hill development proposals do not propose to deliver any geometric changes to the road network other than along Garrard Street where an improved pedestrian crossing facility is proposed. The highway impact assessment shows that the Station Hill development will not result in any significant increases in traffic movements.
- 10.4.3. As discussed within section 4, RBC's south eastern interchange area and town centre works were completed in 2011 to improve safety and the public realm. The development will integrate with RBC south western station area improvement works, which will also contribute to improving the safety of the public realm in the vicinity of the site.
- 10.4.4. As has been discussed in the prior section, the design of the Garrard Street crossing point minimises vehicle and pedestrian conflict limiting the chances of future collisions.
- 10.4.5. The proposed development at Station Hill will create increased opportunities for pedestrian activity and improved foot links to the station from the towns' retail centre with a potential uplift

in pedestrian traffic directly onto Friar Street. Pedestrian crossing facilities are good in the vicinity of the existing Friars Walk and therefore it is considered that improvements will not be required to accommodate the increase in pedestrian movement in this location.

- 10.4.6. The improvements that will be made to the pedestrian grid/public realm may also have a beneficial effect on safety within and around the site boundary.

11 Transport Proposals Associated with the Development

11.1 Introduction

- 11.1.1. This section outlines the transport proposals associated with the Station Hill development. These proposals seek to maximise the opportunities for movement in and around the development and to integrate with the wider transport strategy being promoted by RBC. A diagram showing the transport plan for the proposed development, in the wider context is shown in **Figure 11-1**.

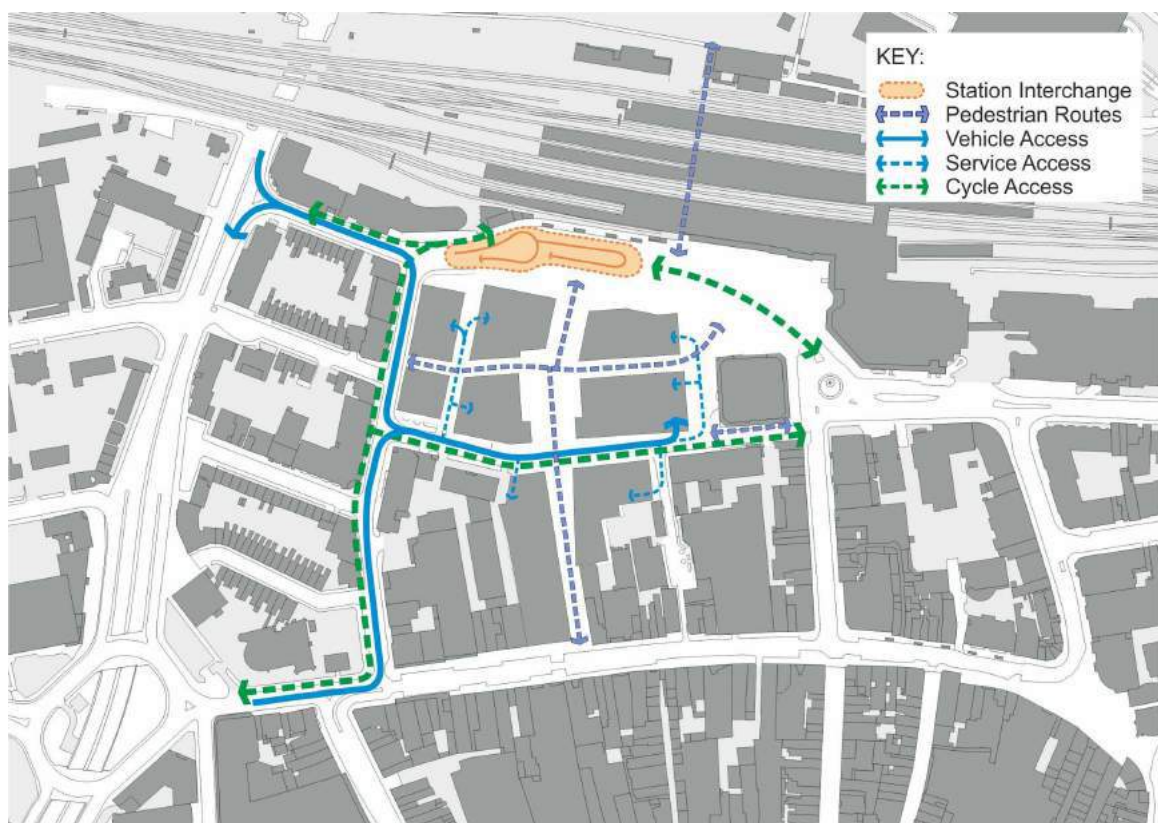


Figure 11-1 – A Transport Plan for the proposed Station Hill development

- 11.1.2. **Pedestrian Grid/Public Realm** - The development proposals are based upon the principle of creating a new primary pedestrian street that runs through the Station Hill site linking Reading Station and Friar Street. Linkages are also made to the lowered station interchange and

Greyfriars Road. These enhanced connections have been designed to support the aspirations to improve pedestrian linkages across the railway line; an issue highlighted in RCAAP and LTP3. The creation of a new southern station entrance and public square has also formed an important element in the design and layout of the buildings and streets in the Station Hill scheme.

- 11.1.3. **Cyclists/cycle facilities** - The development proposals will look to maximise the potential for cycle travel to and from the Station Hill site. This will be achieved by the provision of up to 650 cycle parking spaces for residents within the development, commercial users and those associated with the retail and leisure activities.
- 11.1.4. **Bus Access** - The location of the site in relation to the rail station and interchanges, offers a unique opportunity to maximise the potential to travel by means other than private car travel and to promote sustainable travel, particularly bus since there are some 100 buses per hour in the peak hours close to the site. This is one of the central aims of the Reading LTP3. The integration of the Station Hill site with Reading's existing public transport hub for bus and rail travel is an essential part of the transport proposals.
- 11.1.5. **South-Western Interchange** – As discussed in more detail in section 5, RBC are currently in the process of reconfiguring and lowering the existing Station Hill interchange and enhance Greyfriars Road and its junctions with Tudor Road. The changes proposed this area are being driven by the desire to have better north-south linkages under the railway through the subway that links the new southern and northern station entrances; and better connections through the Station Hill development to Friar Street. The Station Hill development has been designed to incorporate direct level pedestrian access to this area, and connections through to Friars Street.
- 11.1.6. **Car Club** – A Car Club (or alternatively a Pool Car scheme) will also be considered as part of the development proposals to reduce the need to have access to a private car. Further information is set out within the Framework Travel Plan.
- 11.1.7. **Vehicle and Service Access** - The development proposals are in line with the principles of sustainable city centre developments, and will have limited parking, but access will still be required by car and for servicing.
- 11.1.8. The vehicular access proposals for the Station Hill site are shown in **Figure 11-1**. This shows the principal access point for private cars and also the servicing access point for the development.
- 11.1.9. Seven service areas for delivery vehicles are proposed based upon operational requirements.
- 11.1.10. The assessments undertaken confirm that the proposals result in insignificant impacts on the local and wider area (discussed in detail in Section 10).

11.1.11. **Travel Plan** - A Site-Wide Framework Travel Plan (SWFTP) has been prepared and has been submitted with the planning application. The objectives of the SWFTP (as stated in the SWFTP) are to achieve:

- A framework for the **promotion of sustainable travel** to and from the Site;
- The establishment of a **series of specific measures** to manage, in particular, single car occupancy to the Site by employees, visitors and residents;
- A feasible ongoing **co-ordination process** to ensure that initiatives and their impacts are maintained and monitored;
- To **contribute to local sustainable transport objectives**, and in particular to contribute to the overall accessibility of the Site within the context of the Local Transport Plan process; and
- Ensure that residents, visitors and employees at the Site have **appropriate accessibility** to local services.

12 Summary

Proposals

- 12.1.1. The development proposals have been developed in line with national and local policy. The Station Hill scheme is a high density mixed use development in a highly accessible area. The development has been designed to integrate with wider interchange and public realm proposals being promoted by RBC.
- 12.1.2. The proposals specifically meet the development requirements outlined in the RCAAP 2009 delivering:
- a range of land uses easily accessible on foot via multiple access points at Friars Street, Garrard Street, Greyfriars Road and Station Hill/Station Square;
 - new and improved links and facilities for walking and cycling within the development site helping to strengthen the north-south axis linking the River Thames, station area and central Reading;
 - high quality connections to the south-western interchange proposals and to the Reading Station redevelopment project.
- 12.1.3. The development proposal is for a mix of uses including; office/commercial; residential; leisure; retail and up to 1000 car parking spaces.
- 12.1.4. Pedestrian access will be gained via Friar Street, Garrard Street, Greyfriars Road and Station Hill/Station Entrance/Station Subway. The development car park and service yard will be reached via Garrard Street.

Assessment

- 12.1.5. The trip rates and methodology for determining trip distribution and modeshare have been agreed with RBC. The modeshare of the proposed Station Hill development has been considered in terms of each land use and each trip purpose. The majority of trips will be made to the site by bus (34%) and rail (32%) in the morning peak hour, with approximately 17% of all trips made on foot and only 13% by car.

Sustainable Transport Improvements

- 12.1.6. Seven pedestrian access points and high quality streets will improve accessibility in the area and provide capacity to accommodate the increased level of walk trips.
- 12.1.7. The proposals also deliver a new direct link between Friar Street, Station Hill and the railway station, as well as direct access to the new connection under the railway lines to the north. This helps the delivery of RBC's aspirations highlighted within RCAAP and LTP3.

- 12.1.8. A VISSIM microsimulation model was prepared and demonstrates that the expected increase in pedestrian movement across Garrard Street against the predicted traffic flows can be accommodated with minimal delay to pedestrians.
- 12.1.9. The development site is connected to Reading's designated quiet cycle routes running along Greyfriars Road, Station Hill and Blagrove Street, in addition to connections via Friar Street and Station Road. Surface level cycle parking will be provided for visitors to the residential, retail and leisure uses. Secure covered cycle parking will be provided for the residents and employees on the site.
- 12.1.10. Significant improvements are being made to the interchange facilities within the northern quarter, south-eastern quarter and south-western quarter of the station area, which will relocate bus stops, taxi ranks and drop-off/pick up facilities outside the new/improved station entrances. The development proposals deliver direct links to these facilities encouraging the use of the bus services to/from the development and within the surrounding area.
- 12.1.11. Given the commercial nature of bus services and Reading's role as a regional transport hub, it is expected that local bus operators will respond to the additional demand generated (and associated income from fares) by the future development and will not require additional subsidy.
- 12.1.12. The Reading Station area major upgrade scheme is currently being constructed to remove the significant operational bottleneck at this key junction on the Trans European Network (TEN). It is understood that the new station will accommodate a doubling of passenger numbers from today's figures.
- 12.1.13. A Framework Travel Plan has been prepared for the site and this will form the basis of targets and measures to be adopted by future occupiers to help promote the use of sustainable travel as the means of access for the site.

Highway Assessment

- 12.1.14. The highway impact assessment has been carried out using the Reading Transport Model. This shows that development results in some changes in the traffic flows due to:
- the reduction in overall parking provision on the site;
 - the introduction of residential development, which results in more trips leaving the site in the AM peak hour and arriving in the PM peak hour and in comparison to the existing car park and employment uses; and
 - assignment of displaced trips from the site to other town centre car parks.
- 12.1.15. This assessment shows that the development will not cause any significant detrimental impacts on the highway network.

Station Hill
Transport Assessment

Appendix A – Transport Assessment Scoping Documents

Station Hill
Transport Assessment

**Sackville Developments
(Reading) Ltd**

Station Hill, Reading

**Transport Assessment Scoping
Report**

Project Ref: 16996/009

Doc Ref: SR/FINAL

December 2011

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Document Control Sheet

Project Name: Station Hill, Reading
Project Ref: 16996/009
Report Title: Transport Assessment Scoping Report
Doc Ref: SR/FINAL
Date: December 2011

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Revision	Date	Description	Prepared	Reviewed	Approved
1	08.12.11	Client Draft	CB	DMcD	GC
2	16.12.11	Final	CB	DMcD	GC

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Station Hill, Reading
Transport Assessment Scoping Report

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Appendices

Appendix A: Trip Rates

1 Introduction

- 1.1.1 Peter Brett Associates LLP have been commissioned by Sackville Developments (Reading) Ltd to assist in the development of a master plan and to undertake a Transport Assessment (TA) in support of a planning application to redevelop the Station Hill site, Reading. This report sets out the proposed scope of work and the technical processes which will need to be agreed with the Highway Authority to inform the preparation of the TA.
- 1.1.2 The development proposal is for a mix of uses including; office/commercial; retail; residential; Ten Pin Bowling Facility; and the retention of the existing Garrard Street car park. The anticipated scale and mix of development is currently being developed as part of the master planning process. It is anticipated that the proposed development quantum will consist of approximately:
- Up to 100,000 sq. m of Office;
 - Up to 6,000 sq. m of Retail;
 - Up to 21,000 sq. m of Residential;
 - 1,000 sq. m Ten Pin Bowling facility.
- 1.1.3 Further to preliminary discussions with Reading Borough Council (RBC) it is anticipated that the TA will cover the following main headings as contained within the DfT Guidance on Transport Assessments dated March 2007:
- Background;
 - Planning Policy Context;
 - Baseline Conditions;;
 - o Walking and Cycling Accessibility;
 - o Bus Accessibility;
 - o Rail Accessibility;
 - o Highway Access;
 - o Car Parking and Servicing;
 - o Personal Injury Accidents;
 - Development Proposals;
 - Travel Demand Forecast;
 - o Four Stage Model Approach;
 - o Trip Generation;
 - o Trip Distribution;

- o Mode Share;
 - o Trip Assignment and Highway Impact Assessment;
 - Sustainable Transport Considerations;
 - Transport Proposals Associated with the Development;
 - Travel Plan:
- 1.1.4 To assess the impact the proposed development will have on the surrounding highway network, a comparison between the current baseline and future scenario (to include an assessment of with and without the development proposal) will be undertaken.
- 1.1.5 An estimation of the current baseline trip generation of the site will be included within the TA. This baseline trip generation will be assessed as existing and compared with the proposed Station Hill development using the current Reading Transport Model (RTM). The assessment years modelled within the RTM will be agreed with RBC but the modelled years within the RTM include 2007, 2015 and 2026. The future RTM model years include locally committed developments and schemes.
- 1.1.6 The proposed methodology used to assess the highway impact is included within Section 5 of this scoping report. It follows a four stage approach consisting of Trip Generation, Trip Distribution, Modal Split and Trip Assignment. As discussed above the process will involve using the RTM to assess the developments impact on the highway, with the assessment method agreed with RBC.

2 Planning Policy Context

2.1.1 The TA will evaluate how the redevelopment proposals take full consideration of national, regional and local planning policy and guidance. A written commentary detailing the relevant policy will be included in the TA. The relevant policies are listed below, but some of these may be superseded by the emerging National Planning Policy Framework as the project progresses:

- Creating Growth, Cutting Carbon: Making Sustainable Local Transport Happen;
- Planning Policy Guidance 13: Transport;
- Planning Policy Statement 1: Delivering Sustainable Development;
- Planning Policy Statement 3: Housing;
- Planning Policy Statement 4: Planning for Sustainable Economic Growth;
- Planning Policy Statement 6: Planning for Town Centres;
- South East Plan;
- Manual for Streets 1 & 2;
- RBC's Local Transport Plan 3;
- RBC's Local Development Framework Core Strategy;
- Reading Central Area Action Plan;
- Emerging Reading Parking Policy.

2.1.2 The TA will also make reference to the recent Town Centre Improvements scheme and the Reading Station Area Redevelopment proposals.

3 Baseline Conditions

3.1 Introduction

- 3.1.1 This section of the TA will provide an understanding of the access and movement to, from and within the site in context with the surrounding area. The local context will identify existing facilities and attractions (schools, shops, community facilities, etc...), and other committed schemes and planned improvements within the local vicinity. The strategic context will identify strategic access by all modes including rail and vehicles.
- 3.1.2 This will form the base for a qualitative assessment of the current:
- Pedestrian and cycle accessibility;
 - Public transport services;
 - Highway access, car parking and servicing;
 - Personal Injury Accident Data;
- 3.1.3 The assessment will identify the constraints and opportunities for access and movement by all modes.
- 3.1.4 This section will aid the master planning process and ensure that the transport/infrastructure proposals are developed in line with existing and planned transport movements and facilities.

3.2 Location

- 3.2.1 The Station Hill site is located directly south of Reading Station, as shown in **Figure 3-1**. The site is bordered by Station Hill to the immediate north, Garrard Street and Friar Street to the south, and Greyfriars Road to the west. Currently the site comprises; retail, which includes the vacant Friars Walk Shopping Centre; a bingo hall; a public house; a 950 space car park; two office blocks; and a disused bus station.
- 3.2.2 The Station Interchange (including bus and taxi stops, limited short stay parking and cycle stands) is located between the Station Hill site and the main Reading Station building. This area is currently undergoing redevelopment as part of the Reading Station Area redevelopment proposals. Once complete, there will be a new pedestrian area immediately to the north of Station Hill, with an improved rail station in terms of rail capacity and station facilities.

Figure 3-1: Site Location



3.3 Walking and Cycling Accessibility

- 3.3.1 The existing access and facilities for pedestrians and cyclists will be appraised within the TA.
- 3.3.2 Pedestrian and cycle linkages within, through and to the site will be assessed to maximise potential for these modes to be utilised, whilst ensuring that conflicts are minimised.
- 3.3.3 This section will also consider the potential role of the new pedestrian area outside the southern entrance to the Railway Station which is being brought forward as part of the Reading Station Area redevelopment proposals.

3.4 Rail Accessibility

- 3.4.1 The Reading Station Area major upgrade scheme has received funding and is currently under construction. The project involves track grade separation, additional station entrances, new platforms, replacement depot, signalling and a new passenger transfer deck to access the platforms, which will effectively double the capacity on the rail network and improve the accessibility of the town centre and Station Hill development.

3.5 Bus Accessibility

- 3.5.1 An assessment of the existing bus services in the close vicinity of the site will be detailed within the TA.
- 3.5.2 The initial work on understanding the current operation of the bus network (i.e. bus passengers, routes, general capacity, services, number of buses) will assist in identifying the most appropriate bus strategy for the site.

3.6 Highway Access

- 3.6.1 As part of the highway assessment the main constraints for access to the site will be identified in both the base and future year.

3.7 Car Parking and Servicing

- 3.7.1 The current Station Hill Site includes a public car park at Garrard Street, which provides around 950 spaces. Of these spaces approximately 200 are leased to the occupants of the Thames Tower which is located on the eastern boundary of the development site.
- 3.7.2 The TA will set out the existing parking demand at the Garrard Street car park. It will also detail the parking demand for other car parks within the town centre. This information will be used to inform the likely arrival/departure patterns of the future car park, along with any re-distribution of car parking that may occur due to the development proposals.
- 3.7.3 The existing serving arrangements will be reviewed in order to inform the service strategy for the future development.

3.8 Personal Injury Accidents

- 3.8.1 Existing personal injury accident records over the last five years will be reviewed locally to the Station Hill Development. The review will consist of analysis of trends in the type of accidents occurring, and whether there is clustering of accidents to specific locations or junctions.

4 Development Proposals

- 4.1.1 The development proposal is for a mix of uses including; office/commercial; retail; and residential.
- 4.1.2 Pre-application discussions are currently ongoing with Reading Borough Council as to the master planning of the scheme and a number of options are still under consideration. This approach has been required so that the strategy is flexible enough to support emerging longer-term transport proposals.
- 4.1.3 One of the points currently being discussed with Reading Borough Council relates to pedestrians crossing Garrard Street. A microsimulation model has been developed using the computer package VISSIM. This enables the future interaction between vehicles and pedestrians to be examined. This information will inform the design of an appropriate scheme to be developed and agreed with the Council.
- 4.1.4 The anticipated scale and mix of development is currently being developed as part of the master planning process. The current development quantum consists of approximately:
- Up to 100,000 sq. m of Office;
 - Up to 6,000 sq. m of Retail;
 - Up to 21,000 sq. m of Residential;
 - 1,000 sq. m Ten Pin Bowling facility.
- 4.1.5 The development proposes to retain up to 816 car parking spaces within the Garrard Street car park, this will serve the existing lease with the occupants of Thames Tower, the proposed commercial use and public car parking. This parking will be accommodated within the existing (Garrard Street) car park, which is to be retained as part of the development.
- 4.1.6 In developing the parking strategy for the development, consideration will be given to the parking requirements, including the provision of public car parking.
- 4.1.7 The accesses for the car park and service arrangements will also be assessed to ensure that they comply with the appropriate highway standards, guidelines, and codes of practice.
- 4.1.8 Given the reduction in the level of public parking, the redistribution of some of the existing public car park users at Garrard Street will also be assessed. Up to date occupancy levels for public car parks within Reading town centre will be requested to determine the current level of demand.
- 4.1.9 The TA will discuss in further detail the land use type and quantity, including details of the car parking allocation, access proposals and other transport facilities.

5 Travel Demand Forecast

5.1 Four Stage Approach

5.1.1 A four stage assessment process is proposed to be undertaken to evaluate the impact of the proposed development. The four stage modelling process is as follows:

1. Trip Generation;
2. Trip Distribution;
3. Modal Split;
4. Trip Assignment.

5.1.2 The first three stages of analysis will be undertaken using a first principles approach. This first principles model will then feed into the final stage (trip assignment) which will be undertaken using the Reading Transport Model (RTM) to evaluate the potential impact on the local transport network. This impact assessment will form a comparison between the Station Hill development proposal, and a baseline scenario. It is proposed that this baseline scenario will contain the trip generation, if the existing uses on site were fully operational, rather than the trip generation of the previously consented Station Hill development. The level of technical assessments required and the scope for changes to the network will be agreed with RBC before commencing the work.

5.2 Stage 1- Trip Generation

5.2.1 This is the first stage of the modelling process and will evaluate the number of person trips the site will generate and attract. The evaluation is dependent on obtaining robust values for trip rates. The analysis will include the determination of trip rates for each land use using: similar development sites/land uses within the TRICS and TRAVL databases. The TRAVL database focuses on sites within London, given the developments proximity to Reading Station and the local bus network it is deemed appropriate to use this database. Utilising the range of data included within these databases will ensure that robust trip rates can be determined and agreed.

5.2.2 The trip generation will be determined for both the AM and PM weekday peak hours with daily profiles being derived from the same data sources for a typical weekday. This will enable parking accumulation to be assessed.

5.2.3 It is assumed due to the nature of the development proposals that the greatest impact on the highway will be during the weekday peak hours.

B1a (offices) Trip Rates (Baseline and Future Scenarios)

5.2.4 The following 'All Modes' trip rates have been derived to base the assessment of impact of the B1a (offices) element of the development:

Table 5-1: B1 Office person Trip Rates

Location	AM (IN)	AM (OUT)	PM (IN)	PM (OUT)	Daily
Trip Rates per 100m ² All Modes	2.190	0.160	0.130	1.970	16.800

- 5.2.5 These trip rates are the same as adopted and agreed in the Station Hill 2 TA, and are based on interrogation of the TRAVL and TRICS databases.

C3 Residential Trip Rates (Future Scenarios)

- 5.2.6 The residential person trip rates have been selected following the analysis of the TRICS database and are set out in **Table 5-2** below.

Table 5-2: Residential Person Trip Rates

Location	AM (IN)	AM (OUT)	PM (IN)	PM (OUT)	Daily
Residential All Modes (per household)	0.115	0.545	0.326	0.183	5.100

- 5.2.7 The trip rates are based on a selection of privately owned blocks of flats within a town centre, or on the edge of a town centre. These trip rate outputs are included within **Appendix A**.

Retail and Community Trip Rates (Future Scenarios)

- 5.2.8 At this stage of the masterplanning process the type of retail and community use proposed proposed to support the development has not been defined. It is however likely that a proportion of these uses will be ancillary to the development. Suitable trip rates will need to be assessed as the masterplanning process progresses. These trip rates will be issued to RBC separately for comment.

Bingo Hall Trip Rates (Baseline Scenario)

- 5.2.9 There is currently a disused Bingo Hall on the development site. The following trip rates will be utilised (if required) to determine the base level of traffic if the Bingo Hall is not included within the baseline Reading Transport Model:

Table 5-3: Bingo Hall Person Trip Rates

Source	Trip Rates	
	Arrivals	Departures
TRICS Wednesday Survey: Site ST-07-H-01 Gala Bingo, Stoke on Trent, Staffordshire, 2140 Seats, 475 Parking Spaces Multi-modal, All Modes Arrivals Peak Hour 18:00 to 19:00, Departures Peak Hour 21:00 to 22:00. Trips Rates per Seat	0.22	0.30

- 5.2.10 These are the same trip rates as used and agreed in the Station Hill 2 TA.

Ten Pin Bowling Alley Trip Rates (Future Scenario)

- 5.2.11 Included within the proposed scheme is a Ten Pin Bowling Alley. The TRICS database did not include any weekday survey information so the following trip rates were taken from the TRAVL database:

Table 5-4: Bowling Alley Person Trip Rates

Location	AM (IN)	AM (OUT)	PM (IN)	PM (OUT)
TRAVL Sites: Trip Rates per 100sqm	0	0	2.436	1.828

- 5.2.12 It is proposed that the total average trip rate is utilised for the purpose of this assessment. These are the same trip rates as used and agreed in the Station Hill 2 TA.

5.3 Stage 2 - Trip Distribution

- 5.3.1 Trip Distribution represents the second stage of the four stage modelling process and defines the trip origin and destination. It is proposed that the most robust data available to determine travel patterns is the 2001 national census, this will be used to identify where the origins and destinations of the trips to the site are located. This will help to distribute the associated trips by ward.
- 5.3.2 The volume of internal trips that may occur between uses on the site, i.e going to a restaurant after work, using the retail facilities when returning home, etc. will be quantified within the TA. The methodology and assumptions used to define these trips will need to be agreed with RBC. Linked or diverted trips may also occur, for example if trips are made to retail facilities on, their trip home from work past the site.
- 5.3.3 The Town Centre ward, known as the Abbey Ward, will be analysed to determine the distribution of home to work trips from the ward, which can be utilised to determine the distribution of residential trips.
- 5.3.4 The town centre output area, which covers all employment within Inner Distributor Road (IDR) will be analysed to determine the distribution of the 'journey to work' trips in this area.
- 5.3.5 The town centre output area includes: Apex Plaza; Prudential; Yell; Civic Offices, Oracle and town centre uses. It therefore provides a broad spread of employment uses which reflects the likely employment at a mixed use development such as this.
- 5.3.6 The majority of the retail units will support the development and the local area, and will therefore largely generate only internal walk trips from other uses in the area of the development. It is assumed that 75% of the trips to the retail uses will be linked trips, i.e. the primary trips will have been made to another use at the development. The number of trips generated at the retail units will be reduced by 75%, these trips will have been accounted for in the employment and residential trip rates. This proportion was previously used and agreed in the Station Hill 2 TA. These assumptions are supported by research which was undertaken at the Broadway Shopping Centre Hammersmith and TRICS research reports 95/2 and 97/1. The distribution for retail trips will be determined in the same way as employment, using the town centre output area census 2011 trip distribution.
- 5.3.7 In addition to assessing the distribution of the proposed development, it is also necessary that we assess the impacts from the reduction in public spaces at the Garrard Street Car Park.
- 5.3.8 It is assumed that the majority of this demand for parking will remain once the development is occupied and it is assumed (as a worst case) that this will be displaced to the other car parks within the area. It is proposed that the redistribution of car park users will be based upon the availability of parking and on their respective locations.

5.4 Stage 3 - Mode Share

- 5.4.1 The third stage of the four stage model is to determine the mode of transport that will be used to reach the site. It is proposed that the mode share for each land use will be based on 2001 Census Data. However, the level of trips by private car will be managed as part of the future transport strategy for the site, as a result, trips by private car will be limited to the total number of spaces set out in the proposed car park. The remaining trips generated by each land use will be split between other modes, on a pro-rata basis, based on the mode share achieved in the 2001 Census Data for the Abbey Ward.
- 5.4.2 Consideration will also be given to the Reading station area major upgrade scheme, which as mentioned previously will provide 100% capacity improvements and will offer greater opportunities for rail access to the site.
- 5.4.3 The allocation of car parking for each land use will be assessed in greater detail as the master plan is developed further. An appropriate level of parking will be allocated to the commercial and retail uses, and a level of public car parking will be re-provided.

5.5 Stage 4 - Trip Assignment and Highway Impact Assessment

- 5.5.1 The final stage to the four stage model involves the assignment of the trips through the transport network, calculating the route choice the trip would likely take to reach its destination. The Reading Transport Model (RTM) will be utilised to determine the likely assignment of the expected trips on to the transport network and their impact. These will be offset against the existing baseline uses on the site.
- 5.5.2 The following scenarios will be tested through the model for both the AM and PM weekday peak hours:
- base year;
 - opening year;
 - opening year with development.
- 5.5.3 Any significant impacts arising from these model runs will be analysed and an appropriate transport strategy will be developed to manage these effects. Concept plans of any infrastructure modifications and improvements will be included within the TA.
- 5.5.4 Details of the **Strategic Assessment** of the highway will need to be agreed with RBC. However, it is anticipated that this would be a comparative assessment using the RTM. The assessment would highlight any increases in traffic flows, queuing or delay caused by the development proposals on the wider area.
- 5.5.5 Where the RTM model highlights impacts resulting from the development traffic, **Local Assessments** may be required to model junction improvements proposed to mitigate the highlighted issues. It may therefore be necessary to assess the identified junctions within the study area using the appropriate assessment software. This will ensure that the assessment of alternative options and preferred scheme proposals are robust.

6 Sustainable Transport Consideration

- 6.1.1 This section will examine the development proposals impact on local infrastructure and facilities from the demand for non-car travel. This will be undertaken through demand and capacity assessments of cycle parking, bus services and pedestrian links within the vicinity of the site.

7 Transport Proposals Associated with the Development

- 7.1.1 This section will detail the transport proposals associated with the Station Hill development along with the benefits they provide.

8 Travel Plan

- 8.1.1 A Framework Travel Plan will be prepared outlining the potential measures which may be included within the future Full Travel Plan. This will provide a basis of discussion and agreement in advance of the development of the Travel Plan, which will be prepared on occupation of the proposed buildings.

Station Hill, Reading
Transport Assessment Scoping Report

Appendix A

Trip Rates

Station Hill, Reading
Transport Assessment Scoping Report

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : C - FLATS PRIVATELY OWNED
 MULTI-MODAL TOTAL PEOPLE

Selected regions and areas:

01	GREATER LONDON	
	EG EALING	1 days
	KN KENSINGTON AND CHELSEA	1 days
03	SOUTH WEST	
	DC DORSET	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	WY WEST YORKSHIRE	1 days
08	NORTH WEST	
	MS MERSEYSIDE	1 days

Filtering Stage 2 selection:

Parameter: Number of dwellings
 Range: 27 to 294 (units:)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/03 to 23/10/10

Selected survey days:

Tuesday	3 days
Thursday	2 days

Selected survey types:

Manual count	5 days
Directional ATC Count	0 days

Selected Locations:

Edge of Town Centre	5
---------------------	---

Selected Location Sub Categories:

Development Zone	2
Residential Zone	3

Filtering Stage 3 selection:

Use Class:

C3	5 days
----	--------

Population within 1 mile:

10,001 to 15,000	2 days
20,001 to 25,000	1 days
25,001 to 50,000	1 days
50,001 to 100,000	1 days

Population within 5 miles:

50,001 to 75,000	1 days
250,001 to 500,000	1 days
500,001 or More	3 days

Car ownership within 5 miles:

0.6 to 1.0	4 days
1.1 to 1.5	1 days

Filtering Stage 3 selection (Cont.):

Travel Plan:

No	5 days
----	--------

LIST OF SITES relevant to selection parameters

- | | | | |
|---|----------------------------|-------------------------------|------------------------|
| 1 | DC-03-C-01 | BLOCKS OF FLATS, WEYMOUTH | DORSET |
| | ABBOTSBURY ROAD | | |
| | WEYMOUTH | | |
| | Edge of Town Centre | | |
| | Residential Zone | | |
| | Total Number of dwellings: | 27 | |
| | Survey date: TUESDAY | 08/07/08 | Survey Type: MANUAL |
| 2 | EG-03-C-02 | BLOCKS OF FLATS, EALING | EALING |
| | A406 HANGER LANE | | |
| | EALING | | |
| | Edge of Town Centre | | |
| | Residential Zone | | |
| | Total Number of dwellings: | 132 | |
| | Survey date: TUESDAY | 20/04/04 | Survey Type: MANUAL |
| 3 | KN-03-C-02 | BLOCK OF FLATS, S. KENSINGTON | KENSINGTON AND CHELSEA |
| | BECKFORD CLOSE | | |
| | SOUTH KENSINGTON | | |
| | Edge of Town Centre | | |
| | Residential Zone | | |
| | Total Number of dwellings: | 294 | |
| | Survey date: TUESDAY | 15/06/10 | Survey Type: MANUAL |
| 4 | MS-03-C-01 | BLOCKS OF FLATS, LIVERPOOL | MERSEYSIDE |
| | WAPPING ROAD | | |
| | WAPPING DOCK | | |
| | LIVERPOOL | | |
| | Edge of Town Centre | | |
| | Development Zone | | |
| | Total Number of dwellings: | 114 | |
| | Survey date: THURSDAY | 16/10/03 | Survey Type: MANUAL |
| 5 | WY-03-C-01 | BLOCK OF FLATS, LEEDS | WEST YORKSHIRE |
| | EAST STREET | | |
| | CROWN POINT | | |
| | LEEDS | | |
| | Edge of Town Centre | | |
| | Development Zone | | |
| | Total Number of dwellings: | 127 | |
| | Survey date: THURSDAY | 13/11/03 | Survey Type: MANUAL |

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

MULTI-MODAL TOTAL PEOPLE

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	5	139	0.046	5	139	0.238	5	139	0.284
08:00 - 09:00	5	139	0.115	5	139	0.545	5	139	0.660
09:00 - 10:00	5	139	0.131	5	139	0.207	5	139	0.338
10:00 - 11:00	5	139	0.088	5	139	0.220	5	139	0.308
11:00 - 12:00	5	139	0.130	5	139	0.153	5	139	0.283
12:00 - 13:00	5	139	0.134	5	139	0.151	5	139	0.285
13:00 - 14:00	5	139	0.138	5	139	0.153	5	139	0.291
14:00 - 15:00	5	139	0.134	5	139	0.141	5	139	0.275
15:00 - 16:00	5	139	0.184	5	139	0.124	5	139	0.308
16:00 - 17:00	5	139	0.242	5	139	0.135	5	139	0.377
17:00 - 18:00	5	139	0.326	5	139	0.183	5	139	0.509
18:00 - 19:00	5	139	0.336	5	139	0.159	5	139	0.495
19:00 - 20:00	1	294	0.286	1	294	0.112	1	294	0.398
20:00 - 21:00	1	294	0.187	1	294	0.102	1	294	0.289
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			2.477			2.623			5.100

Parameter summary

Trip rate parameter range selected: 27 - 294 (units:)
 Survey date range: 01/01/03 - 23/10/10
 Number of weekdays (Monday-Friday): 5
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 0

NOTES

Job Name: Station Hill, Reading
Job No: 16996/009
Note No: 16996/009/TN004
Date: 11.02.13
Prepared By: Christopher Brice
Subject: Traffic Modelling Scope

Item	Subject
1.	Background In support of the Planning Application for the redevelopment of Station Hill, Peter Brett Associates LLP (PBA) has been appointed to produce a Transport Assessment (TA) to evaluate the transport impact of the future development. An initial TA Scope was submitted and commented upon by Reading Borough Council (RBC) in January 2012. The TA Scope and RBC comments have been included within Appendix A of this note. This initial scoping exercise described the principle of how the development impacts would be assessed. The following summarises the principles agreed for the traffic modelling exercise: • The proposed development would be assessed against the existing baseline, not the consented Station Hill 2 scheme; • The assessment period would cover the weekday AM and PM peak hours; • A four stage modelling process would be utilised (Generation / Distribution / Modal Split / Assignment); • Proposed parking provision would influence the trip generation of the site; • RBC highlighted that employment drop off and service vehicle trips should be accounted for; • Potential displacement of public parking would be redistributed based on the distance to an alternative car park and its existing space capacity; • The Distribution and Modal Split of trips would be based on the most recent Census Data available for Abbey Ward; • Reading's Transport Model (RTM) would be used to assign vehicle trips; • The RTM outputs would be used to analyse the development impact, comparing the proposal against the baseline permission; and • Junctions shown to be materially impacted upon from the development would be assessed through junction specific modelling packages. This note sets out further details on the methodology proposed to evaluate the traffic impact of the development for agreement with RBC prior to testing the development using the RTM.
2.	Baseline The impact assessment will compare transport demands of the Station Hill development proposal and the baseline scenario. It was agreed that this baseline scenario will be based on the trip generation of the existing uses on site when they fully operational, rather than the trip generation of the previously consented Station Hill development. The proposed scheme will therefore be compared against the following; • 13,240m² of B1 office use (GFA); • 11,917m² of A1-A5 retail uses (GFA);

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	3,033m² of D2 leisure use (GFA); In total the existing baseline scheme has 1311 car parking spaces across the site, with 760 spaces being used for public car parking and 551 spaces serving the existing office buildings. The split of these spaces across the site are as follows: 950 car parking spaces within Garrard Street car park, (760 public spaces and 190 office spaces allocated to Thames Tower); 280 car parking spaces serving the Western Tower; and 81 car parking spaces serving the Hogg Robinson building.
3.	Proposed Scheme Outline planning permission is being sought for a scheme incorporating the following land uses: - Up to 103,700m² of B1 office use (GFA); - Up to 11,475m² of A1-A5 retail uses (GFA); - Up to 1,870m² of D2 leisure use (GFA); and - Up to 300 residential dwellings. The indicative masterplan and application will include car parking for up to 1000 vehicles, with up to 900 provided within the existing Garrard Street multi storey car park. The remaining 100 spaces are proposed in one location to the south of Garrard Street. This would be a reduction of 311 car parking spaces from the existing situation. The adjacent Thames Tower office complex currently has a lease with the Garrard Street car park that allocates the use of 20% of the car parking spaces provided within the car park. This proportion of spaces will continue to be allocated to Thames Tower within the Garrard Street car park.
4.	Worst Case Development Scenario The outline planning application seeks flexibility in the amount of floorspace for each use that could be developed. To ensure the 'worst case' transport impact is assessed, it is proposed that the vehicular trip generation is calculated on the basis of the maximum floor space of each land use is proposed. It should be noted that it is unlikely that a scheme maximising the floorspace of both the residential and employment uses could be accommodated within the site parameters. Similarly, it is proposed that the effects of the maximum number of proposed car parking spaces (1000) will be assessed. Appendix B provides evidence that the above would represent the 'worst case' scenario. The trip generation for a number of scenarios have been evaluated with differing levels of parking allocation. The scenario evaluation shows that the 'worst case' scenario in terms of vehicular trip generation includes the maximum allowable level of office and residential parking based on RBC local parking standards, with the remaining car parking spaces proposed across the site available as public car parking. It also accounts for the car parking lease held by the Thames Tower office complex. In summary, the 'worst case' vehicular trip generation assessment has therefore been based on the maximum proposed floor areas and the following parking allocation: 1000 spaces across the development, with 900 in the Garrard Street car park; 180 spaces for Thames Tower (20% of the 900 space Garrard Street car park); 415 spaces for the proposed office (based on 1 space per 250m²); 150 spaces for the residential dwellings (based on 0.5 spaces per dwelling); 255 spaces as public car parking.

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	The following sections describe how the vehicular trip generation has been calculated in relation to the 'worst case' scenario. It also discusses how the baseline vehicle trips have been generated.																																																						
5.	Vehicular Trip Generation As described within paragraph 5.4.1 of the Initial TA Scope, “the level of trips by private car will be managed as part of the future transport strategy for the site, as a result, trips by private car will be limited to the total number of spaces proposed within the scheme”. Therefore the vehicular trip generation of the development is capped against parking provision. The Baseline and Development scenarios have been calculated using the same principles and trip rates to ensure a robust comparison for assessment purposes. <u>Proposed Office Use</u> The trip generation rates for 'all modes' will be based upon the previous Station Hill 2 TA and as agreed within the December 2011 Scoping Report. Table 1 - Agreed Office Trip Rates <table><tr><td>Location</td><td>AM (IN)</td><td>AM (OUT)</td><td>PM (IN)</td><td>PM (OUT)</td><td>Daily</td></tr><tr><td>Trip Rates per 100m² All Modes</td><td>2.190</td><td>0.160</td><td>0.130</td><td>1.970</td><td>16.800</td></tr></table> The daily arrival and departure trip profile has been determined using TRICS daily profiles factored to the peak hour trip rates above. This reflects that used and agreed in the previous Station Hill 2 TA. Table 2 - Office Daily Trip Rates based upon Agreed Daily TRICS Profile <table><tr><td>Time Range</td><td>Arrival</td><td>Departure</td></tr><tr><td>07:00-08:00</td><td>1.10</td><td>0.08</td></tr><tr><td>08:00-09:00</td><td>2.19</td><td>0.16</td></tr><tr><td>09:00-10:00</td><td>1.47</td><td>0.25</td></tr><tr><td>10:00-11:00</td><td>0.52</td><td>0.33</td></tr><tr><td>11:00-12:00</td><td>0.33</td><td>0.48</td></tr><tr><td>12:00-13:00</td><td>0.89</td><td>1.35</td></tr><tr><td>13:00-14:00</td><td>1.28</td><td>0.88</td></tr><tr><td>14:00-15:00</td><td>0.74</td><td>0.41</td></tr><tr><td>15:00-16:00</td><td>0.32</td><td>0.60</td></tr><tr><td>16:00-17:00</td><td>0.20</td><td>1.44</td></tr><tr><td>17:00-18:00</td><td>0.13</td><td>1.97</td></tr><tr><td>18:00-19:00</td><td>0.05</td><td>0.64</td></tr><tr><td>Daily Trip Rates:</td><td>9.21</td><td>8.60</td></tr></table> The vehicular traffic and modeshare will be determined by capping the accumulation to the level of proposed car parking, as per the methodology used in the Station Hill 2 TA. The parking proposed is for 595 spaces in line with the maximum RBC standards (415 spaces), plus the number of spaces allocated for Thames Tower office complex (180 spaces).	Location	AM (IN)	AM (OUT)	PM (IN)	PM (OUT)	Daily	Trip Rates per 100m ² All Modes	2.190	0.160	0.130	1.970	16.800	Time Range	Arrival	Departure	07:00-08:00	1.10	0.08	08:00-09:00	2.19	0.16	09:00-10:00	1.47	0.25	10:00-11:00	0.52	0.33	11:00-12:00	0.33	0.48	12:00-13:00	0.89	1.35	13:00-14:00	1.28	0.88	14:00-15:00	0.74	0.41	15:00-16:00	0.32	0.60	16:00-17:00	0.20	1.44	17:00-18:00	0.13	1.97	18:00-19:00	0.05	0.64	Daily Trip Rates:	9.21	8.60
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Proposed Residential Dwellings

The trip generation rates for 'all modes' will be based upon the recommended trip rates provided by RBC in response to the Initial TA Scope. The daily trip rate profile per residential dwelling is set out below:

Table 3 - RBC Proposed Trip Rates

Time Range	Arrival	Departure
07:00-08:00	0.051	0.279
08:00-09:00	0.103	0.556
09:00-10:00	0.124	0.23
10:00-11:00	0.118	0.197
11:00-12:00	0.124	0.19
12:00-13:00	0.138	0.172
13:00-14:00	0.144	0.175
14:00-15:00	0.15	0.173
15:00-16:00	0.227	0.154
16:00-17:00	0.267	0.165
17:00-18:00	0.386	0.223
18:00-19:00	0.369	0.166
19:00-20:00	0.286	0.112
20:00-21:00	0.187	0.102
Daily Trip Rates:	2.674	2.894

The vehicular traffic and modeshare will be determined based on the recently released 2011 Census Data for Abbey Ward, as agreed within the Dec 2011 Scoping Report. The vehicle arrival and departure profile will be reviewed to ensure that the parking accumulation will not exceed the proposed residential parking allocation (150 spaces).

Proposed Public Car Parking - Retail and Leisure

The proposed retail and leisure uses will not be allocated any car parking, people using these facilities will be required to park within the proposed public car parking spaces or will be an employee or resident at the development or within the local area. The vehicle trip generation for the public car parking spaces proposed will be based upon vehicle arrival and departure data provided by RBC for the Garrard Street car park.

Table 4 - Garrard Street Car Park - Weekday average (2nd July 2012 – 6th July 2012)

Time Range	Arrival	Departure	Two-way	Occupancy
07:00-08:00	103	4	107	137
08:00-09:00	223	9	232	352
09:00-10:00	182	8	190	525
10:00-11:00	66	20	86	571
11:00-12:00	46	28	74	588
12:00-13:00	42	33	75	598
13:00-14:00	34	44	78	588
14:00-15:00	28	54	82	562
15:00-16:00	23	62	86	523
16:00-17:00	22	134	156	410
17:00-18:00	23	163	186	270
18:00-19:00	18	151	169	136

The vehicular traffic generated by the proposed public car parking will be determined by applying the vehicle arrival and departure profile from the above Garrard Street car park data. It will be assumed that the parking accumulation will reach the capacity of the proposed 255 spaces to ensure the maximum trip generation is accounted for.

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	Due to the reduction in public car parking on the site, existing public car park users will need to divert to other car parks. It is proposed as part of the traffic modelling exercise that these displaced vehicles will be re-assigned to alternative public car parks based on the spare capacity and the proximity of the car park to Garrard Street car park. <u>Employment Drop-Off and Servicing</u> Given that the proposed highway impact methodology tests the absolute ‘worst case’ scenario and also assumes the car parking proposed will be fully occupied, we believe that this is a robust assessment that does not require additional employment drop off trips to be quantified. Any employee drop offs will be linked/pass by trips and will not be an additional vehicle trip on the off-site highway network, and therefore would only effect the access junction. Service vehicles will be restricted from accessing the development during peak hours. Therefore the inclusion of service vehicles within the trip generation of the development site is not required. <u>Baseline / Extant Situation</u> The baseline trip generation for the extant office use has been estimated using the same trip rates and methodology as discussed for the development scenario, assuming the office car parking spaces are fully occupied. This includes the office car parking spaces that are allocated within Garrard Street car park to serve Thames Tower. RBC has provided arrival and departure data, this has been used for the baseline traffic generation of the public car parking on site. This data has been included previously within Table 5. Note: The Garrard Street car park currently has 950 available public car parking spaces. The data provided by RBC for July 2012 shows that the vehicle occupancy of the car park does not reach this capacity. Should the attractiveness of the car park increase due to renovation or a reduction in the cost of parking, it is possible that the use of the existing car park could increase significantly. For the purpose of this exercise we have proposed to use the actual recorded traffic flows of the car park for the Baseline scenario. This ensures that we are testing the worst case development impact. We could however have assumed the vehicular trip generation of the existing car park should it be fully occupied and operational as part of the baseline / extant scenario.																																							
6.	Baseline Comparison The following table shows the net change in vehicles anticipated to arrive and depart the site between the baseline and development scenarios: Table 5 – Net Change in Vehicle Trips <table><tr><th rowspan="2"></th><th colspan="2">Baseline</th><th colspan="2">Development</th><th colspan="3">Net Change</th></tr><tr><th>Arrival</th><th>Departure</th><th>Arrival</th><th>Departure</th><th>Arrival</th><th>Departure</th><th>Two-way</th></tr><tr><td>0800-0900</td><td>487</td><td>28</td><td>392</td><td>72</td><td>-96</td><td>+44</td><td>-52</td></tr><tr><td>1700-1800</td><td>39</td><td>401</td><td>60</td><td>347</td><td>+21</td><td>-54</td><td>-33</td></tr><tr><td>Daily</td><td>1920</td><td>1749</td><td>1741</td><td>1659</td><td>-180</td><td>-89</td><td>-269</td></tr></table> It is proposed that the net change in vehicles arriving and departing the development site be distributed and assigned using the RTM. The re-assignment of any displaced		Baseline		Development		Net Change			Arrival	Departure	Arrival	Departure	Arrival	Departure	Two-way	0800-0900	487	28	392	72	-96	+44	-52	1700-1800	39	401	60	347	+21	-54	-33	Daily	1920	1749	1741	1659	-180	-89	-269
	Baseline		Development		Net Change																																			
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Daily	1920	1749	1741	1659	-180	-89	-269																																	

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	vehicles from Garrard Street car park to alternative car parks will also be undertaken within the RTM. This will enable an assessment of the traffic impact of the Station Hill development to be made.
7.	RTM Model Assignment The Council currently has the following model used for the purposes of development control: • 2007 Baseline model; • Development Control (DC) Forecast model 'with committed development'. The DC Forecast model includes all committed development regardless of the phasing/construction programme of these future developments. This DC Forecast model therefore represents a future forecast year that is not specific to a future year. The DC Forecast model includes the consented Station Hill development. As the currently consented scheme is believed to be unviable, the DC Forecast model will need to be altered to take into account the existing/extant development, as agreed within the Dec 2011 Scoping Report. We believe that it will be appropriate to assess the highway impact of the Station Hill development against the following modelled scenarios: • 2011 Baseline; • DC Forecast with Committed (existing/extant permission at Station Hill); • DC Forecast with Committed and Development.
8.	TA Model Output The model output requirements for each of the scenarios required for the TA are listed below: • Network plot including node numbers; • Wide area plots showing V/C, delay, queues, actual flows and demand flows for each scenario; • Wide area plots showing the actual and percentage increase in arrival flows with the introduction of the development for each modelled year; • Detailed junction plots showing V/C, delay, queues, arrival flows and demand flows for each scenario at junctions where increases are significant (assume 5 to 10 junctions); • kp files of the V/C, delay, queues, actual flows and demand flows for each scenario; • Select link at the development zone; and • Overall network summary.
9.	EIA Scenarios and Output To support the planning application, separate traffic data is needed from the RTM for the scenarios tested to support the air and noise quality assessments. Traffic data is required for the road network local/close to the development site itself, for the entrance/exit to the site/site car parks and for all roads where the predicted change in traffic flows due to the development is +/- 10%. The data needed is as follows; • 18-hour and 6 hour weekday (2-way) flows for selected road links; • Existing and predicted 24-hour Annual Average Daily Traffic (AADT) (2-way) flows for selected road links; • Existing and predicted average speeds for selected road links; • Existing and predicted % HGVs for selected road links.

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Appendix A

**Sackville Developments
(Reading) Ltd**

Station Hill, Reading

**Transport Assessment Scoping
Report**

Project Ref: 16996/009

Doc Ref: SR/FINAL

December 2011

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Document Control Sheet

Project Name: Station Hill, Reading
Project Ref: 16996/009
Report Title: Transport Assessment Scoping Report
Doc Ref: SR/FINAL
Date: December 2011

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For and on behalf of Peter Brett Associates LLP				

Revision	Date	Description	Prepared	Reviewed	Approved
1	08.12.11	Client Draft	CB	DMcD	GC
2	16.12.11	Final	CB	DMcD	GC

Peter Brett Associates LLP disclaims any responsibility to the Client and others in respect of any matters outside the scope of this report. This report has been prepared with reasonable skill, care and diligence within the terms of the Contract with the Client and generally in accordance with the appropriate ACE Agreement and taking account of the manpower, resources, investigations and testing devoted to it by agreement with the Client. This report is confidential to the Client and Peter Brett Associates LLP accepts no responsibility of whatsoever nature to third parties to whom this report or any part thereof is made known. Any such party relies upon the report at their own risk.

Station Hill, Reading
Transport Assessment Scoping Report

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Appendices

Appendix A: Trip Rates

1 Introduction

- 1.1.1 Peter Brett Associates LLP have been commissioned by Sackville Developments (Reading) Ltd to assist in the development of a master plan and to undertake a Transport Assessment (TA) in support of a planning application to redevelop the Station Hill site, Reading. This report sets out the proposed scope of work and the technical processes which will need to be agreed with the Highway Authority to inform the preparation of the TA.
- 1.1.2 The development proposal is for a mix of uses including; office/commercial; retail; residential; Ten Pin Bowling Facility; and the retention of the existing Garrard Street car park. The anticipated scale and mix of development is currently being developed as part of the master planning process. It is anticipated that the proposed development quantum will consist of approximately:
- Up to 100,000 sq. m of Office;
 - Up to 6,000 sq. m of Retail;
 - Up to 21,000 sq. m of Residential;
 - 1,000 sq. m Ten Pin Bowling facility.
- 1.1.3 Further to preliminary discussions with Reading Borough Council (RBC) it is anticipated that the TA will cover the following main headings as contained within the DfT Guidance on Transport Assessments dated March 2007:
- Background;
 - Planning Policy Context;
 - Baseline Conditions;;
 - o Walking and Cycling Accessibility;
 - o Bus Accessibility;
 - o Rail Accessibility;
 - o Highway Access;
 - o Car Parking and Servicing;
 - o Personal Injury Accidents;
 - Development Proposals;
 - Travel Demand Forecast;
 - o Four Stage Model Approach;
 - o Trip Generation;
 - o Trip Distribution;

- o Mode Share;
 - o Trip Assignment and Highway Impact Assessment;
 - Sustainable Transport Considerations;
 - Transport Proposals Associated with the Development;
 - Travel Plan:
- 1.1.4 To assess the impact the proposed development will have on the surrounding highway network, a comparison between the current baseline and future scenario (to include an assessment of with and without the development proposal) will be undertaken.
- 1.1.5 An estimation of the current baseline trip generation of the site will be included within the TA. This baseline trip generation will be assessed as existing and compared with the proposed Station Hill development using the current Reading Transport Model (RTM). The assessment years modelled within the RTM will be agreed with RBC but the modelled years within the RTM include 2007, 2015 and 2026. The future RTM model years include locally committed developments and schemes.
- 1.1.6 The proposed methodology used to assess the highway impact is included within Section 5 of this scoping report. It follows a four stage approach consisting of Trip Generation, Trip Distribution, Modal Split and Trip Assignment. As discussed above the process will involve using the RTM to assess the developments impact on the highway, with the assessment method agreed with RBC.

2 Planning Policy Context

2.1.1 The TA will evaluate how the redevelopment proposals take full consideration of national, regional and local planning policy and guidance. A written commentary detailing the relevant policy will be included in the TA. The relevant policies are listed below, but some of these may be superseded by the emerging National Planning Policy Framework as the project progresses:

- Creating Growth, Cutting Carbon: Making Sustainable Local Transport Happen;
- Planning Policy Guidance 13: Transport;
- Planning Policy Statement 1: Delivering Sustainable Development;
- Planning Policy Statement 3: Housing;
- Planning Policy Statement 4: Planning for Sustainable Economic Growth;
- Planning Policy Statement 6: Planning for Town Centres;
- South East Plan;
- Manual for Streets 1 & 2;
- RBC's Local Transport Plan 3;
- RBC's Local Development Framework Core Strategy;
- Reading Central Area Action Plan;
- Emerging Reading Parking Policy.

2.1.2 The TA will also make reference to the recent Town Centre Improvements scheme and the Reading Station Area Redevelopment proposals.

3 Baseline Conditions

3.1 Introduction

- 3.1.1 This section of the TA will provide an understanding of the access and movement to, from and within the site in context with the surrounding area. The local context will identify existing facilities and attractions (schools, shops, community facilities, etc...), and other committed schemes and planned improvements within the local vicinity. The strategic context will identify strategic access by all modes including rail and vehicles.
- 3.1.2 This will form the base for a qualitative assessment of the current:
- Pedestrian and cycle accessibility;
 - Public transport services;
 - Highway access, car parking and servicing;
 - Personal Injury Accident Data;
- 3.1.3 The assessment will identify the constraints and opportunities for access and movement by all modes.
- 3.1.4 This section will aid the master planning process and ensure that the transport/infrastructure proposals are developed in line with existing and planned transport movements and facilities.

3.2 Location

- 3.2.1 The Station Hill site is located directly south of Reading Station, as shown in **Figure 3-1**. The site is bordered by Station Hill to the immediate north, Garrard Street and Friar Street to the south, and Greyfriars Road to the west. Currently the site comprises; retail, which includes the vacant Friars Walk Shopping Centre; a bingo hall; a public house; a 950 space car park; two office blocks; and a disused bus station.
- 3.2.2 The Station Interchange (including bus and taxi stops, limited short stay parking and cycle stands) is located between the Station Hill site and the main Reading Station building. This area is currently undergoing redevelopment as part of the Reading Station Area redevelopment proposals. Once complete, there will be a new pedestrian area immediately to the north of Station Hill, with an improved rail station in terms of rail capacity and station facilities.

Figure 3-1: Site Location



3.3 Walking and Cycling Accessibility

- 3.3.1 The existing access and facilities for pedestrians and cyclists will be appraised within the TA.
- 3.3.2 Pedestrian and cycle linkages within, through and to the site will be assessed to maximise potential for these modes to be utilised, whilst ensuring that conflicts are minimised.
- 3.3.3 This section will also consider the potential role of the new pedestrian area outside the southern entrance to the Railway Station which is being brought forward as part of the Reading Station Area redevelopment proposals.

3.4 Rail Accessibility

- 3.4.1 The Reading Station Area major upgrade scheme has received funding and is currently under construction. The project involves track grade separation, additional station entrances, new platforms, replacement depot, signalling and a new passenger transfer deck to access the platforms, which will effectively double the capacity on the rail network and improve the accessibility of the town centre and Station Hill development.

3.5 Bus Accessibility

- 3.5.1 An assessment of the existing bus services in the close vicinity of the site will be detailed within the TA.
- 3.5.2 The initial work on understanding the current operation of the bus network (i.e. bus passengers, routes, general capacity, services, number of buses) will assist in identifying the most appropriate bus strategy for the site.

3.6 Highway Access

- 3.6.1 As part of the highway assessment the main constraints for access to the site will be identified in both the base and future year.

3.7 Car Parking and Servicing

- 3.7.1 The current Station Hill Site includes a public car park at Garrard Street, which provides around 950 spaces. Of these spaces approximately 200 are leased to the occupants of the Thames Tower which is located on the eastern boundary of the development site.
- 3.7.2 The TA will set out the existing parking demand at the Garrard Street car park. It will also detail the parking demand for other car parks within the town centre. This information will be used to inform the likely arrival/departure patterns of the future car park, along with any re-distribution of car parking that may occur due to the development proposals.
- 3.7.3 The existing serving arrangements will be reviewed in order to inform the service strategy for the future development.

3.8 Personal Injury Accidents

- 3.8.1 Existing personal injury accident records over the last five years will be reviewed locally to the Station Hill Development. The review will consist of analysis of trends in the type of accidents occurring, and whether there is clustering of accidents to specific locations or junctions.

4 Development Proposals

- 4.1.1 The development proposal is for a mix of uses including; office/commercial; retail; and residential.
- 4.1.2 Pre-application discussions are currently ongoing with Reading Borough Council as to the master planning of the scheme and a number of options are still under consideration. This approach has been required so that the strategy is flexible enough to support emerging longer-term transport proposals.
- 4.1.3 One of the points currently being discussed with Reading Borough Council relates to pedestrians crossing Garrard Street. A microsimulation model has been developed using the computer package VISSIM. This enables the future interaction between vehicles and pedestrians to be examined. This information will inform the design of an appropriate scheme to be developed and agreed with the Council.
- 4.1.4 The anticipated scale and mix of development is currently being developed as part of the master planning process. The current development quantum consists of approximately:
- Up to 100,000 sq. m of Office;
 - Up to 6,000 sq. m of Retail;
 - Up to 21,000 sq. m of Residential;
 - 1,000 sq. m Ten Pin Bowling facility.
- 4.1.5 The development proposes to retain up to 816 car parking spaces within the Garrard Street car park, this will serve the existing lease with the occupants of Thames Tower, the proposed commercial use and public car parking. This parking will be accommodated within the existing (Garrard Street) car park, which is to be retained as part of the development.
- 4.1.6 In developing the parking strategy for the development, consideration will be given to the parking requirements, including the provision of public car parking.
- 4.1.7 The accesses for the car park and service arrangements will also be assessed to ensure that they comply with the appropriate highway standards, guidelines, and codes of practice.
- 4.1.8 Given the reduction in the level of public parking, the redistribution of some of the existing public car park users at Garrard Street will also be assessed. Up to date occupancy levels for public car parks within Reading town centre will be requested to determine the current level of demand.
- 4.1.9 The TA will discuss in further detail the land use type and quantity, including details of the car parking allocation, access proposals and other transport facilities.

5 Travel Demand Forecast

5.1 Four Stage Approach

5.1.1 A four stage assessment process is proposed to be undertaken to evaluate the impact of the proposed development. The four stage modelling process is as follows:

1. Trip Generation;
2. Trip Distribution;
3. Modal Split;
4. Trip Assignment.

5.1.2 The first three stages of analysis will be undertaken using a first principles approach. This first principles model will then feed into the final stage (trip assignment) which will be undertaken using the Reading Transport Model (RTM) to evaluate the potential impact on the local transport network. This impact assessment will form a comparison between the Station Hill development proposal, and a baseline scenario. It is proposed that this baseline scenario will contain the trip generation, if the existing uses on site were fully operational, rather than the trip generation of the previously consented Station Hill development. The level of technical assessments required and the scope for changes to the network will be agreed with RBC before commencing the work.

5.2 Stage 1- Trip Generation

5.2.1 This is the first stage of the modelling process and will evaluate the number of person trips the site will generate and attract. The evaluation is dependent on obtaining robust values for trip rates. The analysis will include the determination of trip rates for each land use using: similar development sites/land uses within the TRICS and TRAVL databases. The TRAVL database focuses on sites within London, given the developments proximity to Reading Station and the local bus network it is deemed appropriate to use this database. Utilising the range of data included within these databases will ensure that robust trip rates can be determined and agreed.

5.2.2 The trip generation will be determined for both the AM and PM weekday peak hours with daily profiles being derived from the same data sources for a typical weekday. This will enable parking accumulation to be assessed.

5.2.3 It is assumed due to the nature of the development proposals that the greatest impact on the highway will be during the weekday peak hours.

B1a (offices) Trip Rates (Baseline and Future Scenarios)

5.2.4 The following 'All Modes' trip rates have been derived to base the assessment of impact of the B1a (offices) element of the development:

Table 5-1: B1 Office person Trip Rates

Location	AM (IN)	AM (OUT)	PM (IN)	PM (OUT)	Daily
Trip Rates per 100m ² All Modes	2.190	0.160	0.130	1.970	16.800

- 5.2.5 These trip rates are the same as adopted and agreed in the Station Hill 2 TA, and are based on interrogation of the TRAVL and TRICS databases.

C3 Residential Trip Rates (Future Scenarios)

- 5.2.6 The residential person trip rates have been selected following the analysis of the TRICS database and are set out in **Table 5-2** below.

Table 5-2: Residential Person Trip Rates

Location	AM (IN)	AM (OUT)	PM (IN)	PM (OUT)	Daily
Residential All Modes (per household)	0.115	0.545	0.326	0.183	5.100

- 5.2.7 The trip rates are based on a selection of privately owned blocks of flats within a town centre, or on the edge of a town centre. These trip rate outputs are included within **Appendix A**.

Retail and Community Trip Rates (Future Scenarios)

- 5.2.8 At this stage of the masterplanning process the type of retail and community use proposed proposed to support the development has not been defined. It is however likely that a proportion of these uses will be ancillary to the development. Suitable trip rates will need to be assessed as the masterplanning process progresses. These trip rates will be issued to RBC separately for comment.

Bingo Hall Trip Rates (Baseline Scenario)

- 5.2.9 There is currently a disused Bingo Hall on the development site. The following trip rates will be utilised (if required) to determine the base level of traffic if the Bingo Hall is not included within the baseline Reading Transport Model:

Table 5-3: Bingo Hall Person Trip Rates

Source	Trip Rates	
	Arrivals	Departures
TRICS Wednesday Survey: Site ST-07-H-01 Gala Bingo, Stoke on Trent, Staffordshire, 2140 Seats, 475 Parking Spaces Multi-modal, All Modes Arrivals Peak Hour 18:00 to 19:00, Departures Peak Hour 21:00 to 22:00. Trips Rates per Seat	0.22	0.30

- 5.2.10 These are the same trip rates as used and agreed in the Station Hill 2 TA.

Ten Pin Bowling Alley Trip Rates (Future Scenario)

- 5.2.11 Included within the proposed scheme is a Ten Pin Bowling Alley. The TRICS database did not include any weekday survey information so the following trip rates were taken from the TRAVL database:

Table 5-4: Bowling Alley Person Trip Rates

Location	AM (IN)	AM (OUT)	PM (IN)	PM (OUT)
TRAVL Sites: Trip Rates per 100sqm	0	0	2.436	1.828

- 5.2.12 It is proposed that the total average trip rate is utilised for the purpose of this assessment. These are the same trip rates as used and agreed in the Station Hill 2 TA.

5.3 Stage 2 - Trip Distribution

- 5.3.1 Trip Distribution represents the second stage of the four stage modelling process and defines the trip origin and destination. It is proposed that the most robust data available to determine travel patterns is the 2001 national census, this will be used to identify where the origins and destinations of the trips to the site are located. This will help to distribute the associated trips by ward.
- 5.3.2 The volume of internal trips that may occur between uses on the site, i.e going to a restaurant after work, using the retail facilities when returning home, etc. will be quantified within the TA. The methodology and assumptions used to define these trips will need to be agreed with RBC. Linked or diverted trips may also occur, for example if trips are made to retail facilities on, their trip home from work past the site.
- 5.3.3 The Town Centre ward, known as the Abbey Ward, will be analysed to determine the distribution of home to work trips from the ward, which can be utilised to determine the distribution of residential trips.
- 5.3.4 The town centre output area, which covers all employment within Inner Distributor Road (IDR) will be analysed to determine the distribution of the 'journey to work' trips in this area.
- 5.3.5 The town centre output area includes: Apex Plaza; Prudential; Yell; Civic Offices, Oracle and town centre uses. It therefore provides a broad spread of employment uses which reflects the likely employment at a mixed use development such as this.
- 5.3.6 The majority of the retail units will support the development and the local area, and will therefore largely generate only internal walk trips from other uses in the area of the development. It is assumed that 75% of the trips to the retail uses will be linked trips, i.e. the primary trips will have been made to another use at the development. The number of trips generated at the retail units will be reduced by 75%, these trips will have been accounted for in the employment and residential trip rates. This proportion was previously used and agreed in the Station Hill 2 TA. These assumptions are supported by research which was undertaken at the Broadway Shopping Centre Hammersmith and TRICS research reports 95/2 and 97/1. The distribution for retail trips will be determined in the same way as employment, using the town centre output area census 2011 trip distribution.
- 5.3.7 In addition to assessing the distribution of the proposed development, it is also necessary that we assess the impacts from the reduction in public spaces at the Garrard Street Car Park.
- 5.3.8 It is assumed that the majority of this demand for parking will remain once the development is occupied and it is assumed (as a worst case) that this will be displaced to the other car parks within the area. It is proposed that the redistribution of car park users will be based upon the availability of parking and on their respective locations.

5.4 Stage 3 - Mode Share

- 5.4.1 The third stage of the four stage model is to determine the mode of transport that will be used to reach the site. It is proposed that the mode share for each land use will be based on 2001 Census Data. However, the level of trips by private car will be managed as part of the future transport strategy for the site, as a result, trips by private car will be limited to the total number of spaces set out in the proposed car park. The remaining trips generated by each land use will be split between other modes, on a pro-rata basis, based on the mode share achieved in the 2001 Census Data for the Abbey Ward.
- 5.4.2 Consideration will also be given to the Reading station area major upgrade scheme, which as mentioned previously will provide 100% capacity improvements and will offer greater opportunities for rail access to the site.
- 5.4.3 The allocation of car parking for each land use will be assessed in greater detail as the master plan is developed further. An appropriate level of parking will be allocated to the commercial and retail uses, and a level of public car parking will be re-provided.

5.5 Stage 4 - Trip Assignment and Highway Impact Assessment

- 5.5.1 The final stage to the four stage model involves the assignment of the trips through the transport network, calculating the route choice the trip would likely take to reach its destination. The Reading Transport Model (RTM) will be utilised to determine the likely assignment of the expected trips on to the transport network and their impact. These will be offset against the existing baseline uses on the site.
- 5.5.2 The following scenarios will be tested through the model for both the AM and PM weekday peak hours:
- base year;
 - opening year;
 - opening year with development.
- 5.5.3 Any significant impacts arising from these model runs will be analysed and an appropriate transport strategy will be developed to manage these effects. Concept plans of any infrastructure modifications and improvements will be included within the TA.
- 5.5.4 Details of the **Strategic Assessment** of the highway will need to be agreed with RBC. However, it is anticipated that this would be a comparative assessment using the RTM. The assessment would highlight any increases in traffic flows, queuing or delay caused by the development proposals on the wider area.
- 5.5.5 Where the RTM model highlights impacts resulting from the development traffic, **Local Assessments** may be required to model junction improvements proposed to mitigate the highlighted issues. It may therefore be necessary to assess the identified junctions within the study area using the appropriate assessment software. This will ensure that the assessment of alternative options and preferred scheme proposals are robust.

6 Sustainable Transport Consideration

- 6.1.1 This section will examine the development proposals impact on local infrastructure and facilities from the demand for non-car travel. This will be undertaken through demand and capacity assessments of cycle parking, bus services and pedestrian links within the vicinity of the site.

7 Transport Proposals Associated with the Development

- 7.1.1 This section will detail the transport proposals associated with the Station Hill development along with the benefits they provide.

8 Travel Plan

- 8.1.1 A Framework Travel Plan will be prepared outlining the potential measures which may be included within the future Full Travel Plan. This will provide a basis of discussion and agreement in advance of the development of the Travel Plan, which will be prepared on occupation of the proposed buildings.

Appendix A

Trip Rates

Station Hill, Reading
Transport Assessment Scoping Report

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : C - FLATS PRIVATELY OWNED
MULTI-MODAL TOTAL PEOPLE

Selected regions and areas:

01	GREATER LONDON	
	EG EALING	1 days
	KN KENSINGTON AND CHELSEA	1 days
03	SOUTH WEST	
	DC DORSET	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	WY WEST YORKSHIRE	1 days
08	NORTH WEST	
	MS MERSEYSIDE	1 days

Filtering Stage 2 selection:

Parameter: Number of dwellings
Range: 27 to 294 (units:)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/03 to 23/10/10

Selected survey days:

Tuesday	3 days
Thursday	2 days

Selected survey types:

Manual count	5 days
Directional ATC Count	0 days

Selected Locations:

Edge of Town Centre	5
---------------------	---

Selected Location Sub Categories:

Development Zone	2
Residential Zone	3

Filtering Stage 3 selection:

Use Class:

C3	5 days
----	--------

Population within 1 mile:

10,001 to 15,000	2 days
20,001 to 25,000	1 days
25,001 to 50,000	1 days
50,001 to 100,000	1 days

Population within 5 miles:

50,001 to 75,000	1 days
250,001 to 500,000	1 days
500,001 or More	3 days

Car ownership within 5 miles:

0.6 to 1.0	4 days
1.1 to 1.5	1 days

Filtering Stage 3 selection (Cont.):

Travel Plan:

No	5 days
----	--------

LIST OF SITES relevant to selection parameters

1	DC-03-C-01	BLOCKS OF FLATS, WEYMOUTH	DORSET
	ABBOTSBURY ROAD		
	WEYMOUTH		
	Edge of Town Centre		
	Residential Zone		
	Total Number of dwellings:	27	
	Survey date: TUESDAY	08/07/08	Survey Type: MANUAL
2	EG-03-C-02	BLOCKS OF FLATS, EALING	EALING
	A406 HANGER LANE		
	EALING		
	Edge of Town Centre		
	Residential Zone		
	Total Number of dwellings:	132	
	Survey date: TUESDAY	20/04/04	Survey Type: MANUAL
3	KN-03-C-02	BLOCK OF FLATS,S. KENSINGTON	KENSINGTON AND CHELSEA
	BECKFORD CLOSE		
	SOUTH KENSINGTON		
	Edge of Town Centre		
	Residential Zone		
	Total Number of dwellings:	294	
	Survey date: TUESDAY	15/06/10	Survey Type: MANUAL
4	MS-03-C-01	BLOCKS OF FLATS, LIVERPOOL	MERSEYSIDE
	WAPPING ROAD		
	WAPPING DOCK		
	LIVERPOOL		
	Edge of Town Centre		
	Development Zone		
	Total Number of dwellings:	114	
	Survey date: THURSDAY	16/10/03	Survey Type: MANUAL
5	WY-03-C-01	BLOCK OF FLATS, LEEDS	WEST YORKSHIRE
	EAST STREET		
	CROWN POINT		
	LEEDS		
	Edge of Town Centre		
	Development Zone		
	Total Number of dwellings:	127	
	Survey date: THURSDAY	13/11/03	Survey Type: MANUAL

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

MULTI-MODAL TOTAL PEOPLE

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	5	139	0.046	5	139	0.238	5	139	0.284
08:00 - 09:00	5	139	0.115	5	139	0.545	5	139	0.660
09:00 - 10:00	5	139	0.131	5	139	0.207	5	139	0.338
10:00 - 11:00	5	139	0.088	5	139	0.220	5	139	0.308
11:00 - 12:00	5	139	0.130	5	139	0.153	5	139	0.283
12:00 - 13:00	5	139	0.134	5	139	0.151	5	139	0.285
13:00 - 14:00	5	139	0.138	5	139	0.153	5	139	0.291
14:00 - 15:00	5	139	0.134	5	139	0.141	5	139	0.275
15:00 - 16:00	5	139	0.184	5	139	0.124	5	139	0.308
16:00 - 17:00	5	139	0.242	5	139	0.135	5	139	0.377
17:00 - 18:00	5	139	0.326	5	139	0.183	5	139	0.509
18:00 - 19:00	5	139	0.336	5	139	0.159	5	139	0.495
19:00 - 20:00	1	294	0.286	1	294	0.112	1	294	0.398
20:00 - 21:00	1	294	0.187	1	294	0.102	1	294	0.289
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			2.477			2.623			5.100

Parameter summary

Trip rate parameter range selected: 27 - 294 (units:)
 Survey date range: 01/01/03 - 23/10/10
 Number of weekdays (Monday-Friday): 5
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 0

Chris Brice

From: Saunders, Chris <Chris.Saunders@reading.gov.uk>
Sent: 23 January 2012 13:19
To: Chris Brice
Cc: Leuillet, Ruth; Richard Latcham
Subject: RE: Station Hill Transport Assessment Scoping Report
Attachments: Flats privately owned trip rates.pdf

Chris

Thank you for your email and scoping report for Station Hill 3. I have now had a chance to look at it in detail and comment as follows, using the scoping reports' paragraph numbers for reference.

Para 3.7 - With regards the existing car parking on the site does the 950 spaces refer to the MSCP or is it the total number including the existing office parking under the Western Tower and Hogg Robinson House. The final TA should detail how the existing parking is allocated to save confusion.

Para 4.1.3 - With regards the pedestrian crossing of Garrard Street, we will have to reserve final judgement on the proposals until the results of the VISSIM analysis has been completed.

Para 5.2.4 B1 (a) Offices trip rate, I find acceptable.

Para 5.2 C3 residential trip rate - The figure you propose to use is 5.100 person trips per day which is nearly 33% lower than the residential trip rates used within the Station Hill 2, Transport Assessment. I have undertaken my own TRICS's analysis using the December 2011 update of TRICS, attached, which uses more sites than included within your analysis and while some of the sites are the same I have not used the Weymouth and Leeds sites. The reason for this was in my opinion the Weymouth site was too small and not representative of that proposed and the details of the Leeds site did not include any details on the parking provision. From the examination of the Google street view link from TRICS, it does seem to indicate that the Leeds site has very limited residential parking provision.

As a result I obtained a daily trip rate of 5.568, which is still considerably lower than the 2009 scope but slightly higher than your figure. The same is true for the morning and evening peak periods. If you wish to use these figures then my concerns will be overcome, however I am happy to discuss this with you.

Para's 5.2.8 to 5.2.11 - I accept the trip rates / methodology proposed for the Retail, Bing and Ten Pin Bowling uses.

Para 5.3.1 With regards the use of the 2001 census data for the trip distribution, this is acceptable on the proviso that the 2011 census data does not become available prior to the release of the final TA. If this data does become available we would expect the latest data to be used.

Para 5.3.6 - Reference is made to TRICS report 95/2, however the TRICS disclaimer on the front of this document should be noted that given the time the research was undertaken, the results do not reflect the current opinion of the TRICS consortium

Para 5.4.1 - Mode share. It is stated that “trips by private car will be limited to the total number of spaces set out in the proposed car park”, however it should be noted that even with reduced parking , employees especially, will still be driven to the site as a passenger and the commercial uses will still require deliveries. Therefore any proposed reduction has to take this in to account.

Therefore subject to the comments above the remainder of the scope is acceptable.

I hope this information is of use and if you require any further details, please do contact me.

Kind Regards

*Chris Saunders IEng, FIHE
Transport Development Control Manager
Reading Borough Council
Civic Centre
Reading
RG1 7AE*

Tel 0118 937 3949

DIFFICULT TIMES, BIG QUESTIONS...WE NEED TO TALK.

Tell us what you think and register for updates at

www.reading.gov.uk/weneedtotalk

From: Chris Brice [mailto:CBrice@peterbrett.com]
Sent: 05 January 2012 18:16
To: Saunders, Chris
Subject: Station Hill Transport Assessment Scoping Report

Chris,

Please find attached the Station Hill Transport Assessment Scoping Report for your comments. If you have any queries please feel free to contact me.

Regards,

Christopher Brice

Assistant Engineer

For and on behalf of Peter Brett Associates LLP

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NOTES

Appendix B

