

Strategic Park And Ride Opportunities For The Southampton Area

Main Report

Project Ref: 12005

March 02



Client: Hampshire County Council and
Southampton City Council

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1. Introduction

1.1. *Background to the Study*

1.1.1. Peter Brett Associates were commissioned in August 2001 by Hampshire County Council and Southampton City Council to undertake a study of strategic park and ride opportunities for the Southampton area, on behalf of the Southampton Area Transport Strategy (SATS) group of local authorities.

1.1.2. The SATS area is defined as the City of Southampton, the Hamble Peninsula and the neighbouring towns of Eastleigh, Hedge End, Hythe, Romsey and Totton. This study reflects a long standing objective to use park and ride as a tool for encouraging shift to more sustainable modes. It considers the opportunities for park and ride to attract traffic that would otherwise drive into the main settlements in the SATS area and particularly into Southampton City centre. For the City of Southampton key employment, education, health and retailing trip generating activities are considered.

1.2. *Aims of the Study*

1.2.1. The focus of this study is to produce a strategy for the development of park and ride within the SATS area. Opportunities for park and ride are identified together with the constraints that act as a barrier to successful implementation. The study concludes with options for a way forward and an action plan.

1.2.2. Throughout the study the emphasis has been on park and ride as a strategic transportation measure which can have benefits for the wider south Hampshire area, meeting the travel needs of local communities, increasing travel choice and reducing the impact of the private car on local and sub regional networks.

1.3. *Scope of the Study Report*

1.3.1. This report sets out the key opportunities and constraints as identified by an initial review of the SATS area. It then reviews relevant policy documents at national, regional and local levels, to confirm the support for both the sustainable transport objectives and park and ride development for the Southampton area. A comprehensive review of previous park and ride studies follows, which provides a summary of previous site selection work and preferred options over the last 10 years. A detailed site assessment process is undertaken to identify those sites most suitable for park and ride operations, including new sites not considered by previous studies. There is a focus on bus based park and ride but other modes such as rail and ferry services are also considered. The suitability of the principal corridors for park and ride services into the Southampton City centre is reviewed and key strategic city centre issues such as levels of parking provision are discussed.

1.3.2. The study sets out to identify a strategy for taking park and ride forward and therefore the report, having reviewed opportunities and constraints, policy, corridor and site options, is completed with a draft strategy and a proposed action plan.

2. Opportunities and Constraints

2.1. Overview

2.1.1. This section considers the key opportunities and constraints for park and ride within the city area and also the wider SATS study area. It is recognised that park and ride is valuable in achieving mode shift in many circumstances but that any scheme proposal must be appropriate in terms of design, scale and potential impact. The long term viability of a scheme needs to be assessed thoroughly, taking into account all factors such as anticipated traffic growth, regional economic growth, unmet demand and costs of scheme operation. Such an assessment can best be undertaken within an agreed and adopted SATS park and ride strategy.

2.1.2. Timing is important in introducing such provision and a "trigger point" needs to be identified as to when the conditions will be right to develop park and ride for the Southampton area. As traffic congestion increases in both peak and off peak periods an alternative to the private car will be sought by both residents and visitors. Attitudes are also changing to the use of sustainable transport modes and for those trips that can not be easily met by conventional public transport the use of park and ride is increasingly seen as an attractive option. It is important to match these trends to the development time needed to deliver a viable park and ride scheme.

2.1.3. Private sector funding opportunities and political considerations may create the impetus to move forward with short and medium term solutions in order to ensure that the opportunity is not lost to deliver strategic park and ride proposals. X

2.1.4. Park and ride provides a mechanism to ease congestion problems during both peak and off peak periods. Known congestion problems include: ✓

2.1.5. Employment trips: Peak hour congestion on key corridors, with some junctions operating above design capacity. ✓

2.1.6. Retail trips: Southampton city centre on Saturdays as a result of conflicting arriving and departing vehicle movements from the central retail areas. Congestion in district centres and in other main towns in the area is also increasing, as is the traffic growth associated with Sunday shopping. ✓

2.1.7. Leisure trips: Congestion in the St. Mary's and Northam Road area for a limited period of time after major football matches at the St. Mary's Stadium. Events such as the Boat Show introduce specific congestion difficulties in the city centre over a limited time period. ✓

2.2. Southampton City - Opportunities

2.2.1. West Quay – The West Quay shopping centre complex opened in the autumn of 2000 and it has been successful in attracting new retail trips both from the local area and the wider sub region. At present parking capacity exists within and close to the retail shopping area, although the proposed Phase three expansion of this development is not expected to include any additional parking provision, since the parking for Phase 3 was constructed as

part of the Phase 2 development. Therefore regular demand for park and ride to serve West Quay may not be sufficient at present but is likely to occur in the medium term. In the short term park and ride could help to cater for peaks of seasonal demand, for example during the build up to Christmas at weekends, especially when this coincides with a football match at the Southampton FC St. Mary's stadium, for example.

2.2.2. Southampton FC – Park and ride services are currently in operation to the new St. Mary's Stadium from several sites within the city boundary. In the short term these services could be consolidated to operate from one larger site close to a motorway junction. This would cater for demand created by weekend and occasional weekday matches. After a match there is road congestion in the city, although this only lasts for about one hour. Increased use of park and ride services would ease such congestion problems. Park and ride buses could be given priority to leave the stadium after a match ahead of general road traffic. In the medium term additional park and ride capacity to serve the football ground could be implemented if required.

2.2.3. Hospital – The shortage of parking on the General Hospital site is a key issue and is well recognised by patients, staff and visitors. Previous parking measures have alleviated the difficulties to an extent, but further action will be needed to cope with growing demand from all user groups. Off site staff parking is desirable in the short term since this would release space for higher priority staff parking on site. It might also permit increased availability of visitor parking, although this would have to be managed carefully. The hospital currently operates a small-scale dedicated park and ride service to a nearby supermarket car park at Lordshill and this service could be developed to serve a larger park and ride site.

2.2.4. Ordnance Survey – The relocation of Customs and Excise to this site in the spring of 2002 will create a significant demand on the availability of parking at this location. Although this site is next to a major local bus corridor it is likely that additional parking capacity, potentially offsite, will need to be sourced in the short to medium term.

2.2.5. University – The University already operates an informal park and ride service from the Stoneham area to its Highfield Campus. Although this is understood to be not very well used there are plans by the University to expand and promote this park and ride service. The constraint on parking provision on the University campus and in surrounding streets is well managed, but in the medium term the demand for parking is likely to increase as the University expands its activities and student numbers.

2.2.6. Other city centre destinations - A medium to long term increase in demand for parking within the city centre could be created as new employment, leisure and retail developments compete for the use of existing city centre parking. However these developments may be subject to more stringent parking standards requiring lower parking numbers, contributions to off site provision or emphasis on public transport access. While it is unlikely that existing city centre parking provision will be reduced in absolute terms, it is difficult to predict whether the overall availability of city centre parking will be lower in the future when faced with increased demand.

2.3. Other Urban Centres - Opportunities

2.3.1. Totton - There is a small car park on the A35 currently being used as an informal park and ride, utilising local bus services, to cater for travel from the Totton area into Southampton city centre which could be formalised and expanded in the short term.

2.3.2. A proposal for a new West Totton rail station could be developed in the medium or long term as a local parkway station to reduce traffic flow through Totton, although access and parking management issues would need to be resolved.

2.3.3. In the longer term a temporary park and ride service into Totton town centre could be operated from small sites to the west or north of the town centre as an experiment to test the level of demand.

2.3.4. Romsey - There appears to be limited opportunities to serve this town using park and ride for either employment or retail trips because of the short distance from the edge of town to the centre, the low levels of congestion and low passenger potential demand.

2.3.5. In the longer term the reinstatement of the Eastleigh - Chandler's Ford - Romsey passenger rail link may permit visits to Romsey to park at intermediate local rail stations and access the town centre by rail.

2.3.6. Eastleigh - In the medium or longer term it might be possible to encourage informal park and ride to Eastleigh Town Centre using the proposed rail station at Chandlers Ford. However there is a concern that this might encourage local people to drive to this station in preference to using local bus services, damaging their commercial viability.

2.3.7. A park a ride service might have some potential in the longer term to provide links from the M27 motorway junction 7 to the railway station at Eastleigh for motorists wishing to interchange with rail services from south east Hampshire that do not stop at the Airport Parkway station. If this park and ride service was operated from sites near the Parkway station then there would potentially be some reverse flow from the town centre and Eastleigh station out towards the airport. In practice demand might be insufficient to justify a regular service, over and above the local stopping train services.

2.3.8. Hamble - Seasonal demand is created by tourism generally and specifically yachting events, which provides a short term target for park and ride operations for trips to and from Hamble. The Hamble Peninsula Transport and Access Study identified a significant peak hour congestion problem on Hamble Lane. Provision of a park and ride site close to existing bus services is suggested as one means to ease this congestion problem. Another suggestion was the use of the Tesco car park for park and ride for major sailing events.

2.3.9. In the longer term there may be scope to introduce more regular park and ride operations in connection with further business development on the Hamble Peninsula. However it is debatable whether park and ride would be popular for commuting trips into Hamble without strong Travel Plan incentives.

2.4. Southampton City - Constraints

2.4.1. It is important at an early stage to also recognise some of the key constraints that will limit the scope to develop viable and effective park and ride services in the SATS area. In particular reference must be made to constraints affecting Southampton city centre and the town centres of the neighbouring towns.

2.4.2. City Centre - At present there is generally sufficient spare parking capacity within the city centre for both peak employment and off peak retail and leisure trips to be

undertaken by private car. Car park locations are readily accessible and seen as secure and attractive. ROMANSE travel information assists motorists in finding city centre parking spaces more easily and advises prospective users when the supply of parking spaces is limited. This perception of reasonable parking availability therefore acts as a disincentive to motorists to park outside the city and travel by bus or rail into the city centre. Although parking within the city centre is perceived to be expensive it is arguably still sufficiently affordable to discourage a significant switch to public transport.

2.4.3. Southampton has a relatively uncongested city centre compared to towns with park and ride such as Bath, Cambridge, Oxford or Reading. Office and retail developments are spread over a fairly large area within the centre, which creates difficulties in serving the area by conventional local bus services. The main radial routes into the city centre are relatively uncongested during off peak periods and peak congestion is often localised. A co-ordinated approach to implementing further bus priority will contribute to the effective operation of park and ride and will reduce the perceived journey time advantage of the private car.

2.5. Other Urban Centres – Constraints

2.5.1. Totton - Traffic congestion in Totton is generally thought to be caused by through traffic and delays at the level crossing. Given the limited employment or retail demand, and the availability of town centre parking, it is difficult to argue that there would be sufficient demand for a park and ride into Totton town centre.

2.5.2. Romsey - This town is arguably too small to justify a dedicated park and ride service, lacking the employment or retail demand that could encourage mode switch and achieve viability.

2.5.3. Eastleigh - A constraint on the viability of Park and Ride in Eastleigh is the availability of parking in the town centre. Efforts to discourage town centre parking through limiting supply or increasing parking charges would damage the competitiveness of this town centre relative to Winchester and Southampton.

2.5.4. The town has an extensive commercial local bus network that could also be adversely affected by attempts to introduce a park and ride service. There might however be some scope to provide parking close to local bus stops on the edge of the town centre for shopping and commuting journeys from the countryside into the town in locations where rural bus services offer a limited service. This could for example utilise parking capacity at ASDA Chandlers Ford and frequent local bus links to improve access between North Baddesley, Valley Park and Eastleigh town centre.

2.5.5. Hamble - There are concerns about potentially low patronage levels and therefore the ability of a park and ride service to cover its costs. A park and ride service from a dedicated site would need to be supported by additional revenue streams, for example from a park and ride scheme primarily established to meet the needs of trips into Southampton city centre.

2.6. Summary

2.6.1. It is considered that the greatest potential for strategic park and ride in the SATS area is to serve destinations in Southampton city centre or close to the city boundary, for employment and retail trip demands. There is also evidence of an immediate need to provide park and ride services to the General Hospital and also an opportunity to enhance the existing Southampton FC park and ride operation.

2.6.2. In the medium term it is expected that growing demands for travel to the city centre, especially new developments such as West Quay phase 3 will provide scope to develop city wide park and ride services.

2.6.3. The opportunities for park and ride to serve destinations outside the city boundary are less attractive, although there may be some scope to develop park and ride for other urban areas in the longer term.

2.6.4. As a consequence of this preliminary review of opportunities and constraints this report will focus on developing a draft park and ride strategy and site options to meet primarily the demand to Southampton and within the city.

3. Review of Current Policy and Strategy

3.1. Introduction

3.1.1. This chapter initially considers the proposals for park and ride in the Southampton area within the national policy context. This is followed by a more detailed review of relevant area and local policy documents in chronological order commencing in 1996 with the Hampshire County Structure Plan and the Southampton Area Transport Strategy. This helps to emphasise the progression in transport policy to the current policy aims of the 2001 Local Plan, the 2001/2 to 2005/6 Southampton Local Transport Plan and the 2001-2006 Hampshire Local Transport Plan.

3.2. The National Policy Context

3.2.1. 'Transport 2010: The 10 Year Plan' outlines the Government's vision to provide a transport network which includes: "High quality park and ride schemes so that people do not have to drive into congested town centres".

3.2.2. Until recently, the development of park and ride in green belt areas would have contravened national planning policy. The revised PP13 Planning Guidance allows limited relaxation of this policy by allowing park and ride development within green belt areas if it can be proved to represent the most sustainable option available. However it is recognised that park and ride sites need to be designed in environmentally sensitive ways and should reflect best practice is design.

3.2.3. PPG 13 can be related directly to the City of Southampton: "Park and Ride schemes can be an important element of the planning and transport approach for an area to encourage use of public transport and improve the accessibility of urban centres."

3.2.4. The need for complimentary measures is recognised in the PPG13 guidance: "Park and Ride proposals should in all cases be designed and implemented in association with other measures, such as public transport improvements, traffic management and parking controls to help maximise their effectiveness."

3.3. Hampshire County Structure Plan 1996 – 2011

3.3.1. Policies in this plan relevant to park and ride include:

3.3.2. T2 Promotion of parking policies with the aim of reducing the dependency on car use and encouraging the use of alternative modes of transport. Southampton's existing and future parking policy will be critical to the success of park and ride in the SATS area.

3.3.3. T16 Indicates that land for 'bus-based park and ride in the Nursling, Windhover and Stoneham areas' will be safeguarded in the Southampton Strategy Area. Sites selected in these areas will therefore be compliant with the Structure Plan. All three locations have the advantage of proximity to motorway junctions.

3.4. Southampton Area Transport Strategy 1996

3.4.1. This strategy set targets for reduced car use:

- Reduce car use at peak periods from 1993 levels by 6% in 2005, and 10% in 2020.
- Reduce the proportion of car trips to the City Centre from 71% in 1993 to 65% by 2005 and to 55% by 2020.
- Increase the proportion of public transport trips to the city centre from 27% in 1993 to 30% by 2005 and 35% by 2020.
- Reduce the number of long stay car parking spaces in the city centre by 5% between 1993 and 2005 and by a further 10% by 2020.

3.4.2. It is recognised that park and ride schemes will help to meet these targets. The intention is to 'introduce park and ride facilities supported by bus priority measures to the City Centre and other centres'.

3.4.3. The introduction of park and ride facilities will compensate for a reduction in the proportion of long stay parking spaces in the city and other centres. There is evidence that development of long stay parking is being restricted with no further long stay public parking being permitted (Policy T11).

3.4.4. The strategy aims to encourage businesses to use park and ride as an alternative to car commuting, thus helping to reduce congestion on the roads at peak hours.

3.5. City of Southampton Local Plan March 2001

3.5.1. The importance of park and ride is emphasised: "A fundamental element of the Southampton Local Transport Plan and the Structure Plan is the provision of park and ride to Southampton".

3.5.2. The aim of the park and ride facility is to reduce car commuter journeys, with the ability to serve City Centre shops especially at weekends. The Local Plan identifies the need for three park and ride sites. The first is at Stoneham Lane serving the Southampton – Eastleigh transport corridor that could be used to serve the University and hospital in addition to the city centre. This site has been safeguarded for development as a park and ride site by policy MSA 18. The site was confirmed as a suitable location by the 1998 MVA Southampton Public Transport Development Study. The land was originally proposed to be used as parking for a new Southampton Football Club stadium, but the stadium has now been constructed in Northam.

3.5.3. The Stoneham site "could provide for park and ride not only to the city centre, but also links to the University and the General Hospital". The land at Stoneham is identified for park and ride "subject to the outcome of further studies to assess the most suitable location for a strategic park and ride facility". Hospital and University travel issues are addressed in this study, particularly where previous park and ride studies may have overlooked or underestimated these traffic generators.

3.5.4. The City Wide Proposals Map, March 2001 shows the Stoneham Site (MSA 18) as lying to the West of Stoneham Way with its northern border being the City Boundary and

the southern border being a residential area. This is a different 'Stoneham' site to the one originally identified by Wootton Jeffrey's.

3.5.5. Sites for the implementation of a city wide Park and ride operation are also required in the Nursling and Windhover areas. "The City Council has examined the potential of sites within its administrative area and no other suitable sites have been identified. Therefore, the Council will press for sites to be identified in the adjoining District's local plans".

3.6. Southampton Local Transport Plan 2001/2 to 2005/6

3.6.1. The following park and ride opportunities in the city area are identified by the LTP:

3.6.2. "The West Quay development has no reserved parking spaces for employees, expected to be in excess of 350 people. West Quay Shopping Centre Limited are enthusiastic participants in the City Council's Green Transport Plan Working Group and could well provide a significant base of commuters for a park and ride facility, helping to support its commercial viability". Development of park and ride services could be particularly beneficial to those West Quay employees living outside the city boundary, with poor conventional public transport links.

3.6.3. "Transport access plans for Southampton FC's new stadium in Northam include a requirement that all match tickets include a City-wide public transport ticket and that the Football Club secure the provision of some 6,000 parking spaces, including 3,000 remote from the ground and served by 'park and shuttle' buses". In response to this requirement the football club have operated park and ride services on match days during 2001.

3.6.4. ABP proposals for the development of a new container terminal at Dibden Bay include plans for "Park and Sail" ferry services between "Southampton and the Waterside parishes". These proposals were developed further in a study by David Tucker Associates for ABP.

3.6.5. The City's Local Transport Plan 5 year capital program bid is also described:

3.6.6. "The City wishes to extend its long-term commitment to integrated transport policies by making significant progress on its pedestrian, cycling and public transport networks. In particular the City seeks to join up existing localised initiatives and isolated schemes into continuous routes across the City. Improved interchanges, including park and ride, are key components in achieving an integrated network and City Centre and district centre enhancements are critical elements of that strategy. Demand management is necessary to make these modes an attractive and effective travel choice".

3.6.7. The funding bid for park & ride was for £3 million spread over three years (£1.45 million 2002/3, £1.45million 2003/4 and £100,000 2004/5). However the Annual Progress Report indicates that this funding bid has now been revised (see below).

3.6.8. Demand management measures to help achieve the council's policy aims are identified:

3.6.9. "During the Plan period, the City Council will introduce further bus priority measures, in particular on major radial bus routes to facilitate a "Fast Bus" concept. For example, a recent study by Halcrow for First Group and the City Council included proposals for High Occupancy Vehicle lanes along the Bitterne Corridor. These schemes would complement investment in new vehicles by the major bus operators. Other proposals will be brought forward in association with park and ride initiatives". These plans, if implemented would improve the scope for park and ride services to offer a frequent, fast and reliable to the car for city centre journeys.

3.6.10. The decriminalisation of parking had been expected to occur during summer of 2001. "If the decriminalisation of parking is implemented, it will allow the Council to have greater control over the enforcement of parking in the City". This change is now due to happen in February 2002. However the City may still find it difficult to influence the supply and usage of private non residential parking in the city.

3.6.11. The development of a park and ride network was a recommendation of an MVA study in 1998 but it was recognised that park and ride operations would not be commercially viable for some time. The way forward was seen to be the development of "the first formal park and ride site in partnership with a bus operator, to achieve Best Value in both capital costs and revenue support". The viability of park and ride remains a concern for the Southampton City Council.

3.6.12. It is anticipated that the first park and ride site will be operational during the 2001/2 to 2005/6 Local Transport Plan period. Opportunities for bus priority measures will be considered in the conjunction with the provision of park and Ride sites.

3.6.13. The introduction of park and ride is to be linked to Green Transport Plan Working Group initiatives to provide a significant base demand of commuting park and ride customers. In practice this might mean providing walkers and cyclists good access to park and ride sites.

3.6.14. Park and ride access to West Quay shopping centre was to be provided: "A weekend park and ride offer from Southampton Parkway station to Southampton Central will be available from South West Trains". This scheme was due to be introduced to coincide with the opening of the shopping centre and make effective use of a weekday commuter car park at times when it is not well used. The floor area per parking space is much greater for this retail shopping centre than for comparative major shopping centres. This rail based park and ride service has now been introduced. Parking at Southampton Airport Parkway station is free on weekends and customers can buy a 'West Quay Shopper' train ticket for £2.50. The later section on alternatives to bus based park and ride considers this scheme in greater detail.

3.6.15. The policy on car parking at stations should be noted: "In essence, the City Council, while acknowledging the role of trains reducing long distance car trips, takes the view that car parking at stations should not be increased unless all measures for promoting, implementing and funding alternative feeder modes have been taken". This does not seem to restrict the opportunities for increasing car parking provision at Southampton Airport Parkway station since it lies outside the city boundary. The airport property has permitted development rights that restrict local authority control over airport parking supply and pricing. A new multi-storey car park opened at the airport in November 2001.

3.6.16. The City Council has long held ambitions for a park and ride scheme in the Southampton Airport Parkway area. A study by Arup Transportation suggests "that the most appropriate way to improve interchange in this area is at the Airport and station rather than to the south of the M27".

3.6.17. The need for joint working arrangements with local authorities outside the city boundary is recognised: "The development of a network of park and ride sites to serve Southampton City Centre and other major employment centres is a medium term aim and the first site could be developed within the LTP period subject to the necessary approvals. It is probable that two out of three sites for park and ride will fall across or outside the City boundary. This will require joint working arrangements with the particular authority in which each is located".

3.7. *Southampton Local Transport Plan, Annual Progress Report 2001.*

3.7.1. Some recent developments to note include:

3.7.2. West Quay marketing has emphasised public transport options and operators have reported significant increases in public transport travel.

3.7.3. Further work was undertaken in the City Centre to extend the Pedestrian and Bus Priority Zone.

3.7.4. The new St.Mary's Stadium development for Southampton FC generated a large contribution towards the Northam Road/Britannia Road junction improvement scheme. Implementation of this scheme allows HGV movements to be taken out of the residential area of Northam. It includes a new inbound bus lane in Northam Road and new cycle and pedestrian links established across the Northam Road route. The scheme has been implemented.

3.7.5. A Saturday park and rail from Southampton Parkway station has been introduced "in conjunction with the provision of the CityLink shuttle bus from Central station".

3.7.6. Under the 'Revised Programme' for integrated transport funding for park and ride has been excluded from the revised programme. "The level of settlement for integrated transport of just under £3m each year is insufficient by itself for the City Council to complete a park and ride scheme and support other areas of investment without a request for additional funding within the original LTP bid framework. There are, however, discussions with developers about the provision of park and ride sites in conjunction with their developments to the north and west of the City".

3.8. *Hampshire Local Transport Plan 2001 – 2006*

3.8.1. Reference to park and ride is made at the end of the section in this LTP covering the Southampton Area Transport Strategy. "Southampton City Council wishes to pursue park and ride as a solution for its part of the strategy. The development of a network of park and ride sites to serve Southampton City Centre and other major employment areas remains a medium term objective and the first site could be developed towards the end of the plan period. Due to the need to achieve an optimum distance from the city centre and the physical nature, shape and size of the city it is probable that two out of three sites for park

and ride will fall across or outside the city boundary. This will require joint working arrangements with the County and City Councils and with the particular authority in which each is located". The indication therefore is that a park and ride site could be in operation by 2006. However there is no firm commitment to implement park and ride.

3.8.2. There is also reference to proposed local bus priority measures along the transport corridor between Fareham and Southampton. This would focus on junction improvements and would benefit a park and ride site to the east of Southampton.

3.9. *Hampshire Local Transport Plan 2001 – 2006, Annual Progress Report, August 2001*

3.9.1. Reference is made to the following transport schemes:

3.9.2. The Chickenhall Lane Link main works to be undertaken between 1 April 2003 and end on 31 March 2004. Cost £16 million over 3 years. This bypass would run along the south eastern edge of Eastleigh and might lead to an increase in traffic flows in the Stoneham area.

3.9.3. The Strategic park & ride main works to be undertaken between 1 April 2004 and 31 March 2005. Cost is £6 million over one year. This programmed implementation date may now be subject to review.

3.9.4. The Nursling & Rownhams Traffic Management scheme at a cost of £145,000 spread over 2 years 2003/4 and 2004/5. These works will affect the access roads close to junction 1 of the M271.

3.9.5. The A326/A35/A3024 Bus Priority scheme at a cost of £715,000 spread over 3 years 2003/4 to 2005/6. This scheme would offer improvements to bus services into Southampton from the Totton and Waterside areas and includes the Redbridge/Millbrook route into the city.

3.10. *The Renaissance of the City: Southampton City Strategy*

3.10.1. This document presents a vision for the future in Southampton, for example a shopping visitor in 2003 recounts:

"Since West Quay opened Southampton has become a really good day out for the whole family. In the morning the traffic signing advises us whether to drive into the centre or take the Park & Ride. Once we've done the shopping we can use the shuttle to take in lunch in the Old Town, Waterfront or Northern Above Bar. My son and grand-daughter sometimes go off on the shuttle to see the Saints if they're at home - I tend to spend the afternoon back in Above Bar or strolling in the Parks. We meet up at the car afterwards, and I never have any worries about going back alone - its all so well lit, busy, and I know the CCTV people are watching"

3.10.2. It is predicted that: "There is considerable evidence that crucial bottlenecks are, or will shortly, occur in Southampton's transport infrastructure which would severely curtail the achievements of the city's broader economic, environmental and social goals".

3.11. Hampshire Parking Strategy and Standards - 2001

3.11.1. The Hampshire Parking Strategy and Standards Final Draft outlines current parking policy within the county. This document sets parking standards that were last reviewed in 1991 when minimum levels of provision were established and is reviewed in Chapter 8 under the 'parking policy' heading. The standards apply to parking across the county although it is known that more restrictive parking standards are applied within Southampton City centre. The County Council, Unitary Authorities and District Councils "have developed a consistent parking policy and parking standards".

3.12. TAWTS – Totton & Waterside Transportation Strategy – July 2000

3.12.1. The strategy was designed to address existing and forecasted transport issues. It is of relevance to the South Western area of the park and ride study, including the sites numbered 1 to 6 identified by Wootton Jeffrey's in 1993.

3.12.2. Traffic flows on the A326 and A35 in the Totton area are considered, revealing overloading on these roads. The present annual traffic increase in this area is around 3% per annum and a significant level of traffic growth has thus occurred since the Wootton Jeffrey's study in 1993.

3.12.3. This strategy highlights concerns about forecasts of growing traffic volumes and outlines a number of proposals to help manage this growing demand. Proposals which could affect the case for provision of park and ride include:

3.12.4. Improved public transport services between the Waterside settlements and Totton and Southampton as part of a Quality Partnership with local bus operator Solent Blue Line.

- Passenger rail services to be introduced on the Fawley branch line running as far as Hythe initially with connecting buses extending the services as far as Holbury, Fawley and Backfield.
- Improvements to the ferry services between Hythe and Southampton through a Quality Partnership with service and infrastructure enhancements.

3.13. Test Valley Borough Local Plan, 1996

3.13.1. Policy B11 safeguards land at Adanac Park, Nursling for business use and Policy T7 requires improvements to junction 1 of the M271 and surrounding roads. This could help to improve access to a potential park and ride site in this area.

3.13.2. The Valley of the River Test Heritage Area (VRTHA) is a development control designation for the Test River Valley. A number of potential park and ride sites lie within the area covered by Conservation policy C10 which states that "In order to conserve the qualities, character, integrity and function of areas and features of particular importance, development will not be permitted which would adversely affect the scenic, ecological and

historic qualities and rural character of the River Test Heritage Area". Development of a park and ride site would therefore need to be compliant with this conservation policy.

3.14. *Southern Test Valley – Beyond 2000, Planning Brief (Draft) May 2000.*

3.14.1. This Planning Brief covers the Test Lane area sites to the west of Southampton. Plans for the Redbridge Lane, Nursling and Rownhams development area are considered. The southern part has been identified for a possible park and ride sites in previous park and ride studies. Reference is made to the proposed highway improvements around Junction 1 of the M271 but there is no specific reference to park and ride under the 'Public Transport' heading.

3.15. *Consultation on the Initial Deposit Version of the City of Southampton Local Plan, May 2001*

3.15.1. There is agreement between the Test Valley Borough Council and Southampton City Council that land should be safeguarded for a strategic park and ride facility in the Nursling Area to the south east of junction 1 of the M271. It is suggested that site 49, which was local gap land between Nursling and Southampton is an appropriate site for a park and ride facility. The proximity of this land to the motorway makes it unsuitable for housing. Furthermore the site previously identified for park and ride, Test Lane (7) has now been allocated for industry/warehousing.

3.16. *Eastleigh Borough Local Plan Review, 2001-2011*

3.16.1. The summary of the section on large scale bus based park and ride indicates that "Park and ride may have a role to play in the wider Southampton Area Transport Strategy but the location of any park and ride car parks within the Borough of Eastleigh will have to be justified in accordance with policies set out in the Local Plan".

3.16.2. The Borough Council would like to encourage use of Eastleigh Station and would require a "robust justification for any increases in parking at stations within the Borough, particularly at Southampton Airport Parkway".

3.16.3. There are also some small informal Park and Ride schemes within the borough. Larger employers such as Norwich Union (from Doncaster Drove) and B&Q (from AC Delco) are operating informal Park and Ride services to reduce on site parking pressure.

3.16.4. The Borough's policy on parking provision at country parks may have an impact on the acceptability of locating a Park & Ride site on, or close to, the Lakeside Country Park. The Council will "Monitor and manage on site parking arrangements and charges so as to support the aim of encouraging alternative modes of access and to ensure that the special environment enjoyed by visitors to the country parks is not blighted by extensive areas of parking and traffic generated pollution".

3.17. *Eastleigh Local Plan Review, pre First Deposit stage 2002*

3.17.1. The local plan indicates that scope for park and ride to serve Eastleigh town centre is limited. "The number of commuters wishing to access Eastleigh town centre are not sufficient now, nor are they likely to be within the life of this Local Plan, to justify one or more

park and ride car parks serving destinations in Eastleigh.... Eastleigh town centre has excess public car parking capacity and recent studies indicate that this will remain the case until at least 2006."

3.17.2. "Previous studies looking at the potential to introduce park and ride to serve Southampton city centre have identified two possible sites for car parks both of which are located within the Borough of Eastleigh, Windhover and Stoneham. It must be remembered that any park and ride car park at Stoneham (or Windhover) would lie in the strategic gap, where there is a presumption against development ". Park and ride sites at these locations would therefore need to have a robust justification.

3.17.3. Eastleigh Borough's Policy on park and ride (85.T) is "The development of park and ride car parks within strategic gaps or the countryside will only be permitted if a comprehensive Transport and Environmental Impact Assessment, which outlines all the potential costs and benefits associated with the scheme, accompanies the planning application and the Council is satisfied that it can be conclusively demonstrated that the transport and environmental benefits outweigh adverse effects".

3.17.4. The policy of the Borough on parking provision at Southampton Airport Parkway station (86.T) is "Planning applications for increases in parking at Southampton Airport Parkway Station will only be considered in the context of a comprehensive Transport and Environmental Impact Assessment. This assessment must be supported by a detailed origin and destination survey of existing users, which includes travel patterns to the station by car and from the station by rail. The Council will pay particular attention to the impacts such increases in parking and associated extra traffic will have on local roads and whether alternative stations offering similar levels of passenger rail services are being bypassed. Planning permission will only be granted if the Council is satisfied that it has been conclusively demonstrated that the transport and environmental benefits of the proposals outweigh the adverse effects. Any proposals would also have to meet the requirements of policy 46.BE on access for people with disabilities".

3.18. Borough of Eastleigh Transport Strategy (BETS)

3.18.1. This document provides a useful summary of Eastleigh's views. The Borough does not see large scale bus based park and ride as having a role to play in BETS. "Eastleigh town centre is well provided for in terms of public parking and any reduction in the number of town centre parking spaces in favour of out of town park and ride would reduce the viability and competitiveness of the town". Therefore "Eastleigh Borough Council does not see a role for park and ride to serve destinations in the Borough".

3.18.2. It is argued that "park and ride may have a role to play in the wider Southampton Transport Strategy but the location of any park and ride car parks within the Borough of Eastleigh will have to be justified in accordance with policies set out in the Local Plan".

3.18.3. Concerns are also raised about the impact of Southampton Parkway station on local road traffic "Whilst the park and ride service provided at stations such as Southampton Parkway may well reduce the number of cars driving up to London and possibly the Midlands, there is little doubt that it is a substantial generator/attractor of traffic on local country roads and particularly roads within the Borough of Eastleigh."

3.19. New Forest District Local Plan, 2001-2006

3.19.1. The 'New Forest Transport Strategy' seeks to reduce substantially the impact of the motor vehicle on the New Forest. Totton is the largest settlement in the New Forest district with a population of 27,400. Dibden and Hythe is the third largest residential area with a population of 20,400.

3.19.2. Policy TE-27 describes the safeguarding of land for new station at West Totton: "Land at Bartley Park, West Totton is safeguarded for a railway station, access road, forecourt and associated car park. Pedestrian and cycle access will need to be provided from Ashurst Bridge Road and via a link eastwards to the Greenroute where it crosses the railway".

3.19.3. If developed as a 'community' station it is thought that about 75 spaces would be required. A proposal for a 'parkway' station could arise "either as a second phase following the development of a community station or as an alternative proposal from the outset. It would involve a considerably greater area of car parking and almost certainly different access arrangements". The safeguarded land area allows for a total of 350 spaces, but the safeguarding of the site should not be taken as a commitment to the principle of a 'parkway' station in the local plan.

3.20. Strategic Park and Ride Study for South East Hampshire

3.20.1. This study is currently being undertaken by WS Atkins and needs to be considered to ensure synergy of policy on park and ride opportunities in South Hampshire. Of particular relevance is the possibility that a park and ride site at the Windhover roundabout might be used as a park and ride site for trips into the South East Hampshire area in addition to its primary role serving designations within the SATS area.

3.21. Summary

3.21.1. Provision of park and ride services to destinations in and around the city of Southampton is compliant with national and local transport policy. Park and ride is seen to be a means to reduce car dependency and encourage the use of public transport.

3.21.2. It is anticipated in previously adopted policies that park and ride sites will be located close to motorway junctions. Up to three sites are planned in the Nursling, Stoneham and Windhover areas. Site 49, which may be referred to as the 'Redbridge Lane' site has been suggested as the western site to replace the 'Test Lane' site (number 7) which has been zoned for commercial development.

3.21.3. There are a number of policy constraints to be taken into account, in particular the conflicts arising from developing park and ride in the strategic gap. This is of particular concern in the Stoneham and Windhover areas where the preferred site location also requires clarification in the context of environmental and landscape issues.

4. Previous Park and Ride Studies

4.1. Introduction

4.1.1. The principal park and ride studies undertaken for the SATS area can be critically assessed in light of major developments and policy changes over the past 10 years. This review commences with a list of the studies undertaken before providing a brief description of their main aims and objectives. These studies are then analysed to identify key issues for developing a park and ride strategy for Southampton.

4.1.2. Rather than review each study separately it was considered more effective to draw upon these studies to understand the essential issues affecting the case for and introduction of park and ride in Southampton. By doing so, a clearer understanding can be obtained of how the issues affecting park and ride have changed over time. The key issues addressed are:

- Traffic flows
- Demand forecasts for park and ride
- Viability, revenue and cost issues
- Overall strategy

4.1.3. Local authority parking policies are critically important to the long term viability of park and ride and are therefore reviewed in a later chapter in greater detail. Bus priority issues are also dealt with later in the report and may be considered on a corridor by corridor basis.

4.2. Park And Ride Studies

4.2.1. The studies in chronological order are:

- 1992 M Johnson report into the potential for park and ride in Southampton.
- 1993 Wootton Jeffrey's were commissioned to carry out an initial feasibility study of a park and ride scheme in Southampton.
- 1995 Halcrow Fox was commissioned by Hampshire County Council to develop the Southampton Transportation Model to incorporate the Council's proposals for park and ride.
- 1998 MVA were commissioned by the City Council to produce a working paper on bus based park and ride as part of the Southampton Public Transport Development Study
- 2000 Associated British Ports, park and ride analysis, September 2000 – David Tucker Associates undertook a feasibility study of park and ride services at the proposed Dibden Terminal.

4.3. Description Of The Principal Studies (WJ, HFA & MVA)

Wootton Jeffreys (WJ) – July 1993

4.3.1. The Wootton Jeffreys study into park and ride services for Southampton formed part of the DRIVE II ROMANSE (ROad MANagement System for Europe) project. The aim of the study was to provide a detailed assessment of the implementation and operation of a park and ride scheme or schemes. To achieve this, the study identified sites which were capable of providing a permanent park and ride facility for each of the major approaches to the city (i.e. west, north and east). The study built on the M Johnson work and was approached in three stages;

- Initial site assessment (stage 1)
- initial feasibility study (stage 2) and
- detailed feasibility study (stage 3).

4.3.2. In stage 1, 38 sites were examined of which 20 were originally identified by the M. Johnson study in 1992. Using a criteria of the sites proximity to major traffic flows, access arrangements, existing land use and planning designation of the area, stage 2 identified ten sites that were deemed to have sufficient potential to justify further investigation. These are sites 1, 3, 7, 9, 12, 17, 18, 20, 22, and 24.

4.3.3. Stage 2 of the study investigated the potential patronage of park and ride at these ten sites. That analysis resulted in the number of suitable sites being reduced from 10 to 4 – one site each on the western (7) and northern (17) approaches and two sites on the Eastern (20 & 24) approach to the city.

4.3.4. Stage 3 applied a cost benefit analysis to the four sites selected at stage 2 to determine the economic viability of introducing different combinations of sites.

Halcrow's Park and Ride Study

4.3.5. Hampshire County Council employed HFA to produce a transportation model to incorporate the council's proposals for park and ride. The model investigates the effect of four park and ride sites on the city's traffic. The 4 sites correspond to the following sites from the WJ report:

- | | | |
|---------------------|-----------|------|
| • East of the City | Windhover | (24) |
| • West of the City | P&O | (48) |
| • West of the City | Hotel | (9) |
| • North of the City | Stoneham | (18) |

4.3.6. The P&O site was a new location that had not been investigated by WJ. It is near to the "Hotel Site", to the west of the M271.

4.3.7. The Stoneham Site (number 18) lies to the West of the Swaythling Link Rd. It is unknown why this site is considered instead of the Site 17 that was recommended to the council at the end of the WJ report.

MVA's Park and Ride Study

4.3.8. MVA were commissioned to develop a strategy for the development of bus based park and ride in Southampton as part of the Southampton Public Transport Development Study.

4.3.9. This study had financial support from the developers of the West Quay shopping centre in Southampton. There was an emphasis on improving access to West Quay rather than providing a comprehensive city wide strategy.

4.3.10. Working Paper 3 published in August 1998 outlined MVA's recommendations for bus based park and ride. These are discussed later in the chapter under the review of strategy.

4.4. Traffic Flows

Previous studies used data that is now only useful for comparison with contemporary flow data. WJ considers traffic flows and a useful comparison is made with the figures from M Johnson's 1992 report. This is reproduced in the table below:

Major city centre route	Direction	% of traffic bound for city centre	% of traffic bound for city centre
		M Johnson	1990/92 counts
Redbridge Road/ Mountbatten Way (A3024)	West	50	40
Bassett Avenue/ The Avenue	North	24	17
Stoneham Way Thomas Lewis Way	North		9
Portsmouth Road A3025 (Itchen Bridge)	East	17	8
Bursledon Road A3024 (Northam Bridge)		Included above	17
Total		91	91

4.4.1. The WJ report commented that the M Johnson figures appeared to be based on travel to work data from the 1981 Census. Despite this they felt the data gave a reasonably good indication of the major routes into the city and therefore the main areas where patronage for park and ride could be obtained.

4.4.2. The traffic counts recorded between 1990 and 1992 show how the construction of new roads and the improvement of existing roads have altered traffic patterns into the city centre. Significant flows into the city centre were now recorded for more roads with the consequence of spreading traffic flows over the city's road network. A good example of this is the A335 St Thomas Lewis Way, which since opening the late 1980s has become a major

north south route into the city. More detailed review of changes to the traffic flows along these radial routes can be found in the corridor analysis chapter.

4.4.3. Most of the traffic flow data used by WJ was from 1992 figures but it should be noted that flows to and from the Windhover roundabout from the east used March 1986 Hampshire County Council data. In the west flows along the M271 were taken from April 1989 Hampshire County Council data and for flows along Mountbatten Way WJ used data from October 1990. "It can be seen that the major flows into the City Centre are along Mountbatten Way (A3024) from the west, the Avenue (A33) from the North, and Northam Road (A3024) from the east". This conclusion is arguably still valid in 2002.

4.4.4. WJ also considered levels of traffic overloading on the main routes into the city centre reproduced from the 1990 Southampton City Radial Routes Traffic Study. Referring to road conditions at the time of this study WJ argued that "Most traffic in the AM Peak suffers little or no delay at present, the main exceptions being on The Avenue at the Burgess Road traffic lights and over the Redbridge Causeway". It could be argued that these findings are still applicable today for the inter peak period but not for the peak periods when serious congestion problems are known to occur.

4.4.5. Average delays and ratios of flow to capacity during the same AM peak period were also forecast assuming a high level of growth in traffic flows. The forecast suggests overloading occurring on all the main radial routes. The Ratio of Flow to Capacity (RFC) exceeds 1.25 at some point on all these main corridors, but in particular on the Northern A33 corridor. The Southampton City Radial Routes Study of April 1990 argued that a 10% level of overloading (a RFC of 1.1) was reasonably acceptable in the peak period.

4.4.6. WJ argued that "if high (traffic) growth were to take place there would also be a need to transfer trips from car to public transport. Thus park and ride has been suggested for Southampton as a way of transferring some of these trips. However, the level of high growth appears to be some time in the future and little growth has occurred over the last 2-3 years".

4.4.7. WJ forecast that with three sites in operation, the traffic flow into Southampton from outside the area bounded by the M27 and the M271 would reduce by around 3% in the A.M. peak period and similar in the P.M. peak period.

4.4.8. It appears that WJ's traffic flow data was also used for both the HFA and MVA studies. HFA used a 1992 highway demand matrix for their study that uses the same data as that in the 1993 WJ study. The material from the WJ & HFA studies also provided most of the basis of data for the MVA study.

Summary

4.4.9. The above studies have relied upon older traffic count data. The findings of these studies therefore appear to rely upon a static data set. More recent data is available and will be analysed later in this study, using the WJ data as a basis to determine changes in traffic behaviour within the city.

4.5. Demand Forecasts For Park And Ride

WJ's Demand Forecasts

4.5.1. The WJ report investigated demand using patronage estimates based upon traffic flows, city centre parking provision with origin and destination data from the 1986 Car Parking Postcard Survey to predict the number of cars intercepted by the park and ride site.

4.5.2. To estimate potential patronage 6 different scenarios were considered in the Stage 2 report (A1, A2, B1, B2, C1, C2) of which scenario C2 was recommended. The assumptions for this scenario were:

- A reduction in long stay car parking in the city centre
- A reduction in on-street parking spaces
- No change in the cost of short term parking
- A large increase in the cost of medium and long term parking
- An increase in the cost of long term car parking from £3 to £5
- A return Park and Ride bus fare of 80p off-peak and £1.00 peak

4.5.3. Scenarios A1, B1 and C1 had assumed a lower return fare level of 50p off-peak and 80p peak return. The 'A' scenarios had assumed no changes to parking provision or pricing structure and the 'B' scenarios had assumed a 'small' increase on parking prices.

4.5.4. In WJ's final report two further scenarios were added for comparison to consider the impact of an increase in parking prices from £3 to £10 (D1 & D2). The 'B' group of scenarios were not considered any further.

Scenario	Maximum Potential	Site 7	Site 17	Site 20	Site 24	Sites 7,17& 24	Sites 7,17& 20
C2	AM Peak	480	327	251	242	965	974
	Off Peak	286	246	169	172	633	631
	Total	766	573	420	414	1598	1604
D2	AM Peak	617	415	319	308	1232	1243
	Off Peak	374	318	220	225	825	821
	Total	991	734	539	532	2057	2064

Extract from WJ Stage 3 Report, Table 5.1

4.5.5. It can be noted from the above table that under scenario C2 only site 7 appears to attract a high level of demand (766) for a single site strategy. There appears to be an assumption that a low level of traffic (approximately 10%) would divert from its normal route to a single site.

4.5.6. It could be argued that scenario D2 is now become more appropriate (with a £10 parking charge for all day) given the increase in parking charges. The West Quay shopping centre podium car park charges £8 for up to 8 hours parking and £9 thereafter. The basis upon which these scenarios were constructed has now altered so it is unwise to use WJ's forecasts to predict current demand for park and ride.

HFA Study Findings

4.5.7. The Halcrow study produced forecasts of demand, which were subjected to option and sensitivity testing. The option tests formed an important part of the study's finding and will be considered here. The sensitivity tests are not considered here but are considered briefly in the review of strategy later in this chapter.

4.5.8. Option tests 1-9 in this report investigated the effect of varying the number and combination of the sites used on patronage. These findings are summarised in the table below:

	Windhover (W)	P&O (P)	Stoneham (S)	W + P + S	P + S	P + W
No. of park & ride trips	877	905	932	1008	975	990
% change from car	2.31	2.34	2.40	2.61	2.51	2.57
% change from bus	2.96	3.41	3.55	3.70	3.64	3.60

4.5.9. Table 1 (from table 4.1, 4.2, 4.3, and 4.4 in HFA report)

4.5.10. The optimum single site scheme was from the P&O site to the west of Southampton with a forecast demand of 585 passengers. The optimum two site scheme was a combination of the P&O site in the west and the Windhover site in the east. The forecast demand for this option was 775 passengers, of which 412 would use the P&O site.

4.5.11. The dual site combinations tested by HFA were P&O with Windhover, and P&O with Stoneham. There is very little difference between the P&O site and the Hotel Site except some local differences to vehicle flows and therefore the two sites are assumed to be interchangeable in all tests.

4.5.12. The demand generated by both combinations would be around 1000 vehicles, but the demand is slightly higher when the P&O site is paired with the Windhover site. This is

due to the closer proximity between the Stoneham site and P&O site compared to Windhover.

4.5.13. The downside of this pairing is that there is a significant increase in traffic volume on the M27 in the westbound direction towards the Stoneham site. The report concludes that the scheme should be a two-site strategy with the two sites being in the West and the East, i.e. P&O/Hotel and Windhover.

MVA Study Findings

4.5.14. The MVA report considered two comparable demand forecasts from the WJ and HFA studies. It is difficult to reconcile the HFA estimates with the predicted levels of demand in the Wootton Jeffrey's study. The WJ figures can be seen to suggest a much more pessimistic level of demand. This is significant not only for its implications for the financial viability of the scheme but also in suggesting the size of the site required for parking.

Table 2: AM peak passenger demand

	Single site scenarios:			
	Test Lane/P&O	Stoneham	Windhover	All 3 sites
WJ Forecast	269	182	136	540
HFA Forecast	905	932	877	1008

WJ assumption was: £1 peak P&R fare, £3 all day City Centre parking charge. Above figures are the WJ A1 Scenario for the AM Peak multiplied by an average vehicle occupancy level of 1.2

HFA assumption was: £1 peak P&R fare, no change in City Centre parking charges.

4.5.15. The study did not produce any revised demand forecasts but did compare the findings of the WJ and HFA reports. The MVA report expressed forecast levels of demand relative to the total at Test Lane. This recognises the significance of the relative level of forecasted demand between the sites rather than the absolute level of demand.

4.6. Revenue and Cost Issues

Financial Viability

4.6.1. WJ expressed the opinion that "only site 7 is close to being financially viable, the others would require large additional patronage which could only possibly be achieved if a much higher percentage of short stay users could be attracted to use Park and Ride, as well as a larger use of park and ride by on street parkers'. The reason that such a large patronage is required to enable a site to break even is the large bus operating costs for all the sites. This is due to the fact that all the sites are over 4 miles from the City Centre and require a large number of buses to operate in the peak periods. Most other cities with successful Park and Ride schemes have sites that are 2, or at the most 3, miles from the City Centre and require less buses to operate". In practice the number of buses required depends upon journey time rather than distance. This issue will be considered further in the Strategy Development chapter.

4.6.2. WJ estimated patronage for sites studied in the Stage 2 report based on Monday-Friday figures. "No figures are available for Saturdays so for the sake of calculating revenue it is assumed to be the same as for weekdays, although in reality the patronage is likely to be quite different." This affects the validity of the WJ forecasts since weekend demand may be much more significant than weekday demand, particularly now reflecting the growth of 'shopping as leisure'.

Cost Benefit Analysis

4.6.3. COBA analysis undertaken in the WJ final report indicated site running costs vary considerably. A combination of Sites 7 (Test Lane), 17 (Stoneham) and 24 (Windhover) were found to require an annual subsidy of £94,900 at 1993 prices. This was £7,200 less than the annual subsidy required to operate a combination of sites 7, 17, and 20.

4.6.4. Site 7 would be considerably more expensive to set up than the other sites, mainly due to the purchase costs of the land. The study also suggests that running any of the sites individually would produce an annual profit of about £1.5 million, mainly due to increases in city centre parking revenues. It is questionable whether this level of revenue could be achieved now that 4000 privately owned and operated public spaces exist at the West Quay shopping centre. Furthermore any increases in revenue through raised parking charges would not necessarily go towards funding park and ride.

4.6.5. If the cross subsidy of the revenue from increased parking charges is removed the annual revenue for the preferred sites is only around £110,000 to £210,00 per annum for each individual site. This is significantly less than the estimated £312,200 running costs per year for an individual site. When three sites are run together there is a subsidy required of around £100,000 per annum.

4.6.6. Wootton Jeffrey's concluded that a three site park and ride scheme would have "a negative overall Net Present Value over 15 years of £8 million" but this analysis excluded important elements such as developer contributions. More cost elements would now be taken into account as part of a TUBA analysis.

4.7. Review of Strategy

4.7.1. Commencing with the recommendations of the Wootton Jeffrey's Final Report the strategy for the development of Park and Ride has evolved. This can be seen as a reflection of the further study work undertaken and the changes that have occurred in travel behaviour with the city area.

Wootton Jeffreys Report Conclusions (1993)

4.7.2. WJ argued that in Southampton "Park and Ride could form an important part of the City Council's overall Transportation Strategy" and recommended that a park and ride scheme be implemented in Southampton.

4.7.3. To encourage use of park and ride WJ advocate a considerable increase in all day parking charges (from £3 per day to over £5 per day). Short term parking was to be encouraged by converting long term parking to short term parking. A radical option was the

complete closure of some City Centre car parks. These issues are addressed in greater detail later in this report under the 'parking strategy' heading.

4.7.4. A three site strategy was advocated to cover the main road routes into the city. A permanent single site operation was considered "highly unlikely to be seen to be meeting the transportation needs of Southampton". However WJ did argue that the three sites could be "phased in individually".

4.7.5. WJ commented on the timing of implementation "Schemes elsewhere in the UK have generally been implemented to alleviate major congestion problems however no such problem exists in Southampton. This is an effect of the current national economic situation. Consequently it is difficult to predict when a Park and Ride scheme should be implemented in Southampton". Congestion is now perceived to be a problem in Southampton.

HFA Report Conclusions (1995)

4.7.6. The Halcrow study focused on the Eastern and Northern sites suggested by WJ (Windhover and Stoneham) but selected two sites to the West of Southampton (P&O and Hotel sites) in preference to WJ's suggest 'Test Lane' site. These two potential sites had been "proposed by Hampshire County Council for inclusion and testing within the Southampton Transportation Model. MVA observed that it is not clear why HFA studied these two sites rather than that at Test Lane. One reason for the change could be that the P&O and Hotel sites lie within the county of Hampshire whereas the Test Lane site is within the city boundary.

4.7.7. Halcrow's strategic model results indicated "that there is a significant demand for park and ride from sites close to the M27/M271 to the city centre". This model may have confused high flows with healthy potential demand.

4.7.8. The HFA forecast suggested that a single site would have almost the same intercept as three sites. HFA state that "individually, [the sites] are sufficiently attractive to generate demand from a wide range of origins leading to large potential increases in traffic volumes on the M27." This contradicts the WJ assumption that a low level of traffic would divert. The Windhover site (24) in particular might only attract demand from the east. It could be argued that the contradiction in the forecasts is that WJ implied only about 10% of motorists would divert to a single site whereas HFA suggest only 10% would not divert.

4.7.9. The Hotel (9) and the P&O (48) sites were considered to generate similar levels of demand. Although there was little advantage in using both sites for park and ride the hotel site was viewed as a "robust" alternative to the P&O site.

4.7.10. It was argued that a three site strategy would only generate a net demand of 800 vehicles. The implication was that a two site strategy could attract as many trips to park and ride services as three sites.

4.7.11. The need to manage parking charges in the city centre was recognised by the Halcrow study. Journey cost was found to have a more significant effect upon patronage than journey time. This balance may have switched such that journey time is now more important. This would reflect the improved economic circumstances.

4.7.12. HFA recommended more work on the origin and destination of potential users of park and ride was required to help develop a strategy for implementation and examine the effects of changing the parking charge regime.

MVA Study Conclusions (1993)

4.7.13. MVA argued the City should plan for the implementation of an initial single site at Stoneham with the aim of this site opening in Autumn 2000 to coincide with the opening of the West Quay shopping centre. The marketing of this service could have been as part of the "West Quay transportation package". West Quay chose to support a park and rail service from the Airport Parkway station in preference to a bus based service.

4.7.14. MVA argued that there was the demand for park and ride, even though a more general public transport improvement could achieve the overall required modal split for public transport access to the West Quay Shopping centre. MVA state that 'the principle of encouraging park and ride behaviour should be encouraged by establishing a single site as early as possible'.

4.7.15. The Stoneham site that MVA originally proposed as the initial Park and Ride site was supported by the following justifications:

- The HFA report suggests that the variation in demand between sites would be relatively small.
- The Test Lane site, although it has the largest capacity, would also be the most expensive to construct.
- Of Stoneham and Windhover, the Stoneham site looks likely to attract the larger demand.
- Stoneham and Windhover will cost about the same to construct.
- The Stoneham site is in public ownership and would be easier to implement.
- The corridor serving Stoneham is relatively uncongested.
- The corridor for the Windhover site is more congested with fewer opportunities for bus priority schemes.

4.7.16. These justifications could be challenged, for example demand from a single site at Windhover could actually be higher than one at Stoneham due to a greater potential intercept of city bound traffic passing the site.

4.7.17. It was argued that the City should seek to maintain the long term option of a "comprehensive park and ride from sites on its periphery to the east, north and west" but with a timescale for implementation of "beyond 2020". This seems to suggest that park and ride should not be taken forward for the Southampton area. The value of maintaining options on these sites could be reviewed in the medium term, around 2005.

4.7.18. MVA recommended that further work should include discussion with private sector organisations with a view to obtaining funding contributions. Assessments of revenue potential, city centre parking charges and complimentary measures were required. This suggests that there is a need to consider park and ride options in greater detail.

4.7.19. The MVA recommendations changed when the Summary Report of the Public Transport Development Study was published in March 1999. The conclusions of this report suggested that the City Council should, as a matter of urgency "implement an initial bus-based Park and Ride scheme, using the Test Lane site".

4.7.20. The choice between sites for the initial system was considered to be "finely balanced between Stoneham to the north and Test Lane to the west". Considerations of "land ownership and quality of public transport routes may suggest that Test Lane would enable the initial site to be established more quickly and effectively. Test Lane also provides most scope for incremental expansion, and could ultimately accommodate 900 cars". These justifications for site 7 appear to be weak and overlook the key disadvantages that include the development costs and the commercial value of this site.

4.7.21. Reservations about a three site strategy are emphasised in this document "a comprehensive park and ride system on a multi-site basis is an objective to work towards, but is not justifiable in the short term given its costs".

4.8. Summary

4.8.1. The principal park and ride study was that published by Wootton Jeffrey's (WJ) in 1993. This study identified preferred sites through a three stage site selection process. These sites at Test Lane (7) Stoneham (17) and Windhover (24) have become the focus for subsequent park and ride studies.

4.8.2. The Halcrow Study (HFA) attempted to forecast park and ride demand using the Southampton Transportation Model. The Test Lane site (7) was replaced by the Hotel (9) and P&O (48) sites. HFA suggested that a single site could produce a similar level of demand to that of three sites.

4.8.3. The MVA study emphasised the inconsistencies between the findings of the WJ and HFA studies. MVA initially suggested the development of a single park and ride site at Stoneham but subsequently suggested the first site should be at Test Lane.

4.8.4. The WJ study remains the most useful reference source but site selection needs to be reconsidered before developing a contemporary park and ride strategy.

5. Alternatives To Bus Based Park And Ride

5.1. Introduction

5.1.1. This section investigates the opportunities offered by rail and ferry services, express bus services and cycling to fulfil the role of park and ride. Greater emphasis is placed on those options that appear to have scope to help contribute towards a city wide park and ride strategy.

5.2. Rail Based Options

Overview

5.2.1. Rail based park and ride has the potential to offer significant journey time savings over a bus-based system. However when assessing the viability of rail based options the key capacity issues need to be considered.

5.2.2. The Hampshire Local Transport Plan identified this problem "On the rail network Hampshire suffers a number of capacity constraints". A key constraint is line capacity, especially since the principal routes into Southampton are shared with freight services to the docks. Platform lengths and signalling restrict the provision of longer trains. There is also a constraint on parking provision at stations such as Southampton Airport Parkway.

5.2.3. At present Southampton Central station is capacity constrained. The Railtrack Network Management Statement refers to plans to enhance the capacity of this station. "We are also investigating improved operational flexibility at Southampton Central, to permit passenger trains from the west to terminate and start from the down West Bay platform. This requires signalling and track alterations, for which we are investigating the scope and cost implications".

5.3. Enhancing Park And Rail From Southampton Airport Parkway Station (Short Term Option)

Introduction

5.3.1. WJ considered creating additional parking provision for this station as an alternative to a bus based park and ride at sites 17 and 18, since the sites would attract similar patronage with a rail based park and ride. It was recognised that to attract passengers the pricing of the scheme would need to be competitive with town centre parking charges.

5.3.2. WJ considered this to be the best rail option for park and ride but recognised a number of difficulties. In particular it was argued that "There would need to be a new car park built for park and ride customers only. The current car park is virtually full most days and very expensive. Any new car park would have to be separate from the existing car park and different prices would need to be enforced". These concerns are still valid today.

5.3.3. WJ recognised the need for a shuttle bus between the city centre and Southampton Central station. This shuttle service now operates in the form of the CityLink service.

5.3.4. A park and rail service from the parkway station has been introduced since the publication of the WJ and MVA reports. The West Quay sponsored scheme is promoted as follows:

5.3.5. "From Autumn 2000 (Saturdays, Sundays and Bank Holidays), try the new Park and Rail scheme run by South West Trains at Southampton Airport (Parkway) station and catch the train to West Quay. There are up to four service and hour and the journey time is only around seven minutes. Pay a discounted rate of only £2.50 which includes parking and return rail travel for up to five people".

Policy Issues

5.3.6. Southampton Airport Surface Access Strategy suggests schemes to enhance the airport's role as an integrated transport interchange. These include an "Extension to [the] park and ride facility". A park and rail service could provide an express link between the airport and the city centre. However the airport's permitted development rights limit control over parking supply and pricing close to the airport.

5.3.7. A rail shuttle operates between Eastleigh and Southampton. There are plans to extend this shuttle service northwards to Chandlers Ford. Reference to these plans appears in Chapter 9 of Railtrack's 2001 Network management statement where it is suggested that Chandlers Ford station could be developed as part of the South Hampshire Rapid Transit Network. Development of Chandlers Ford station could offer an opportunity to improve service frequency and more even headway times at the Airport Parkway station.

Operational Issues

5.3.8. Commuters are generally parking at the Parkway station to railhead for their journey to London. The parkway station is easily accessible from the motorway but is served by limited local bus services.

5.3.9. Daytime rail frequency is 5 trains per hour but not on a clock face timetable (for example: 11.37,11.52,11.58,12.15,12.22). There may be considerable obstacles to re-timing these services due to the demands of freight and express passenger services. However as part of the South West Trains re-franchising process there are plans to re-cast the timetable. This will provide an opportunity to operate trains at more regular intervals.

5.3.10. Weekday daytime journey times vary by about five minutes. A non stop journey time from Southampton Airport Parkway to Southampton Central varies between 7 and 10 minutes whilst stopping trains take 11 or 12 minutes.

5.3.11. The park and rail scheme had a slow start but is now perceived by South West Trains to be quite successful. The service is thought to be likely to continue but can at present only be provided at weekends when there is spare parking capacity at the station.

SWT applied for a motorway sign for the park & ride but this was not permitted because this is a Saturday only service.

Parking Issues

5.3.12. The key constraint appears to be a shortage of parking spaces at the Parkway station. The station car park is full between 7.30am and 8.15am. It was observed in October 2001 that motorists are parking in the Lakeside Country Park to avoid paying parking charges. A temporary station car park is operating from the University car park site (44).

5.3.13. The airport has constructed a new two storey short stay car park but the use of airport car parking for station railheading is discouraged. Another airport car park will have to be moved if and when the Chickenhall Link bypass is built. This is thought to be the Pink Elephant long stay car park to the north of the airport terminal at the end of Mitchell Way. Charges for this car park are:

- 0-30mins 70p
- 30mins-1hr £1.30
- 1-2hrs £2.00
- 2-4hrs £3.50
- 4-24hrs £5.20.

5.3.14. Differential parking charges would need to be applied at a park and ride site close to the parkway station to discourage excessive use of this station for railheading. Premium pricing could be applied to commuters using a park and ride site for railheading. Regular car park users could purchase season tickets to provide a guaranteed income stream. Discounted parking charges, perhaps cross subsidised from other parking income streams, could be offered to users of socially necessary park and ride services to the hospital and University.

Conclusions

5.3.15. Land should be secured to permit an expansion of car parking close to the Parkway Station. If most of the additional traffic generated were intercepted from the motorway then this would have a minimal effect on local roads. However rail services into the city need to be improved in terms of capacity and frequency if further expansion of park and rail is thought to be desirable.

5.4. West Totton Station

Introduction

5.4.1. There is no reference to proposals for a station at West Totton in Railtrack's 2001 Network Management Statement. It is thought therefore that the timescale for implementation of this station proposal is likely to be in the medium term.

5.4.2. The development of park and rail services in connection with this proposed new station could intercept motorists heading into Southampton from the Waterside and Lyndhurst areas.

Wootton Jeffrey's Observations

5.4.3. The proposal at the time of the WJ report was to develop the site, either as a parkway station with 350 car-parking spaces, or as a community station with 70 spaces. The latter was thought to be most likely at first with the possibility of extension to create a parkway station. A one-hectare site reservation for the station and car park at Bartley Park was included in the deposit New Forest District Local Plan (1999).

5.4.4. The station proposal was taken forward by Wootton Jeffreys to stage two of their analysis but was considered to be a longer term option and therefore "beyond the scope" of their report.

5.4.5. WJ also referred to proposals for park and rail along the Totton - Hythe line. "This could operate from Hythe, Marchwood and possibly Totton with a direct service to the city centre." Space for parking was available at Hythe but limited at Marchwood. Price, speed and quality of service were identified as the key factors that would have to be set at the right level to attract motorists and passengers from the Hythe ferry. Freight movements on this branch could limit the options for a frequent passenger service required for park and ride, especially if the Dibden Bay terminal is developed.

Hampshire Local Transport Plan Comments

5.4.6. "A new station is proposed at Bartley Park, West Totton. The need for this facility was identified as part of the 1990 Hampshire Rail Improvement Study. The proposal includes a new access from Monkton Drive with associated parking. There will also be pedestrian and cycle access via Ashurst Bridge Road and a link eastward to the Green route where it crosses the railway. This is a longer term aspiration which would require detailed discussion with Railtrack, train operating companies and the local community and is therefore unlikely to feature in this five year local transport plan period". It is apparent that the West Totton station requires greater support from the rail industry.

Conclusion

5.4.7. Land needs to be safeguarded to ensure that an adequate parking provision could be provided to accommodate future park and rail demand at West Totton Station. An appropriate level of parking charge could be applied to discourage long distance commuting at this station by rail users who have good access to local bus and rail facilities.

5.5. Fareham to Southampton line

Introduction

5.5.1. The rail service from Fareham to Southampton was seen by WJ to have the potential to carry a large number of commuters and shoppers to the city centre from the eastern suburbs. However it is a slow route with many intermediate stations. A faster and

more frequent service with fewer stops was thought to be a means to improve the image of this service. Station parking would also need to improve. The use of this railway line for park and ride was not considered by WJ in the stage two report.

South Hampshire Rapid Transit (SHRT)

5.5.2. The line from Fareham to Southampton via Woolston has been identified for path sharing use by an extension of the SHRT network between Fareham and Southampton City centre. Railtrack South West Zone have commissioned consultants DNV (UK) Ltd to undertake a study of the impact that SHRT light rail vehicles would have on its business and as part of this study a track sharing study was undertaken by AEA Technology and TTK.

5.5.3. Additional light rail stops along the existing heavy rail line stops are envisaged. One, at the major employment area of Segensworth would be close to junction 9 of the M27. Thus there may be scope to increase parking provision to encourage motorists to park here and use light rail services to access the city.

Conclusion

5.5.4. Development of this railway line for park and ride would be a longer term option but park and ride provision could form part of the South Hampshire Rapid Transit network extension into Southampton. It should be noted that any proposal to use the Itchen Bridge for light rail would create difficulties for a bus based park and ride service along the Portsmouth Road.

5.6. Ferry Based Schemes

Overview

5.6.1. A report published out in 1992 for Hampshire County Council/Southampton City Council provided a preliminary study of new local ferry services to serve Southampton. All of the ferry schemes discussed in this report were considered to offer journey time savings relative to the time it would take to travel by car.

5.6.2. Three proposed schemes were considered briefly in the WJ Stage 1 Report in 1993. None of these schemes were considered in any further detail in Stage 2 of this report. However WJ did suggest that use of the Hythe Ferry service for park and ride could be considered in the future.

5.7. Hythe Ferry Services

Introduction

5.7.1. The Hythe Ferry service is operated by White Horse Ferries and links Hythe with Southampton. Annual revenue support for this ferry is £35,000 per annum. A report in 1999 on the long term future and development of this ferry service found scope to improve patronage on this service primarily by improving connecting services, through ticketing and more effective promotional activity.

Study Findings

5.7.2. The "Southampton Transportation Strategy" study commented on findings from the 1991 "Hampshire County Structure Plan". At that time the ferry was operating on a half hourly frequency in the peak period and hourly in the off peak period. There was a nearby car park with 170 spaces, and other car parks within 3-5 minutes walk from the pier. One suggestion from this study was to provide a bus service from Town Quay to the city centre as part of an overall 'Park and Ferry' service.

5.7.3. The Totton and Waterside Transport Strategy, July 2000, outlines future plans to develop the Hythe ferry "The ferries presently operate at below maximum capacity levels but the combination of discouragement to private car trips and more frequent ferries could increase overall patronage. It is proposed to create a high quality major public transport interchange at Hythe. This will include better integration of ferries, buses, taxis, cycles and walking routes".

5.7.4. A review of the existing Hythe Ferry service based on the findings of the Steer Davies Gleave survey can be found in the Dibden Bay park and ride analysis.

Opportunities To Develop The Hythe Ferry Service

5.7.5. 45% of the ferry passengers drive or are driven to the terminal at Hythe yet there is no specific car parking at this ferry terminal according to the Dibden Bay Park and Ride Study [2000]. There is nearby public parking but this parking plays an important role in supporting the local retail economy. There is scope therefore to provide high quality dedicated park facilities in Hythe if suitable land is available.

Constraints On Further Development

5.7.6. The ferry service has to compete with the rail link bus service to the Waterside area. Improvements to local bus services between the Waterside area and Southampton through as bus quality partnership could abstract users from the ferry service. In the longer term a passenger service along the Totton – Hythe – Fawley freight line could also have an impact on the demand for this ferry service.

Conclusions

5.7.7. In the short term development of park and sail facilities at the Hythe end of the ferry terminal provides a cost effective means to promote greater use of the Hythe Ferry and reduce car based trips from the Waterside area into Southampton. However a constraint on park and sail will be finding suitable space for additional parking.

5.7.8. In the longer term the viability of park and sail operations using the terminal at Hythe will need to be reviewed in the light of rail based proposals to open a station a West Totton and introducing passenger service on the Hythe freight branch.

5.7.9. There may be concerns that a park and sail scheme might encourage motorists to drive into Hythe in preference to using local bus services.

5.8. Warsash Ferry Proposal

5.8.1. WJ commented upon the findings in the 1991 Hampshire County Structure Plan [Hampshire County Council, 1991]. This report suggested that "there is some potential saving in time from providing a new ferry service from Warsash to Southampton, but it would be limited and fares would be expensive" There was a reasonable amount of car parking nearby at the time of this report but concerns were raised about the potential level of demand for this service.

5.8.2. It is not thought that there is a need to re-consider this ferry option. In addition to concerns about limited demand potential there would be issues of increased motor vehicle traffic on local roads around Warsash.

5.9. Hamble/Solent Way Ferry Proposal

5.9.1. A new service from Hamble to Southampton was thought in 1991 to offer reasonable time savings but "significant costs would be involved in providing a jetty, highway access and car parking". Concerns were also raised about whether there was sufficient demand for this proposed service. Provision of a bus based linked between Hamble and a park and ride site at Windhover would have a much greater potential to operate as a viable service.

5.10. Dibden Bay Park And Ride

Introduction

5.10.1. Associated British Ports (ABP) is seeking permission under the Harbours Act and related legislation for the expansion of the Port of Southampton by developing Dibden Terminal as a new deep sea container facility. As part of the transport strategy for the Terminal, a 500 car spaces Park and Ride together with a new ferry service between the Terminal and Southampton are proposed. A public inquiry into the Dibden Bay proposal is in progress and is expected to last until late 2002.

5.10.2. The park and ride facility would be located east of the A326, and accessed from the proposed Terminal Access Road. A bus service would be run between this facility and the proposed new ferry service that would operate between the terminal and Town Quay, Southampton. This ferry service would be in addition to the existing Hythe ferry service currently operating in the area.

5.10.3. It is anticipated that White Horse Ferries would operate both the Hythe Ferry and the Dibden Bay Park and Ride Ferry services if the Dibden Bay proposals were given planning permission.

Dibden Bay Park and Ride Study

5.10.4. The "Dibden Bay Technical Statement" prepared in September 2000 by David Tucker Associates examines the potential for Park and Ride around the Totton/Hythe area and along the A326 corridor. The study also looks closely into the possibility discussed in the WJ Report of using the Hythe Ferry as a park and ride option.

5.10.5. The report argues that the proposed Dibden Bay ferry service would not be a replacement for the existing Hythe ferry, and would primarily cater for Dibden Terminal Employees from Southampton and for the Waterside commuters to Southampton.

Dibden Bay P&R Study Demand Forecast

5.10.6. Demand was forecast to be 145 vehicles in the morning peak between 8am and 9am. This level of demand appears to be unrealistic. It is based upon the results of a logit model used by David Tucker Associates for this study that predicted that 55% of trips between the A326 in the Dibden area and Southampton City Centre could transfer to the proposed park and ride facility during the morning peak. The propensity for motorists to use park and ride is more normally considered to be around the 30% level.

5.10.7. The demand forecast is further developed to suggest that another 30% of the total peak hour trips would use the facility in the shoulder hours either side of the peak hour usage. There would therefore be 44 additional trips in the 0700-0800 hour period and 44 additional trips during the 0900-1000 period. Thus the total car parking space requirement between 0700-1000 was forecast to be 233. Off peak demand was assumed to be generally equal to peak demand. Therefore this figure was doubled to suggest that a 500 space park and ride facility will be required.

Conclusions

5.10.8. A decision on the proposed Dibden Bay port development is not expected until 2003 at the earliest. The viability of the proposed park and ride service is questionable. It appears to be a medium to long term option that is dependent upon the terminal going ahead. It should not conflict with a western park and ride site close to junction 1 of the M271, but it could impact upon the financial viability of the Hythe ferry. It is thought that ABP are re-considering the park and ride proposal, in favour of negotiating a package of public transport improvement with the County Council.

5.11. Development Of Express Bus Services

Overview

5.11.1. Examples are given below of bus routes that are seen to have the potential to be integrated with park and ride sites in the Nursling, Stoneham and Windhover areas. In particular it should be noted that a University park and ride service is currently in operation from site 44 in the Stoneham area.

X33 Poole – Bournemouth – Southampton

5.11.2. This express bus services is routed along the M27 and then down the M271 towards the Redbridge/Millbrook route into town. It might be possible for this service to leave the M271 at Junction 1 to serve the Adanac Park development and/or a park and ride site close to this junction. There may be scope for motorists to park and use this bus service as a means to travel to the City Centre, Bournemouth and Poole. In addition the stop would enhance public transport access to Adanac Park for employees and visitors. This stop could replace that made at present close to the Millbrook roundabout. Journeys between Southampton and Bournemouth are timetabled to take approximately one hour with the

journey to Poole taking an additional 21 minutes. Introduction of the new park and ride stopping point could be linked to an increase in frequency that at present is only about one bus per hour.

Uni – Link Route U1: Southampton Airport – Highfield University Campus

5.11.3. Uni Link service number U1 operates between Southampton Airport Parkway station and the City Centre (Marlands) on a half hour frequency with a £1 flat fare. A First Bus 101 service return fare is slightly cheaper than a £2 Uni Link return fare. Journey times vary between 12 and 19 minutes.

5.11.4. An informal park and ride site in connection with this service is currently in operation from site 44. At present motorists have to walk out of the site towards the station and cross over the railway line by a bridge to reach the bus service. There are plans to enhance this park and ride site by changing the terminal point of the service from the station to the park and ride site itself.

Solent Blue Line Service 29: Southampton/Hamble – Eastleigh – Winchester

5.11.5. The existing service 29 runs past two of the favoured eastern sites at Windhover (24) and site 40. The unusual route of this service from the Windhover area to the city centre via Montague Road and Butts Road is too indirect to make this service attractive to park and ride users. Re-routing of buses along the Botley Road and a reduction in city centre stops could increase the potential for development of this service for park and ride. In practice however it would be preferable to retain the 29 service in its existing form but permitting park and ride bus service users to interchange at Windhover for route 29 services to Netley, Hamble and Hedge End.

5.12. Conclusions

5.12.1. A successful park and ride operation requires a reliable and frequent bus service. Bus services close to the proposed park and ride sites tend to operate on a lower frequency. These routes will also be affected by road congestion.

5.12.2. Integration with local buses can provide interchange opportunities for public transport users. City centre park and ride is best served by dedicated park and ride buses. Journeys which are less time critical, for example for visitors to the University could be served by local bus services stopping at large park and ride sites.

5.13. Cycle And Ride Options

Introduction

5.13.1. Park and ride sites will need to make provision for cyclists in compliance with Hampshire County Council's parking standards. Two cycle routes that could be linked to park and ride sites are:

- **NCN 2 'South Coast Cycle Route'** – From the New Forest via Hythe Ferry to Southampton Town Quay, then to Woolston and on east to Portsmouth. This route could be connected to a park and ride site at Windhover (24) or at Hythe.
- **NCN 23** A North to South route between Eastleigh and Southampton. This route could interchange with a site in the Stoneham area north of the M27, for example site 38 or 44.

Suggestions For Integrating Cycling With Park And Ride

5.13.2. The cycle and ride option could be marketed as a sustainable and cost effective transport mode. A cyclist could travel from home to the nearest park and ride site along dedicated cycle routes. Free and secure cycle parking would be available close to the park and ride setting down and pick-up point. Bus fares could be set at a lower level for cyclists. The advantages of the service to a cyclist could include the benefit of not having to cycle amongst heavy flows of city centre traffic and avoiding the need to find suitable cycle parking within the city centre. In addition park and ride sites also served by local bus services could increase the options available to cyclists, for example allowing the to travel to Bournemouth and Poole. To enhance security cycles could be stored in a cycle shed at the park and ride site with this facility being managed by a site attendant. Again this could be a fee service. Revenue earn for parking charges could be used to cross subsidise the cost of providing high quality cycle facilities.

5.14. Summary

5.14.1. A comprehensive city wide parking strategy must incorporate opportunities to use a variety of transport modes. Rail options using the Airport Parkway and West Totton Parkway stations appear to have potential, subject to overcoming funding and rail capacity constraints.

5.14.2. Development of Hythe Ferry park and sail is an attractive short term option.

5.14.3. Integration of local bus services and providing cycle access will enhance the benefits derived from permanent large scale park and ride sites.

6. Site Feasibility

6.1. Introduction

6.1.1. There has been no further study work undertaken on site selection since the WJ report in 1993 to identify the most suitable sites for park and ride in the Southampton area. This chapter considers site selection in more detail, starting with 54 identified sites which are shown on the folding map, figure 1 in Appendix A. It then applies primary selection criteria to reject the least suitable sites. These are classified as "red" sites. The remainder, the "green" sites, have been examined in much greater detail using an assessment framework. This identifies the favoured, well located sites from which a variety of park and ride services might be operated.

6.2. Initial Selection Process

6.2.1. Primary considerations (in particular size, land use and location) were applied to all the sites. The process of initial site selection can be found by reference to the detailed site descriptions in Appendix B. The results of this exercise have been to reduce the 54 sites to 24.

- The sites that were rejected were:
- Unavailable due to development
- Too small for development
- Too inaccessible
- Too close to the city centre

6.3. Assessment Framework

6.3.1. Peter Brett Associates has developed a generic site selection framework to identify the green sites with greatest potential to facilitate park and ride services. A complete description of the key indicators and criteria can be found in appendix C. These are weighted according to their importance (primary, secondary or tertiary). The primary criteria are:

- Planning Policy Compliance
- Intrusion into residential areas
- Site capacity
- Accessibility
- Corridor constraints
- Intercept potential

6.3.2. It should be noted that park and ride sites are often considered to be less effective after a certain level of size, around 1000 spaces. The optimal site is around 800 spaces. Diseconomies of scale occur as the park and ride buses have to spend a longer period travelling around the park ride site.

6.4. Site Scoring Spreadsheets

6.4.1. Application of the assessment framework to the favoured 'green' sites produced site scores which can be found in Appendix D. Scoring is on a relative basis from a range of 0 (low) to 10 (high). Where all sites score low or high values an indication can be given to the general compliance of the favoured sites with the framework criteria.

6.5. Eastern Corridor Sites

6.5.1. Site 19 – Grazing land north of A334 link road between M27 Junction 7 and Kanes Hill roundabout. This site could attract vehicles from the east along the M27, Hedge End and Botley. Access would be from the A334 and would require some highway work for access by vehicles from the east. In 2001 the site was found to be a large area of land, which has an adverse gradient to the access road. To add to the difficulties, the land is undulating and would require expensive levelling work to make the site suitable for park and ride.

6.5.2. Site 22 – Grazing land, approximately 4.8 miles from the City Centre, situated between the M27, the roundabout at junction 7 of the M27 and Upper Northam Road. It is a large site with plenty of room for expansion, however the land is undulating and would require some expensive levelling to make it suitable for use as a parking site. The land was valued at £134,000 in December 2001.

6.5.3. This site is likely to attract vehicles from Hedge End and the east as well as a proportion of the vehicles that come into Southampton from the M27 east. However, it is likely to attract fewer vehicles from Bursledon, Warsash and none from West End. Access to site 22 would have to be from Upper Northam Road as there is no space on the roundabout for an extra arm. Upper Northam Road is a good sized road and there should be no problems creating an access to the site here.

6.5.4. The access could either be from Upper Northam Road, or Upper Northam Close. Upper Northam Close is a small residential road, which would require some deviation off the main route, and Upper Northam Road would require major highway works to provide a signalised junction for eastbound traffic. If Upper Northam Close were used, a road running parallel with the M27 to the site would need to be constructed which could be expensive. A low bridge under the M27 motorway on Upper Northam Close makes this an unsuitable exit route for buses. The site is now subject to a planning application for a golf driving range and associated buildings.

6.5.5. Site 23 – Land north and south of the link road joining M27 Junction 8 to Windhover roundabout. A fairly level site used as grazing land and a pony paddock. It was valued in December 2001 at £169,000. There are some houses near to the motorway on both sides of the back access road. There is no access from the motorway roundabout but access can be provided by a left turn from the link road allowing intercept before motorists reach the Windhover Roundabout. This could help ease the congestion at the Windhover Roundabout. Screening & landscaping of this site is likely to be required. This site should attract the same vehicles as the sites near Junction 7, but also would attract those from Junction 8. Access would only have to be from one direction as there is a roundabout either side of this short link road.

6.5.6. There is a steep gradient to the land at the Western end of this site that limits site size. This is a good site if the access issues can be resolved, although it is not as large as it first appeared to be. Car egress from the site could be a problem and there would be a gradient to the access slip roads.

6.5.7. Site 24 - Windhover Roundabout / Hamble Lane to the East of the City - This site would need to be approximately 4 acres in size with parking for 600 vehicles. The site is currently used for open market trading and this use could probably continue in conjunction with the Park and Ride site. The site was valued at £800,000 in the early 1990s as it does have some possible development potential. Potential patronage appears to be quite good, though it is the lowest of the 4 sites identified by WJ and the site is large enough for expansion should the Park and Ride scheme outgrow in its initial set-up size.

6.5.8. MVA (1998) suggested access arrangements for this site:

6.5.9. "The access for the Park and Ride service would be from a new signalised junction on the A3024. Car access to the site could either be from the A3024 or from existing Car Boot Sale access on the B3397. If the car access was to be from the A3024 about 250m east of Botley Road, it is recommended that the junction be signalised. This will allow for bus priority to be given to the Park & Ride bus at the junction. Car egress could also be at this junction but as an alternative could be from the B3397 just north of Tesco's Roundabout (left turn only)."

6.5.10. Site 25 - Grazing land west of Windhover roundabout, between A3024 Bursledon Road and A3025 Hamble Lane. As for Site 24 this would attract vehicles from the east and south east that approach the A3024 into the city. The site is level and of good size, it has a tarmac entrance and a gate. Access from the A3024 should not present any problems. This site has a similar location to site 24 but has only one access road on the A3024. Access would require a signalised junction for buses and eastbound traffic to access the site. The site is covered by policy 14.CO in the Eastleigh Borough Local Plan that indicates that this land is subject to 'landscape improvements' and a public footpath crosses the eastern boundary of the site. The land was valued at £143,000 in December 2001.

6.5.11. Site 26 - This is a red site but should arguably have been included in the scoring framework. The Hamble report refers to this land as the 'Botley Road' site. However the site was seen to be less well located than those sites further to the east around the Windhover roundabout.

6.5.12. Site 39 - Grazing land west of Windhover roundabout, between A3024 Bursledon Road and A3025 Hamble Lane. As for Site 24 this would attract vehicles from the east and south east that approach the A3024 into the city. The site is level and of good size, it has a tarmac entrance and a gate. Access from the A3024 should not present any problems. This site has a similar location to site 24 but has only one access road on the A3024. Access would require a signalised junction for buses and eastbound traffic to access the site. The site is covered by policy 14.CO in the Eastleigh Borough Local Plan that indicates that this land is subject to 'landscape improvements'.

6.5.13. Site 40 - A site with potential for Park and Ride but possibly too small and power lines run across this site. Fairly level land with horses grazing (2001). A house in one corner of the site which would need to be acquired by compulsory purchase. There is a Solent Blue

line bus stop at the eastern edge of this site. A slip road could be provided on the M27 southbound. The site was valued at £110,000 in December 2001.

6.5.14. Site 42 - Part of this site is used as a scrapyard, the remainder of the site appears to be used as grazing land. The site has poor access and is near to a nursery but the land is fairly level.

6.5.15. Eastern Corridor - Summary Site Assessment

6.5.16. The most suitable site for park and ride is the 'Windhover' site (24) that was first identified by WJ in 1993. Other sites thought to be reasonable alternatives are 25 and 40. Site 25 is close to site 24 and has some similar advantages, for example it is a large expanse of level land. However development of this site would be more controversial due to its location in the centre of the strategic gap. Site 40 is well located for motorway intercept from the M27 but it is a relatively small site with a longer park and ride journey into the city centre.

6.5.17. Sites around Junction 8 of the M27 tend to score better than those around the Hedge End Junction 7. Intercept opportunities are thought to be better for sites around the Windhover Roundabout. There is scope to use two different corridors to access the city centre (Portsmouth Road and Bursledon Road). In addition Windhover roundabout sites can be used to serve the Hamble peninsula.

6.5.18. Eastern Corridor - Recommendations

6.5.19. It is recommended that site 24 be identified as reserved for development as a strategic park and ride site in the Eastleigh Local Plan. Development of this site for park and ride will depend upon negotiations with the landowner. If difficulties are encountered then site 40 could be reserved for future park and ride use to ensure the option to develop park and ride in the Windhover area is maintained.

6.6. Northern Corridor Sites

6.6.1. Comprehensive Site Descriptions

6.6.2. Site 14 - Playing fields (2001), west of Wide Lane, North of the University Sports Ground near Southampton Parkway Station. The Wide Lane sports ground (football & rugby pitches) is used by the University of Southampton and King Edward VI School. Wootton Jefferies described this site as "unused land" in 1993. This site would attract vehicles from Eastleigh and possibly from the M3. The boundary of the site could be as big as required thus providing a sufficient size car park with room for expansion. The land however is located within the Strategic Gap between Southampton and Eastleigh and therefore it would be more difficult to gain planning permission. There is an existing overflow car park for the station next to the site. Access would be from Wide Lane and should not be difficult to implement.

6.6.3. The Stoneham Sites

6.6.4. The map in appendix A indicates the three sites along Stoneham Way to the south of the M27. These sites are:

- 17 Identified in the WJ report as the preferred northern site lying to the east of Stoneham Way. This is the 'Stoneham P&R' site shown in Figure 1 of the 1998 MVA study.
- 18a Identified by WJ as site number 18 lying to the west of Stoneham Way. This is the 'Stoneham' site shown in Figure 3.3 of the 1995 Halcrow Study. The southern boundary of the site was the city boundary and the western boundary of the site was Stoneham Lane.
- 18b The Southampton City Wide Proposals Map, March 2001 shows the Stoneham Site as lying to the west of Stoneham Way with its northern border being the City Boundary and the southern border being a residential area.

6.6.5. Site 17- Open space to the East of Stoneham Way. The site was subject to a planning application in connection with the proposed Southampton Community Stadium. Potential patronage figures for this site are fairly good however it is that there will be an adverse environmental impact on Monks Brook if this site is developed. Near the site is Southampton Parkway railway station, which may provide a rail-based alternative to site 17. The land was valued at £116,000 in December 2001.

6.6.6. Site 18a – Playing fields to the West of Stoneham Way and to the South of the M27. This is the land that lies outside the city boundary and was Wootton Jeffries site 18. A planning application by Eastleigh Football club to relocate to this site is believed to have been accepted. Therefore although the framework assesses this site as if it could be used for park and ride it should be recognised that this site is effectively no longer available. The land was valued at £190,000 in December 2001.

6.6.7. Site 18b – This lands lies immediately to the south of site 18a and is within the city boundary. It is considered here because this site was identified in the City of Southampton Local plan as reserved for park and ride use. Previous park and ride studies have not considered this site. However this site is similar in many respects to site 18a. A key difference is the proximity of this site to the Bassett Green and Swaythling residential areas which will make development of this site more controversial than 18a.

6.6.8. Site 38 – Southampton University playing fields between Junction 5 of the M27 and Wide Lane, north of M27. The site is in a good location and access could be from Wide Lane or the roundabout. It is a large area of land but has no room for expansion. The site could be used as a link with Southampton Parkway for Park and Ride site with a train service, but it would need a footbridge over Wide Lane. Alternatively it could just be used as bus based park and ride site.

6.6.9. The site has good access and can intercept motorway & Eastleigh traffic. Access would be either directly from A335 or from Wide Lane, both of which would not require much highway work. Currently access only appears to be possible via a bridge under the A335. There is a direct bus route into the city down Wide Lane, which links on to the Swaythling Link Road. Bus priority could be established on Wide Lane, but priority measures would need to be focused on selective vehicle detection at junctions. At present traffic is delayed by a signalised junction at the Wide Lane/Stoneham Way junction. The playing fields are in fairly poor condition (2001) and visible from the motorway. The site may also be suitable for coach parking. The land was valued at £283,000 in December 2001.

6.6.10. Site 43 - The Eastleigh FC ground is at the northern end of this site and Southampton Institute's Hardmoor Playing Fields is at the southern end of the site. Land ownership may therefore be split. The northern part of this site may become available if Eastleigh FC relocates to the Ten Acres Sports Ground (site 18a). This part of the site appears to be covered by policy 15.CO in the Eastleigh Borough Local Plan 1997. This policy identifies this land as an 'environmental improvement area'. This is a reasonable site but it will intercept motorway traffic only. The land is level and close to the motorway. Direct egress for buses is available down a back road. This site was valued at £270,000 in December 2001.

6.6.11. Site 44 - This site is split into two:

- 1) Parking for Southampton University students & lecturers – users walk across a footbridge to a reach local bus stop and then take the Link-link bus to the University.
- 2) An overflow car park for Southampton Airport Parkway - £6 per day to park. This is believed to be a temporary car park. (Charges at the Southampton Airport Parkway car park are: Up to 24 hours 4.40, 24-48 hours 8.80).

6.6.12. The southern and eastern edges of this site are identified as areas for landscape improvement (policy 14.CO) in the 1997 Eastleigh Local Plan.

6.6.13. Site 54 – This is a car park for the Ford Works at Swaythling to the south of the M27. Proposed options for development of this site would require either the release of a parking area on the site by the Ford company for park and ride use or addition of a parking deck to create a multi-storey car park. In practice there are concerns about access difficulties to the site, in particular for motorway traffic. The site may also be insufficient to meet the demands of a large scale, regular park and ride operation.

6.6.14. Northern Corridor - Summary Site Assessment

6.6.15. The sites to the south of the M27 score fairly well but in practice site 18b is not likely to be a good location for park and ride from an operational perspective even though is designated for park and ride use. Site 18a is expected to become the new Eastleigh FC ground and is therefore no longer available whilst site 17 would be controversial in that park and ride development could have a significant impact upon Monk's Brook.

6.6.16. Although there are no clear winners in the Stoneham area sites 38 and 44 are thought to have greater strategic importance due to the potential to use these sites for park and rail in addition to bus based park and ride. Both sites can also use Wide Lane to avoid the congestion around Junction 5 of the M27. The other sites to the north of the motorway (14 and 43) are further away from the station and their development would be more intrusive on the strategic gap.

6.6.17. Northern Corridor - Recommendations

6.6.18. Development of park and ride in the Stoneham area can be viewed as a longer term option. The Eastleigh Local plan should protect site 38, the 'Wide Lane' site, from development to ensure that this site remains available for park and ride use in the future. The need to retain this option could be reviewed at the end of each five year plan period.

Site 44 would provide a robust alternative to 38 from an operational point of view but development of large scale park and ride using this land would be more controversial from a planning perspective.

6.6.19. Price discrimination could be applied to the parking charges at the Parkway car park. Variable ticket prices according to user e.g. £10 for commuters railheading at the station, £5 for airport employees, £2.50 for Hospital and University park and ride Services. Park and ride users can get their parking ticket validated by the bus user. Airport employees could have car park season tickets. The high price charged to business users could help to subsidise the park and ride service to the hospital.

6.6.20. It is recognised that site 38 is constrained to the extent that it could not accommodate a very large 1000+ car park. However a very large park and ride site in the Stoneham area would create additional planning policy conflicts and site 38 should be adequate to meet the intercept in the foreseeable future.

6.7. Western Corridor Sites

6.7.1. Comprehensive Site Descriptions

6.7.2. Site 7 – Land with development potential at Gover Road/Test Lane to the West of the City. In the past it has been used for the annual boat show. A disadvantage of the site is that the land is designated as contaminated and would therefore require a high level of remedial work to make it suitable. Hampshire County Council has valued the land at between £7,000,000 and £8,000,000 (without remedial work being accounted for) and unless the cost can be offset elsewhere this cost alone could make the site non-viable.

6.7.3. Site 9 – A level site with good access. A Holiday Inn Express is located in SW corner of the site. There are expansion plans for this site including restaurants and a public house. There is the possibility that park and ride spaces will act as overflow parking for hotel and restaurant developments. Spare capacity was observed at this motorway junction. There are mature trees along the northern boundary of this site that may hinder further expansion. The southern part of this site has now been planted with saplings (October 2001). The Hotel car park was observed in October 2001 to be little used. This site has been included in the site scoring framework since it was one of HFA's [1995] favoured western sites. However it is anticipated that the remaining land on this site will be developed in the near future as part of the Adanac Park development

6.7.4. Site 10 – A large grassland area with room for expansion north of Site 9 between the M271 and Yewtree Farm. The land is a good size, but it is zoned for major business use as part of phase 3 of the Adanac Park development. It is further from the M271 than Site 9 and access would have to be from Yewtree Lane. This site would attract the same patronage as site 9. The site access is good but Yewtree Lane is narrow and would require some highway work for the expected increase in traffic. There is a possibility of access directly from the M271 via a slip road but this would require major highway works. It is anticipated that this site will be lost to business development.

6.7.5. Site 35 – A large site occupied by playing fields (Millbrook Rugby FC) and a park off Redbridge Lane, Lordshill. The site is level and access is good from Redbridge Lane, but again it is not close enough to the M271 and there is probably not enough flow from the A3057 to make this site viable. It is in a run-down area, with residential areas on two sides of

the park. There would have to be substantial deviation from the M271 into the city to access the site, and it is suspected that there is not enough flow along Romsey Road corridor to sustain the site. There is a direct route into the city via the Romsey Road. Access could be either from Romsey Road or Redbridge Lane, which are already busy roads, and have residential areas around both of them.

6.7.6. There is a security issue with this site, a line of burnt out cars being observed in the car park off Redbridge Lane. The location of this site is not ideal for intercept, especially for traffic using the M271. A school is located in the northern corner of this site. Next to this school is a large children's play area, which might be well used at weekends when the land nearby would be in use as car parking. Good access to the site is possible via the large roundabout on the Romsey Road. A David Lloyd sports centre has been developed at the southern end of this site.

6.7.7. Site 36 - Grazing land, part of Grove Lodge Farm, between the M271 and the A3057 north of the M27. The site is a very large area of farm land and is partly wooded. Access would probably have to be from the M271 or Upton Lane. There does not appear to be any possible access from the A3057. Being north of the M27 would distract vehicles from using it, it is probably too far out from the city, and there is likely to be enough flow from the A3057 to make this site viable from A3057 traffic alone.

6.7.8. There appears to be plenty of spare capacity on the dual carriageway to the approach road of the site. There is a significant gradient between this road and the site that lies above the road level. There may be an issue of congestion on the Junction 3 motorway roundabout although buses could use the Romsey Road/Shirley Road corridor.

6.7.9. Site 48 - This site is used as a lorry park and appears to be well used. The entrance to the site (2001) identifies this location as "Roadways Container Logistics, Nursling". Halcrow Fox referred to this location as the 'P&O' site and it was the preferred site in their 1995 report. There would be a number of difficulties with the implementation of a shared park and ride / logistics park on this site. Furthermore shared use of this site would create an image problem for the park and ride operation.

6.7.10. Site 49 - This is unused land, fairly level, close to the M271 motorway junction 1. Access to the site could be provided from a new roundabout. There are plans to widen the link road to the motorway junction. The Southern Test Valley Beyond 2000 Planning Brief (Draft) May 2000 indicates a proposed junction improvement (s10.6 Brownhill Way/Redbridge Lane junction improvement) that could improve access to this site. The site is well screened from residential development. There is a plan to use this land as a 650 space park and ride in connection with Adanac Park. It is proposed by Test Valley that this land be reserved for park and ride use. The land is not thought to be suitable for housing development due to its proximity to the motorway. It was valued at £250,000 (as agricultural land) in December 2001 although its potential commercial value is much higher.

6.7.11. Site 50 - This is the 'Bargain Farm' site and is a field under cultivation (October 2001). A level site with an opportunity to provide good access to the M271 through a roundabout on Brownhill Way. This site does however have the problem of greater residential intrusion relative to other potential sites in this area. This land appears to be suitable for housing development and that will increase the land acquisition costs of this site however the agricultural land valuation in December 2001 was £269,000 for this site.

6.7.12. Western Corridor - Summary Site Assessment

6.7.13. Site 49 scores well relative to the alternatives. Other sites that might have been robust alternatives have been lost to development, this is the case for site 9 and may prove to be the case for site 10 which lies within the Adanac park development. Site 50 could provide a fairly robust alternative to 49 but in the future this land is likely to be required for housing. The potential value of this land for housing development will make development of a park and ride operation from this site more problematic.

6.7.14. Site 48 is a good alternative to site 49 but in practice there would be difficulties sharing this site between park & ride and lorry parking. If site 48 were used for park and ride the existing business activities would need to be relocated. Therefore it is preferable to allow site 48 to continue to act as a lorry parking/warehousing site.

6.7.15. The Test Lane site (7) was Wootton Jeffrey's preferred site but is thought to be inferior when compared to 49. The value of this site is such that it is now more attractive to release this land for commercial development.

6.7.16. Sites 35 and 36 were seen as inferior locations for intercept compared to the cluster of sites around junction 1 of the M271.

6.7.17. Western Corridor - Recommendations

6.7.18. As a matter of urgency 49, the 'Redbridge Lane' site, needs to be designated as land reserved for park and ride use in the Test Valley and Southampton City Council Local Plans. In connection with the phase two development of Adanac Park it would be sensible to progress the development of park and ride operation from this site to destinations such as the General Hospital, the Ordnance Survey offices and the city centre.

6.8. All Corridors - Summary

6.8.1. Suitable park and ride sites have been identified in the Nursling, Windhover and Southampton areas. Immediate action is required to reserve sites 24 (Windhover) and 49 (Redbridge Lane) for park and ride use with a view to developing these sites when the demand is proven to exist and the finance has been secured to provide high quality park and ride site.

6.8.2. It is also desirable to reserve a site for park and ride operations in the Stoneham area. Site 38 is the preferred option although 44 would be a robust alternative if this were acceptable on planning grounds. It is not certain that this northern site would need to be developed as a formal park and ride site but reserving a site would preserve the option for future development of park and rail or bus based park and ride.

7. Corridor analysis

7.1. Introduction

7.1.1. The corridors considered below are recognised as the principal routes into the city centre. Other routes that have potential for park and ride services will be considered as part of the strategy development in chapter 8. In particular an east-west route linking park and ride sites to the Ordnance Survey Offices, the General Hospital and the Highfield Campus of the University of Southampton is considered.

7.2. General Description Of The Corridors

7.2.1. Western Corridors

7.2.2. Millbrook Road – This route commences with the M271 that links into the A35 Redbridge Road at the Redbridge Roundabout. The road into the city centre becomes the A33 Millbrook Road West after the Millbrook Roundabout and then Mountbatten Way after passing Millbrook Station.

7.2.3. The route is a wide three lane road providing access to the city docks, city centre and the Ocean village areas of the city.

7.2.4. The Hampshire Local Transport plan refers to the A326/35/A3024 Waterside-Totton-Southampton bus priority scheme which would incorporate a large section of the Millbrook corridor: "Bus Priority measures on this route are designed to increase the attractiveness of bus links from the Waterside to Southampton. Improved information and Intelligent Transport Systems will be utilised to further enhance the route"

7.2.5. Shirley Road – This is the A3057 commencing with Horns Hill to the north of the M27 and subsequently becoming Romsey Road, Shirley High Street and then Shirley Road when heading towards the city centre.

7.2.6. The 'Shirley - Streets Ahead' programme has improved the pedestrian environment on the Shirley High Street section of this main radial corridor (see Southampton LTP 2001/2 to 2005/6 sections 10.1.8 to 10.1.10). However local buses were observed to be caught in traffic in October 2001.

7.2.7. Northern Corridors

7.2.8. The Avenue – This corridor is the A33 commencing at the southern end of the M3 as Bassett Avenue. Further south this becomes The Avenue and finally Dorset Street before terminating at the Charlotte Place Roundabout on the northern edge of the city centre.

7.2.9. This road is signposted on the M3 as the route into Southampton City centre. It is a wide two lane route into Southampton well used for peak commuting journeys. No suitable park and ride sites have been specifically identified along this corridor. A cycle lane is provided along this road.

7.2.10. Thomas Lewis Way – This route begins as the A335 Stoneham Way from Junction 5 of the M27. South of Swaythling Station the A335 becomes Thomas Lewis Way and after the Bevois Hill Road junction the A335 leads onto Bevois Valley Road, Onslow Road and St.Mary's Road before terminating at the Charlotte Place roundabout.

7.2.11. The Thomas Lewis Way is a wide single lane road with free flowing traffic inbound during the off peak. Bevois Valley Road at the southern end of this corridor has been affected by the Bevois Corridor Improvement Scheme. Cycle lanes, cycle advance stop lines, cycle stands and very small car park next to a bus stop have been provided. Free flowing traffic inbound but heavy traffic observed outbound on 24/10/01.

7.2.12. Portswood Road – This is the local road which runs almost parallel to Thomas Lewis Way and is considered in this chapter due to its importance as a local bus route corridor and not for its potential as a park and ride bus route.

7.2.13. Eastern Corridors

7.2.14. Northam Road / Bitterne Road East - This is the route that links the M27 Junction 7 at Hedge End with the City Centre. It commences with the A334 Charles Watts Way that then becomes Thornhill Park Road after crossing the A27. After passing Thornhill Park this road become Bitterne Road East before merging with the A3024 Maybray King Way (see below).

7.2.15. The WJ study suggested the possibility of using some of the larger superstore (e.g. Marks & Spencers/Sainsburys close to the junction 7 of the M27) car parks as short term Park and Ride sites.

7.2.16. Northam Road / Bursledon Road - The A3024 is the route into the city from the Windhover Roundabout close to junction 8 of the M27. This is the Bursledon Road until the Bitterne road junction where the road becomes Maybray King Way. After the Lances Hill junction this route becomes Bitterne Road West and after the Northam Bridge it is the Northam Road. The eastern edge of the city centre is reached at Six Dials Junction.

7.2.17. The Bullar Road gyratory system (east of the Bitterne Road Railway Bridge) is the main 'bottleneck' along this corridor.

7.2.18. This route is covered by the Bitterne Traffic Management Scheme that started in the 1970's. This traffic management scheme limits traffic volumes using fixed linking plans within the ROMANSE framework.

7.2.19. Portsmouth Road - The A3025 Portsmouth Road provides an alternative to the Northam Road corridor as a means to reach the City centre from Windhover Roundabout. It can be access from this roundabout either via the A3025 Hamble Lane or along the A3024 Bursledon Road as far as the B3033 Botley Road Junction and the along Botley Road to the point where it joins Portsmouth Road.

7.2.20. This route crosses the river at the Itchen Toll Bridge. This bridge has single lane general traffic carriageways with narrow cycle lanes either side.

7.3. Traffic Flows

7.3.1. Review Of Contemporary Data Sources

7.3.2. Southampton's Local Plan [Southampton City Council, 2001, p31-32] provides a useful illustration of traffic flows in 1999 within the city. It is apparent that the Western A33 Millbrook Road corridor has the highest flows, especially the section to the west of Southampton docks. It might be anticipated that this flow has increased further in the last two years with the opening of the West Quay retail development.

7.3.3. The Eastern A3024 corridor is the next most well used. The northern A33 Avenue and A335 Thomas Lewis Way corridors are much less well used. Traffic appears to be relatively light on the North Western A3057 Shirley Road and Eastern A3025 corridors.

7.3.4. Historical changes in the level of traffic flows should be noted. Traffic flows "increased on some major routes during the 1985 to 1990 period, although since 1990 flow levels have remained relatively static" (SLTP, p31). This may be correct for most of the 1990s but the distribution of flows around the city has changed since 1990.

7.3.5. The findings in the Southampton Local Transport Plan Annual Progress Report appears to contradict the above view that flow levels have remained relatively static. "Traffic flow figures for the City based on 12-hour counts at 31 locations indicate a growth rate of 0.67% since the previous year with a total flow of 528,540 against 525,015 in 1999."

7.3.6. "The network generally operates within capacity during the off peak although there are some capacity shortfalls at peak periods. These generally occur at junctions rather than on links" (SLTP, p31).

7.3.7. Heavy goods vehicle flows are concentrated on the western A33 corridor with all other roads in 1999 having flows of less than 1000 heavy commercial vehicles over a 12 hour period (SLTP Figure 3.5, page 32).

Strategic Review Of Traffic Flows

7.3.8. Comparing the 12 hour two way flow traffic flow data¹ for the period since the early 1990s reveals the growing importance of the Western Milbrook Corridor over all of the other city centre routes. Growth at the eastern end of this corridor appears to be more modest (around 3,500 vehicles) than at the western end closer to the Redbridge Roundabout (around 13,000 vehicles). It is quite possible therefore that much of the increased traffic growth has been associated with increased activity in the docks area rather than an increase in city centre trips.

7.3.9. The flow along the Thomas Lewis Way has also increased significantly since the time of the Wootton Jeffrey's Report by in excess of 2,500 vehicles. However whilst the relative importance of this radial route has increased the flows remain lower than the principle Western and Northern and Eastern corridors. It could be argued that the relative importance of the Northern site has therefore declined as traffic switched to the Millbrook

¹ The 12 hour flow data is taken from Annex 2 of the Southampton City Council, Local Transport Plan Annual Progress Report.

corridor. Construction of the Chickenhall Link Road to the south east of Eastleigh might lead to a further increase in flows along this corridor but traffic growth may be constrained by Eastleigh's policy aim of restricting traffic growth on local roads.

7.3.10. Flows have also increased on the eastern Hedge End corridor (by about 1,300 vehicles) but since the flow over the Northam Bridge has declined significantly it is likely that the flow out of the town has grown at the expense of the flow into the city centre.

7.3.11. Traffic flows have tended to remain the same on the western Shirley Road, northern A33 The Avenue and eastern Bursledon Road corridors, thus their importance relative to the Millbrook route has declined.

7.3.12. There appears to have been a decline in the flows along the eastern Portsmouth Road (around 500 vehicles less). The relative importance of this corridor has thus declined significantly and perhaps suggests that it is now principally used by local traffic this may reflect the pricing impact of the Itchen Bridge tolls.

7.4. Corridor Specific Analysis

7.4.1. Millbrook Corridor – 12 hour two way flows on Redbridge Road towards the Western end of this corridor were around 38,000 to 48,000 in the 1970s and had risen to around 55,000 by the time of the M27 opening in 1984. Since then flows have continued to increase to over 60,000 in the 1990s. The traffic flow has tended to fluctuate around 63,000 since the early 1990s. Evidence of a general trend towards increasing flows during the 1990s seems questionable given the lower flows recorded in 1999/2000. The 2001 figures, if they can be assumed to be typical, suggest that traffic has increased significantly since the opening of West Quay but increased activity at the docks could be another explanation for the large increase in traffic flows.

7.4.2. Further to the east traffic flows on Millbrook Road increased significantly year on year since 1977 (27,786) to well over 40,000 prior to the opening of the M27. After the opening of this motorway traffic flows fell slightly to around 40,000 but continued to increase steadily from the late 1980s (44,935 in 1988) to a level of around 46,000 in the early 1990s. Since then flows have tended to fluctuate, reaching over 50,000 in 1995 and 1998. The 2001 flow of 48,839 is the highest since 1998 but there is no clear evidence of a trend in rising traffic flows since the mid 1990s.

7.4.3. Twelve hour flows disguise the impact on the road network of peak flows. It is known for example that HGV container traffic flows peak at about 2pm on weekdays.

7.4.4. The West Quay development has had a big impact on this road but the road is still perceived to be free flowing most of the time. It is primarily the constraint of the westbound Redbridge Flyover slip road junction that limits flows along this corridor.

7.4.5. Shirley Corridor - Traffic flow data for Romsey Road close to the Ordnance Survey Offices is only available from 1993 onwards. Traffic flow levels appear to have remained fairly static at around 11,000 vehicles over a 12 hour period. The 2001 figures represent a fall on the 1999 and 2000 flows with a decline in the flow of around 200 vehicles per annum. This might be a consequence of the reduction in priority for through traffic along this corridor.

7.4.6. Flow data further to the south along Shirley Road suggests flows have been in decline since the mid 1970s. The flow after the M27 opened in 1984 was 14,348 and this fell as low as 12,665 in the late 1980s. Since the flows have tended to fluctuate between 12,000 and 16,000 with a low of 11,792 in 1996 and a high of 15,802 in 2000. In 2001 flows appear to be significantly down on the previous year to only 13,039 vehicles. This is probably a consequence of the Shirley "Streets Ahead" project which gave greater priority to walking & cycling modes and reduced the road width available to the general traffic flow.

7.4.7. The Avenue Corridor - The traffic flow data for Bassett Avenue towards the northern end of this corridor suggests that there has been a steady increase in traffic volumes since the mid 1970s but at a slower rate than on the Western 'Millbrook' corridor. After 1984 the traffic flow rose from a low of 31,231 to a high of 39,724 in 1995. Subsequently traffic flows appear to have declined slightly to around 36,000. The 2001 flow of 35,934 vehicles is a significant increase on the 2000 figure of 33,670 but provides no clear evidence of a continuous rising trend in traffic flows.

7.4.8. Flow data on the Avenue in the centre of this corridor suggests traffic growth was relatively static from the mid 1970s until 1984. Following the opening of the M27 in 1984 traffic flow increased slightly during the 1980s to a high point of 23,468 in 1989. During the early 1990s flows gradually declined to a low of 19,483 in 1994. Since then the traffic flows have recovered and again it exceeded 23,000 in 1998. In 2001 the traffic flow remains around 2000 vehicles below the high point in the late 1980s. It is possible that the western 'Millbrook' corridor has become an attractive alternative to the Avenue for through journeys into the city centre, more especially now that the West Quay Centre has shifted the focus of the city centre westwards.

7.4.9. Thomas Lewis Way - The traffic flow has increased considerably on Thomas Lewis Way since it opened in the late 1980s. This flow peaked at 19,867 in 1999 but has since declined to less than 18,000 in 2001. One explanation for this growth along this route could be the abstraction of through traffic from the parallel Portswood Road that experienced a dramatic fall in traffic flows in the late 1980s.

7.4.10. Further south along the Bevois Valley Road the traffic flows have tended to fluctuate at around 15,000 on this road since 1986. The flow was as low as 12,061 in 1989 and as high as 19,483 in 1995. These extremes seem difficult to explain since there is no clear evidence of a trend in the traffic flow. The traffic flow increased to almost 17,000 vehicles in 2001 but this is partly explained by a road closure in Lodge Road and traffic being diverted down the Bevois Valley Road. The constrained nature of this radial route is likely to restrict further traffic growth.

7.4.11. Northam Road Corridor - There was some modest growth in the flows over Northam Bridge in the mid 1980s to a peak of over 37,000 in 1990 the traffic flows have declined steadily to a low of 26,717 in 2000. The 2001 figures show an increase to 27,415 but this appears to be insufficient to suggest a change to the downward trend. Reduced flows on this corridor might be explained by capacity constraints leading to congestion at peak times.

7.4.12. Hedge End Corridor - Since 1984 flows along Thornhill Park Road have increased steadily from under 12,000 in 1984 to over 18,000 in 2001. The 2001 figures represent a slight fall of around 300 vehicles on the 2000 figures but the trend still appears to be towards further steady growth.

7.4.13. Bursledon Road Corridor - There is no evidence of traffic growth along the Bursledon Road corridor with the 2001 flow of around 15,000 vehicles being comparable to flows in the mid 1970s and early 1990s.

7.4.14. There is little evidence of any significant changes in traffic flows along this road since the 1970s although there does appear to have been a slow decline in traffic flows from over 12,000 in 1985 to under 11,000 in 2001. This 2001 flow is down by over 700 vehicles on the 2000 flow but is comparable to the 1999 flow that is also around 10,900 vehicles.

7.4.15. Portsmouth Road Corridor - Flows over the Itchen Bridge have increased since the 1970s although the traffic flow levels have tended to fluctuate considerably perhaps in response to changes in toll charges over this bridge. The traffic flow increased from just under 13,000 in 1984 to over 16,000 in 1989 before declining to a low point of 12,049 in 1993. From 1994 to 1999 the traffic flow remained static at around 14,000 but increase again in 2000 to a new high point of well over 17,000. Traffic flows in 2001 fell back to around 16,500 but the flow remains much higher than the flows during the 1980s and 1990s. Perhaps the motorists' willingness to pay tolls for the bridge has increased, especially if this corridor is perceived to be a means to avoid the congestion on the Northam Bridge route into town.

7.4.16. The Portsmouth Road corridor is shown as a Quality Bus Partnership in the Southampton Area Transport Strategy Programme [Hampshire Local Transport Plan figure 6.8.2].

7.5. Bus Priority

Southampton Bus Infrastructure Study February/March 2000

7.5.1. Overview

7.5.2. Halcrow Fox were commissioned in November 1999 to undertake a study for First Group to examine the potential for introducing bus priority measures and passenger infrastructure improvements on two corridors in the city, the Western Redbridge/Millbrook corridor and the Northam Road/Bitterne West corridor [SBIS, 2000, p1]. The report was completed prior to the opening of the West Quay shopping centre.

7.5.3. "The Redbridge/Millbrook corridor was specifically identified for examination in the Project Brief, because of the potential for providing a Park and Ride at Test Lane, at the western end of the route"[SBIS, 2000, p47]. This ties in with the publication of the Southampton Public Transport Development Study in March 1999 that advocated development of a park and ride service from the Test Lane site.

7.5.4. "At present there is some uncertainty as to whether buses operating from a site at Test Lane would obtain access/egress via M271 Junction 1 or Gover Road, although the latter would clearly be preferable for both the future operator and users" [SBIS, 2000, p7].

7.5.5. The study identified a potential capacity constraint on the Milbrook corridor post West Quay "In view of the existing volume of traffic using this route, it is considered doubtful whether the A3024 could absorb a significant volume of additional retail generated traffic in the peak periods, although increased traffic in the inter-peak is highly probable" (SBIS p8).

Bus Priority Measures Existing And Proposed

7.5.6. This section focuses on ideas for new priority measures as well as reviewing existing proposals and schemes being developed.

7.5.7. Abbreviations used in this section are: MVA (MVA Report 1998), HFA (Halcrow report for first group 2000), PBA (Additional measures proposed by Peter Brett Associates 2001).

7.5.8. Millbrook Corridor

7.5.9. A detailed analysis of measures required to provide bus priority along the Millbrook Corridor can be found in chapter 3 of the HFA study. MVA made little comment about priority measures along this corridor. There are a number of priority measures which can be considered in addition to those suggested by HFA.

a) M271 south of junction 1 (PBA)

7.5.10. A southbound HGV/Bus lane could be provide on M271 between Junction 1 and the Redbridge Roundabout. This may be feasible but would require the declassification of this stretch of road. It would allow buses the opportunity to egress directly from the Redbridge Lane (49) site onto the declassified section of the motorway and thus avoid traffic queuing back from the Redbridge Roundabout.

b) Redbridge Roundabout (HFA, p8/9)

7.5.11. Description: A grade-separated junction between M271, A3024 Redbridge Road and A35 Redbridge Causeway. This roundabout is grade – separated on an east-west access and at the Redbridge Flyover removes traffic movements between Redbridge Road and the Redbridge Causeway.

7.5.12. Operational problems:

- a) Traffic queuing back from the westbound 'entry on' slip-road onto the Redbridge Causeway.
- b) Traffic joining the roundabout from the westbound exit slip-road of Redbridge Road is impeded.
- c) Right turning movements from Redbridge Road towards the M271 and Gover Road are blocked.

7.5.13. Congestion usually occurs in the peak period but can occur in the inter peak.

7.5.14. The cause of the operational problem is the difficulty drivers encounter in merging from the westbound entry on slip-road when to volume of westbound traffic crossing the flyover is high. The combined flow is very close to the capacity of the westbound causeway link.

7.5.15. Suggested priority measures for Park & Ride:

e) Millbrook Road (HFA, p10)

7.5.23. Description: This road extends from Millbrook Roundabout to the grade separated Waterloo Road junction. The Waterloo Road junction causes no delay to buses.

7.5.24. Current operational problem:

- a) The signalised Regents Park Road/Third Avenue Junction causes some delay to buses.

7.5.25. The cause of this operational problem is thought to be the delay caused by arriving during a red signal phase. The delay is not caused by queuing or congestion.

7.5.26. Suggested priority measures:

Priority for buses could be achieved through the use of Selective Vehicle Detection (SVD) at the Millbrook Road/Regents Park Road traffic signals.

7.5.27. Potential problems with this priority measure:

7.5.28. The use of bus priority measures at the Regents Park Road junction are not thought to have a significant adverse impact on the operating conditions for other road traffic.

f) Mountbatten Way / Central Station Bridge (HFA p11/12)

7.5.29. Description: This intersection is a four-arm traffic signal controlled junction located on the edge of the central area adjacent to the West Quay development.

7.5.30. Current operational problems:

Journey time surveys undertaken by HFA during the winter of 1999/2000 did not identify any delay problems at this junction as a result of excess traffic.

7.5.31. Suggested priority measures for park and ride:

HFA suggested providing physical priority measures at this location to encourage drivers to use a park and ride service. Selective Vehicle Detection at the traffic signal installations could also be used to complement these measures. Two options for physical measures were outlined:

7.5.32. *Option 1:* Buses would have priority in the eastbound direction only by permitting buses to go ahead of traffic into Western Esplanade via the nearside left turning lane at the approach to the traffic signals. This would require:

- A new bus lane in advance of the lead in section to the left turning lane for Central Station Bridge
- Reconstruction of the traffic island on the Mountbatten Way approach to provide space for a short length of bus lane near to the stop-line
- Reconstruction and relocation of the traffic islands on the Central Station Bridge approach to provide for the ahead bus movement from Mountbatten Way.

7.5.33. Potential problems with these priority measures:

The reconstruction of traffic islands at the Central Station Bridge approach will marginally reduce the flare of the approach road to the junction. A slight increase in green time could compensate for this.

7.5.34. *Option 2:* The measures outlined in option 1 could be extended by:

- Providing an eastbound bus lane from Western Esplanade to the Mountbatten Way/West Quay link road junction.
- Signalising the free flow left turn from Southern Road

7.5.35. Potential problems with these measures:

The potential impact of the bus lane on traffic conditions needs to be assessed now that the West Quay development is complete. HFA advised that implementation of option 2 be deferred until traffic count data was available to show the impact of the West Quay development.

g) Western Esplanade (HFA, p12/13)

7.5.36. Description: A link between Central Station Bridge and Civic Centre Road open to general traffic. The other section of this road to the south of Civic Centre Road was closed as a through route by the construction of the West Quay shopping centre and now provides access to car parking in this area.

7.5.37. Proposed bus priority measures:

HFA suggested two options for the eastbound bus lane on the Western Esplanade:

7.5.38. Option 1

- The construction of a parallel merging lane with buses pushing into offside traffic after leaving the traffic signals
- Advantages of this option are that it would minimise the impact of buses on general traffic and a stop could be provided to allow park and ride buses to serve the railway station. The time spent by buses stopping here would permit a platoon of eastbound traffic to dissipate and thus reduce the difficulties for buses in rejoining Western Esplanade

7.5.39. Option 2

- Extension of the bus lane to a point east of the access to the railway station with a set back on the approach to the Civic Centre Road junction traffic signals.
- Eastbound general traffic would therefore merge into a single lane after leaving the Central Station Bridge traffic signals.

7.5.40. Potential problems with this priority measure:

- The set back on the approach to the Civic Centre Road junction would be necessary to ensure that queues of right turning traffic does not impede ahead traffic for the Civic Centre Road. If traffic was impeded motorists are likely to overtake the obstruction by using the bus lane.

- The implications of merging general eastbound traffic into one lane depends upon prevailing traffic volumes now that West Quay shopping centre is open. Traffic surveys are thus required to assess the suitability of this option.

7.5.41. NB. Ove Arup is also thought to have undertaken work on the Western Esplanade/Portland Terrace Roundabout.

7.5.42. Additional Proposals

- Gover Road, off Test Lane, has speed humps that could be converted to horizontal deflection measures to make them more suitable for bus operation. However it now appears more likely that development of park and ride will be from the Redbridge Lane site (49) rather than the Test Lane (7).
- Mountbatten Way has adequate road width to implement bus lanes on the approaches to signalised junctions. The practical benefit of bus lanes at these junctions is questionable.
- One of the three general traffic lanes could be marked as inbound and outbound bus lanes. This could be shared with existing bus services operated by Solent Blue Line and Wilts & Dorset. The problems with high and weaving traffic flows suggest that bus lanes are not a desirable option.

7.5.43. Shirley Corridor

7.5.44. The A3057 Shirley High Street / Shirley Road was thought by HFA to have limited potential for bus priority measures. A substantial length of this corridor has: "inadequate carriageway width for providing bus lanes. In the case of Shirley High Street recently implemented environmental improvements, involving footway extensions, have constrained opportunities for introducing priority measures other than Selective Vehicle Detection (SVD) at traffic signals". This corridor is not suitable for park and ride buses due to the need to provide a fast and reliable journey between the park and ride site and the city centre.

7.5.45. However there is scope to use a section of this corridor along Romsey Road close to the Ordnance Survey as part of a park and ride link between the Redbridge Lane site (49) and the Ordnance Survey and General Hospital sites.

7.5.46. Existing priority measures:

7.5.47. There is a 24 hour bus lane inbound to the south of Shirley High Street, a section of wider and less congested road.

7.5.48. Proposed bus priority measures:

7.5.49. The Romsey Road bridge over the M27 appears to be wide enough to accommodate bus lanes. However suitable park and ride sites close to Romsey Road and to the north of the M27 have not been identified.

7.5.50. The road is wider to the south of the Ordnance Survey office buildings. There may be scope for provision of a bus lane at this point in connection with a proposed Hospital park & ride service.

7.5.51. The Avenue

7.5.52. This corridor has potential for introducing bus priority measures: "Much of the route is a wide single carriageway of sufficient width to introduce a bus lane in a least one direction" [SBIS, p5]. However there are no suitable park and ride site available at the northern end of this corridor. Therefore it does not seem necessary to consider the options for bus priority measures. There is also a severe congestion problem at peak times along this road.

7.5.53. Thomas Lewis Way

7.5.54. HFA's work [Addendum to Final Report, Portswood Road Corridor, March 2000] incorporates proposals from MVA's Working Paper 1 from the Southampton Public Transport Development Study for bus priority measures in the Bevois Town area of the city. This provides fairly comprehensive analysis of the bus priority option along the southern end of this corridor. To this further consideration can be given to the provision of priority measures at the northern end of the corridor, in particular at the Wide Lane / Stoneham Way Junction.

7.5.55. Proposed bus priority measures south of the Bevois Valley Road / Thomas Lewis Way Junction: A short section of southbound bus lane was considered by MVA for the Kingsbury to Mount Pleasant Road junction section of the Bevois Valley Road. However it was thought that there would be negligible benefit in this provision. Delays to buses are thought to be more commonly caused by traffic signals.

7.5.56. HFA observed that the carriageway width of the Bevois Valley and Onslow Road varies between 7.4 and 10.1 metres [HFA, 2000, p12]. There was thus "little or no opportunity" for physical bus priority measures. The only point of frequent delay was at the Mount Pleasant Road traffic signals. Use of Selective Vehicle Detection on buses was suggested to achieve priority through this junction.

7.5.57. MVA (1998) had suggested that delays to buses on St.Mary's Road could be reduced by a combination of physical measures:

7.5.58. Converting the Zebra Crossing to a Pelican Crossing

7.5.59. Providing a signalised junction at Charlotte Place

7.5.60. Banning waiting and loading on the east kerb northward from the Post Office

7.5.61. Marking the southbound inner lane from the bus stop to the junction as a straight-ahead only lane for general traffic but with a right turn allowed for buses.

7.5.62. Concerns should be raised as to whether these measures could have any appreciable impact if traffic volumes along this road remain high.

7.5.63. MVA also suggested that the junction of St.Mary's Road with the Charlotte Place Roundabout be signalised, with priority measures for southbound buses. HFA developed this proposal further by suggesting bus priority measures along the St.Mary's Road which would

assist buses turning right towards the Charlotte Place Roundabout including a southbound with flow bus lane.

7.5.64. In additional HFA considered proposals for a new highway link between Dorset Street and the St.Mary's Road/Onslow Road that would remove a large proportion of the traffic turning right from St.Mary's Road into Charlotte Place. A concern about this proposal is that queues along Dorset Street could restrict entry onto this road from Onslow Road. The net effect of this road link could thus be to simply relocate congestion problems to a point slightly further north along this corridor.

7.5.65. A visit in October 2001 confirmed that there are difficult issues for park and ride bus operation on this section of the corridor, such as narrow roads and steep road gradients. If extensive physical bus priority measures were required along this section there would be cost implications and an adverse impact on local traffic. It might however be possible to create a congestion free area here using SCOOT traffic signal controls.

7.5.66. Proposed bus priority measures north of Thomas Lewis Way - Thomas Lewis Way itself is a wide single carriageway road. It was identified by MVA as being suitable for bus lanes on the approaches to all signalised junctions to give priority to buses through these junctions. However given that there is little scope to widen this road it would be necessary to consider the impact of bus lanes on general traffic flows prior to implementation.

7.5.67. MVA (1998) had proposed reducing through traffic on Bevois Hill and Portswood Road that would divert more traffic onto Thomas Lewis Way. MVA felt that there was sufficient capacity and road width to address any future problems that would arise as a result of this reduction in through traffic. The evidence of continued traffic growth along the Thomas Lewis way ought to raise concerns that park and ride services would be able to make effective use of this corridor during peak periods.

7.5.68. Traffic is delayed at the Wide Lane/Stoneham Way Junction and is held back before the railway bridge by traffic signals. These signals could be modified to give priority to buses. Selective Vehicle Detection could be used to reduce the delay for a park and ride buses using Wide Lane to reach a park and ride site to the north of the M27.

7.5.69. Northam Road Corridor

7.5.70. Existing bus priority measures include:

7.5.71. Some priority to eastbound traffic over the Northam Road railway bridge created by a bus only section at the Junction with Brintons Road.

7.5.72. A bus gate at Lance's Hill.

- Bus lanes on West End Road (southbound) and Lances Hill (westbound) for local bus services.
- Northbound contra-flow bus lane in Ruby Road for local buses
- A morning peak (7-9.30am) westbound bus lane operates between Orpen Road and Kathleen Road.

- Gating of traffic on section of Bursledon Road east of Ruby Road
- Parking is restricted throughout the corridor at all times with the exception of a small lay-by W of the Bullar Road junction.

7.5.73. Concerns could be raised as to how useful would these measures would be to a park and ride service, given that they are focused on offering priority to local bus services. The speed limit along this corridor is 30mph including the dual carriageway sections and this might constrain the potential for operation of a fast park and ride service

7.5.74. Proposed Bus Priority Measures

7.5.75. MVA (1998) identified opportunities to introduce physical bus priority along this corridor. These proposals included:

- A signalised junction on the Windhover Roundabout to give priority to park and ride services.

7.5.76. Localised widening to provide roadspace for a westbound bus lane along the A3024 Bursledon Road between the Windhover Roundabout and the Botley Road Junction.

- An eastbound bus lane may be possible from Sedgewick Road to the vicinity of Orpen Road.

7.5.77. A section of eastbound bus lane on the approach to Bath Road up to the bus lay-by.

- A bus lane could be provided on the existing dual carriageway to Althestan Road.
- A westbound bus lane could be introduced on the approach to Britannia Road. In 1998 there were two eastbound traffic lanes and one wider westbound lane. The bus lane would thus reduce general traffic lanes to one in each direction.
- The Northam Road railway bridge was identified as a congestion bottleneck with the road narrowed to one lane in each direction. A Colin Buchanan and Partners study had suggested altered road marking as a low cost improvement.
- To provide further priority for westbound buses MVA (1998) proposed that Northam Road from the railway bridge to a Pelican crossing between Britannia Road and Augustine Road be marked as one lane eastbound and two lanes westbound. The inner lane westbound over the Northam bridge to the Britannia Road junction would become a continuous bus lane.

7.5.78. Chapter 6 of the HFA study considered options for bus priority measures on the section of this corridor between Six Dials Junction and the Bursledon Road/Ruby Road junction. The study also included further consideration of MVAs proposals.

7.5.79. This corridor has a number of existing bus priority measures but the HFA report focused on the options for additional priority measures:

a) The Britannia Road / Radcliffe Road junction (SCC)

7.5.80. Southampton City Council has proposed improvements for this junction that includes an inbound bus lane between Kent Street and Britannia Road. These improvements

form part of a package of measures connected with the development of the new Southampton FC stadium in Northam and have now been implemented.

7.5.81. The scheme includes:

- Closing the existing Radcliffe Road approach
- Introducing two way traffic operation on Britannia Road
- Permitting a right turn into Britannia Road from Northam Bridge
- Widening on the eastern site of Northam Bridge to accommodate a right turning lane.

b) Lances Hill to Cobbett Road Westbound (HFA, p30)

7.5.82. A High Occupancy Vehicle lane was suggested for this section of the corridor with a set-back at the approach to the Bullar Road/Cobbett Road gyratory system.

7.5.83. Traffic flows (1900-2000vph in the morning peak) were thought to be too high to permit the introduction of a bus lane. Restricting general traffic to a single lane could create frequent queuing in Maybray King Way extending to Bursledon Road thus undermining the advantages of the bus lane.

7.5.84. "Provision of an HOV lane should afford almost all the benefits of a bus lane, in terms of reduced journey times and improved reliability, whilst incurring a much small risk of disruption" HFA, p30.

7.5.85. The HOV lane could also be used as part of a queue relocation strategy along this corridor. Traffic could be held in a queue east of the Cobbett road traffic signals to ease congestion on Northam Bridge.

c) The Lances Hill/Bitterne Road West junction Westbound (HFA, p30/31)

7.5.86. HFA suggested two options to improve bus priority through this junction. Both these options would be able to accommodate peak hour demand since this junction has a much greater westbound capacity than the Bullar Road/Cobbett Road gyratory.

7.5.87. *Option 1:* A HOV lane commencing to the west of Lances Hill with a restriction of Maybray King Way to a single lane on the approach to the traffic signals.

7.5.88. *Option 2:* To extend this HOV lane onto Maybray King Way thus retaining the two lane approach to the junction.

7.5.89. Problems with this priority measure:

7.5.90. Extension of the HOV lane is thought to provide no additional benefit to local buses since none of these services use this section of Maybray King Way. Furthermore this option would reduce the queuing space available when the Bullar Road gyratory is congested.

7.5.91. Criticisms can be made of HFA's suggested use of HOV lanes. It is questionable whether they will actually improve bus service reliability. There would be the problem of effective enforcement of these HOV lanes. Perhaps therefore the focus needs to switch to priority measures along the Portsmouth Road.

7.5.92. d) Westbound, East of West End Road (HFA, p31)

7.5.93. Bus priority could also be provided between the Ruby Road Junction and West End Road in the westbound direction thorough:

- A westbound with-flow bus lane from Ruby Road to the Whites Road traffic signals including a short set back for left turning traffic
- A westbound with-flow bus lane from the Bursledon Road/Bitterne Road East junction to the signalised West End Road junction

7.5.94. These bus lanes would ensure that buses have near-continuous priority between Ruby Road and Lances Hill. HFA thought they were unlikely to have a significant impact on general traffic capacity. The bus lanes would allow buses to avoid long queues from abnormal traffic conditions or the effects of a secondary gating of traffic east of the Bullar Road Gyratory.

d) Eastbound, between Union Road and Rampart Road Junctions (HFA, p31)

7.5.95. HFA suggested a HOV lane between these two road junctions with a set-back for left turning traffic at the Bitterne Industrial Park access and also for ahead traffic approaching the Rampart Road junction.

7.5.96. HFA thought that this proposal could create significant journey time savings and improvements in reliability for buses during the evening peak period.

e) Eastbound with-flow bus lanes (HFA, p31)

7.5.97. HFA considered the option of eastbound with-flow bus lanes but traffic count data analysed was considered too great during the evening peak to permit the concentration of general traffic into a single lane. A bus lane might displace existing queuing traffic further to the west and thus interfere with traffic conditions at city centre junctions such as Six Dials. This in turn would limit the benefits of the bus lanes to the buses. HFA argued that a HOV lane would ease traffic in the nearside lane without the potential adverse impacts upon other parts of the road network.

7.5.98. Bus priority can be provided on through the signals at Windhover roundabout. East of the City boundary along the A3024 Bursledon Road there is scope to widen this road to accommodate bus lanes. However road widening in this strategic gap area could be highly controversial.

7.5.99. The Hampshire LTP proposes local bus priority measures along the transport corridor between Fareham and Southampton, focusing on junction improvements which would improve the bus flow along this corridor.

6) Portsmouth Road Corridor

7.5.100. The A3025 Portsmouth Road was seen by HFA as having limited potential for introducing worthwhile bus priority measures. "The carriageway width is too narrow for bus lanes, whilst the absence of an adequate 'queuing reservoir' anywhere along the route, and numerous side-roads, make queue relocation impractical" (SBIS, p4).

7.5.101. Although HFA was correct to identify these constraints along this corridor it is arguable that these constrained conditions, together with the impact of the tolled Itchen River Bridge create road conditions that are suitable for the operation of a reliable park and ride bus service. An advantage of this corridor is that it appears to suffer less from increases in journey times during the peak periods.

7.5.102. It should be noted that mini-roundabouts are being introduced along this corridor to address road safety problems. Mini-roundabouts will be installed at the Portsmouth Road/Butts Road and Portsmouth Road/Botley Road junctions.

7.5.103. This corridor could provide an opportunity for park and ride buses to avoid peak hour congestion on the Northam/Bitterne route. Therefore the following priority measures need to be considered:

- Enforcement of parking controls would be required to reduce on street parking in Botley Road. This road could be widened if necessary.
- Signalising the right turn from Botley Road into Portsmouth Road.
- Enforcement of parking controls along Upper Weston Lane. Local double-decker buses currently use this route.
- Wrights Hill is a bad road for buses. The Upper Weston Lane/Wright's Hill Junction requires modification.
- Wright's Hill / Portsmouth Road Junction could be signalised to hold back traffic on A3025 giving P&R buses priority ahead of road traffic.
- Limited options for priority measure beyond the Station Road Junction (narrow single lane carriageways with some congestion).
- Buses can pass through Itchen Bridge toll gate. Tolls could be increased to discourage through traffic. Local users would be protected through the existing concessionary toll scheme for local residents.

7.6. Bus routes

General Comments

7.6.1. The first joint Bus Quality Partnership on bus routes linking Eastleigh and Southampton is expected to be signed in 2001/2. This will affect Services 16, 29 and 48.

7.6.2. HFA [HFA, March 1995] argued that 15 per cent of park and ride passengers will be abstracted from local buses assuming 3 sites are introduced. Abstraction is an important issue therefore the potential impact on local bus routes is considered by corridor in the analysis below.

7.6.3. Corridor Specific Comments

7.6.4. Local bus abstraction is perceived to be a problem along the Shirley Road, Thomas Lewis Way / Portswood Road, Bitterne Road East and Bursledon Road Corridors. To a lesser extent there may be some abstraction along the Millbrook, Avenue and Portsmouth Road Corridors.

7.7. Summary

7.7.1. The Portsmouth Road corridor may have the greatest scope for use by park and ride bus services. Although traffic along this corridor tends to be slow moving the through traffic flow is controlled by the toll charges over the Itchen Bridge. As a consequence journey times in the peak period tend to be similar to those in the off peak. An eastern park and ride site in the Windhover area could therefore use the Portsmouth road to operate a more reliable park and ride service. If traffic flows are disrupted then ROMANSE can be used to indicate whether it would be desirable for buses to switch to the Northam Road / Bursledon Road corridor.

7.7.2. The Western corridor has scope for bus priority measures. Such measures are advisable as a means to provide park and ride services with journey time savings compared to city bound general road traffic. A journey time saving would provide an incentive to use a western park and ride site to reach destinations such as West Quay during the peak periods of retail activity, for example on Saturdays when there are delays caused by traffic movements to and from this retail area. Although physical measures might be expensive they could be justified by the potential for park and ride to intercept a high volume of weekend shoppers.

7.7.3. The Northern corridor may have scope for some bus priority measures but it will be necessary to re-examine traffic flows and journey times after the alterations to traffic control on the Charlotte Place roundabout have been completed. Concerns should be raised as to whether bus priority measures would be effective in reducing journey times for park and ride buses. Priority measures may simply have the effect of shifting congestion to another part of this corridor.

8. City Centre Issues

8.1. Introduction

8.1.1. This chapter considers the routing of park and ride buses into and through the city centre. Some comments are also made on the existing West Quay shuttle bus services. City centre parking is then considered as this issue is critical to the success of park and ride into the city centre.

8.2. Routing Of Park And Ride Services In And Around The City Centre

8.2.1. A western corridor service could be routed past the railway station, down Portland Terrace past the eastern edge of West Quay, returning via Bargate, Vincents Walk and Above Bar. An eastern service might run past Ocean Village and Town Quay before going up to the city centre through the High Street and Bargate area, returning via Hanover Buildings and Queens Way. The eastern and western routes could be linked to offer a service running through the city centre.

8.2.2. Halcrow's bus infrastructure study for the First Group considered city centre routing in detail in Chapter 4 "City Centre Routing: Park and Ride". Halcrow suggests a 'loop' route has advantages over an 'in and out' route for the western corridor (SBIS, p19).

8.2.3. Halcrow argued that "Consideration should be given to an additional bus stop on western Esplanade to serve the Southampton central railway station, surrounding offices and the existing West Quay Retail Park. This stop would by necessity require passengers to cross the road to catch the return service, so a location as close as possible to the existing pedestrian crossing should be sought" (SBIS, p20). This additional stop could have a significant impact journey times as buses would be delayed by passengers boarding the bus at the station.

8.2.4. The Western M271/A3024 corridor appears to be the main route for visitor traffic into Southampton. The 'Official Guide to Christmas Shopping in Southampton' direct motorists along the M27 West to Junction 3, down the M271 and into the city along the western 'Millbrook' corridor. No reference is made in this information leaflet to any temporary use of park and ride for the Christmas period but use of the CityLink and CityLoop buses is promoted.

8.3. West Quay Shuttle Buses

8.3.1. The Southampton Local Transport Plan describes the CityLink and CityLoop services that were introduced in connection with the West Quay shopping centre in 2000. The guide to getting to Southampton also provides information on these services.

8.3.2. SLTP, Annual Progress Report 2001, p7/8 "the new free CityLink bus service joins the Central Station with the ferry terminals at Town Quay via the West Quay Shopping Centre. Similarly the free CityLoop bus service funded in partnership with a leisure operator, links the Central Station with the ferry terminals at Town Quay and the wider City Centre."

8.3.3. The CityLink bus runs every 10 minutes during shopping hours. The route is Southampton Central Station – West Quay – Town Quay with a one way journey time of 7 minutes. The CityLoop service operated over a wider area with more stops (Southampton Central Station, West Quay, Town Quay, The Quays, Leisure World, Coach Station) but service frequency was only every 30 minutes. The CityLoop service was withdrawn on 24 December 2001. Both services offer passengers free travel.

8.3.4. CityLink services could be combined with the park and ride buses coming in from the western park and ride site. There would however be a need to consider issues of providing bus access into the station, loading times of additional stops, and the impact of the shuttle bus patronage on the capacity of the park and ride services. Furthermore connections between trains and boats are at times very tight so the opportunity to combine park and ride with the CityLink service is unlikely to be practicable. It is preferable therefore to keep the park and ride service separate from the existing CityLink service.

8.4. City Centre Parking Issues - Introduction

8.4.1. Wootton Jeffrey's undertook a short review of parking provision in Southampton city centre. The HFA and MVA studies did not require a review of parking provision and so this section compares the Wootton Jeffrey's finding with current indicators of demand.

8.5. Parking Policy

8.5.1. The Southampton Local Transport Plan 2001/2 to 2005/6 indicated that the City has in the last five years seen an overall reduction of 450 (or 35%) long-stay on and off-street parking spaces. The 1996 Southampton Area Transport Strategy had set a target of a 5% reduction in the number of long stay parking spaces between 1993 and 2005 with a further 10% reduction by 2020 (SATS, p11).

8.5.2. New legislation will allow the City Council to gain greater control over the City's parking stock. It is anticipated that the decriminalisation of parking will occur on the 25th February 2002.

8.5.3. The Hampshire Parking Strategy and Standards 2001 Final Draft outlines current parking policy within the county. This draft document outlines parking standards that were last reviewed in 1991 when minimum levels of provision were established. These standards The minimum levels has tended in practice to lead to the provision of larger car parks than necessary and furthermore this approach is no longer compliant with current transport and land use policies, especially PPG13.

8.5.4. It is know that the City of Southampton applies more restrictive parking standards in line with those set out in their local plan.

8.5.5. Policy 1 of the parking strategy concerns the management of existing on and off street parking stock. It includes proposal 1d to 'reduce long stay parking for the workplace and provide adequate parking for shorter stay purposes such as shopping and visiting'.

8.5.6. Effective management of the parking stock is also to be achieved through proposal 1e to 'implement park and ride facilities where appropriate to the Area Transport

Strategy'. This proposal is applicable to both bus and rail-based park and ride as well as at informal car sharing locations.

8.5.7. Policy 5 is important since it will impact upon any proposals to revise city centre parking charges as a means to discourage motorists from driving into the city centre. Proposal 5a states that 'parking provision and charges should be set to not undermine the vitality and economic viability of cities, towns and villages'.

8.5.8. There is an emphasis on reducing car parking provision for more accessible locations. An example is a leisure development is a highly accessible location that should be provided with only 50% of the parking that a similar development would be allocated in a least accessible location.

8.5.9. Hampshire County Council now has maximum parking standards for new development whereas it was once the case that minimum parking standards were in use. It should also be noted that Hampshire County Council has cycle parking standards that set out a minimum allocation of cycle parking (Section 3.5). By implication a park and ride site would also need to incorporate cycle stands.

8.5.10. The draft parking strategy was subjected to formal consultation to 167 organisations. This helped reveal the consultees' attitude towards the new draft standards that were only supported by 31% of consultees. Opposition to certain elements of the draft parking strategy was significant, for example 47% of consultees disagreed with a proposed reduction in existing privately owned non-residential car parking spaces.

8.6. The City's Parking Stock.

8.6.1. The percentage of off-street car parking has decreased due to the creation of 4000 privately owned spaces for the West Quay shopping centre (The Podium car park, 1500 spaces, and the West Quay multi-storey car park – 2500 spaces). This presents a significant constraint on the benefits of raising the local authority controlled car parking prices for the purpose of encouraging the use of park and ride.

8.6.2. Comparisons can be drawn between Figure 5.6, WJ Stage 2, p22 showing the total parking stock in Southampton around the time of the WJ report and information contained in the 'Official Guide to Parking in Southampton' published by Southampton City Council in December 2000.

8.6.3. Total parking stock according to WJ March 1993 report was 22,500. 60% (13,500) was PNR, 8% (1,700) was SCC controlled On-Street public spaces, 27% (6,000) SCC controlled Off-Street public spaces and 6% (1,300) was privately controlled public spaces.

8.6.4. Parking stock December 2000: the number of SCC controlled Off-Street spaces had fallen to 4877 spaces but the number of privately controlled public spaces had risen to 5954 the principal reason for this being the 4000 new spaces created for the West Quay development. The number of on-street parking spaces has remained at the level of approximately 1700.

8.6.5. It would appear therefore that there has been a 39% increase in public parking provision from 9,000 in 1993 to 12,531 in December 2000.

8.6.6. The Southampton LTP Annual Progress Report 2001 states "The proportion of long stay spaces to short stay spaces continues to fall. The number of public on- and off-street long stay parking spaces in the City Centre controlled by the City Council has reduced by 35% since 1993. This represents a reduction of approximately 8% in the total City Centre long stay parking stock".

8.6.7. An issue for concern is the availability of significant numbers of private non residential parking spaces, both in the city centre and to a lesser extent near potential park and ride sites.

8.7. Location Of City Centre Car Parks

8.7.1. A considerable number of parking spaces exist in the city centre in the immediate vicinity of the 4000 spaces at the West Quay shopping centre. Major sites of parking provision include the Marlands Car Park (810 spaces), Eastgate Street (713 spaces), The Quays (250 spaces) all owned by Southampton City Council. Privately owned parking provision includes 693 spaces at the nearby West Quay Retail Park, 310 spaces at the Toys R Us to the north of West Quay Shopping Centre 605 spaces at the NCP car park at Portland Terrace and 220 spaces in the Bargate Centre. The Lime Street Car Park at the Eastern edge of the main shopping area also provides a further 226 spaces. It is apparent that parking provision close to the West Quay shopping centre is well in excess of 7,000 spaces.

8.7.2. Short stay parking is also available in Albion Place (52 spaces), Castle Way (68 spaces), at the Guildhall (92 spaces of which 66 are weekend only spaces), the Civic Centre (71 spaces on weekends only). However it can be argued that the success of park and ride services are not significantly affected by the availability of short stay parking provision.

8.8. Parking Charges

8.8.1. Off-street car parking prices in the City Centre have seen a steady increase since the WJ study. The WJ study used car parking data from the 1991 Biennial Off-street Car Parking Survey of Southampton City Council. The information for 2001 has been obtained from the Best Value Review of Parking Services 2000/2001 (Reference 10).

Long Stay	1993	2001
Up to 1 hour		£0.50
Up to 1.5 hours	£0.40	
Up to 3 hours	£0.80	£1.50
Up to 5 hours	£2.00	£2.50
Over 5 hours	£3.00	
Over 8 hours		£5.50

Short Stay	1993	2001
Up to ½ hour		£0.40
Up to 1 hour	£0.40	£0.70
Up to 2 hours	£0.80	£1.40

Marlands Car Park	1993	2001
Up to 2 hours	£0.30	£1.00
Up to 3 hours	£0.40	
Up to 4 hours	£0.80	£2.00
Up to 5 hours	£2.00	
Over 5 hours	£5.00	£2.50
Up to 6 hours		£6.00
Over 7 hours		£11.00
		0

8.8.2. Parking charges for the West Quay shopping centre are stated on the shopping centre's website to be:

- Multi Storey Car Park (2500 spaces) 60p per hr for up to 6 hrs.
- Podium Car Park (1500 spaces) 70p per hr for up to 6 hrs

8.8.3. In addition West Quay offers 'value parking' of 50p after 6pm on a Thursday and free parking after 5pm on a Friday.

8.8.4. Within easy walking distance of West Quay at the retail parks (over 1000 spaces at Toys R Us and the West Quay Retail Park) motorists can park for free for up to two hours. It is possible that motorists who wish to stay longer could move their cars from one retail car park to another to avoid the need to pay parking charges.

8.8.5. It should be noted that the city residents perceive city centre parking to be expensive.

8.9. Levels of occupancy

8.9.1. In 1992 WJ made the following observations:

- 9000 vehicles per day used the 1,700 on street parking spaces with a
- maximum occupancy of about 84%.
- Most spaces had a maximum stay of 2 hours
- Prices varied from 10p per hour to 60p per hour
- 850 vehicles (9%) stayed for more than two hours.

8.9.2. Public car parks in Southampton were under-utilised in 1993 and the pricing strategy was seen as insufficient to encourage people to use Park and Ride. The under-

utilisation of the car parks is still evident on Southampton during the daytime off peak period, but the parking pricing structure has changed.

8.9.3. There is evidence that city centre off street car parking now has a high level of occupancy at certain times of the week or year. A level of occupancy survey in 1999/2000 indicated a 100% level of occupancy for the Eastgate Street car park on Saturdays and at Grosvenor Square in peak periods during the build up to Christmas. The Marlands car park also saw 100% levels of occupancy on weekdays and Saturdays in the build up to the Christmas period. This survey however reflected the position prior to the opening of the 4000 space West Quay car park and the move of Southampton FC to a new stadium at Northam.

8.9.4. This survey was conducted over a period of 42 days with average occupancy levels as follows:

Table 3: Level of car park occupancy 1999/2000

Car Park	Spaces	Average Daily Maximum Occupancy (April to October)						% of days over 85%
		Mon	Tues	Wed	Thurs	Fri	Sat	
Eastgate Street	713	67%	71%	72%	76%	78%	97%	17/42
Grosvenor Square	540	74%	83%	84%	83%	80%	50%	14/42
Marlands	810	55%	71%	67%	66%	70%	99%	8/42

8.9.5. It is apparent that Eastgate Street and Marlands car parks have little spare capacity. Grosvenor Square car park by contrast had relatively high levels of occupancy during the midweek period. It is important to consider the impact of such high levels of occupancy on the public perception of parking availability in Southampton City Centre. Information on levels of occupancy for Sundays would be useful in determining demand, given the increasing popularity of Sunday shopping.

8.9.6. The above levels of occupancy can be compared to the target occupancy of 85% agreed by the City Council to provide an acceptable balance between income and accessibility

8.9.7. The Southampton Local Plan (March 2001) is clear on the City's policy towards the provision of public car parking in the city centre: "Land at Lower Banister Street is safeguarded for the provision of a 340 space, short stay, multi-storey car park. Additional long stay public parking within the city centre will not be permitted" (Part 2 Development Policies and Proposals, p 114)

8.9.8. Site surveys during October suggest there is high level of spare capacity during weekdays. ROMANSE information showed West Quay as having 3500 spaces in the daytime.

8.10. Summary Comments

8.10.1. For the purposes of this report the effect of raising parking prices is considered to be less important in determining the conditions for a viable park and ride scheme. There is limited scope for increasing parking charges in the city centre due to the large proportion of privately controlled parking. It could also be argued that the arguments in favour of park and ride have changed, for example that it might allow an increase in the city's parking stock for

peaks of demand rather than an alternative to city centre parking in the off peak periods. It would be desirable to implement a park a ride scheme that is financially viable without the need for significant increases in parking prices.

8.11. Parking Strategy

8.11.1. As identified above there is limited scope to alter car parking provision and cost of city centre parking and therefore any marginal increases in city centre parking charges is unlikely to significantly increase P&R patronage. In considering the relationship between park and ride and the city parking strategy the following issues need to be recognised:

- There will always be a willingness to pay for premium parking service (such as at West Quay)
- Use of alternative parking spaces (on-street) will decline as availability is controlled.
- Our study recommends that parking costs and level of provision stay as they are (perhaps will small changes to pricing to fine tune and consolidate the pricing policy).
- There is some scope to influence the viability of park and ride services by reducing the supply of long stay parking.
- In the longer term the viability of park and ride services into the city centre are dependant upon a well ordered parking strategy.
- One of the first steps towards creating the effective parking pricing strategy is to undertaking a parking survey to consider motorists willingness to pay for city centre parking.

8.12. Lorry Parking

8.12.1. Lorry routes into the City of Southampton are identified in the Southampton Local Transport plan:

8.12.2. *Strategic Lorry Route* - Redbridge Road/Millbrook Road/Mountbatten Way (A33)

8.12.3. Local Lorry Routes

- from the north: a) Basset Avenue/The Avenue/Dorset Street/ Kingsway (A33)
b) Stoneham Way/Thomas Lewis Way (A335)
- from the east: a) Bursledon Road, Bitterne Road, Northam Road (A3024)

8.12.4. Lorry parking may be attractive from a financial viewpoint but there are planning problems in obtaining permission for a lorry park. There are a number of issues that raise concerns over the suitability of sharing lorry park with park and ride. The provision of lorry parking on a park and ride site is likely to cause some conflicts of interest and possibly undermine the perception of site quality.

8.13. Coach Parking

8.13.1. The existing coach station is in the city centre close to the West Quay shopping centre. It might be possible to relocate this coach station to a park & ride site, for example to the West of Southampton to cater for the inter urban coach services. This may be compliant with national policy of providing coachway interchange facilities. However the need for coach passengers to have central access to local bus services, taxis and other ongoing connections suggests that the retention of a city centre site, with an additional out of centre stop may be more appropriate.

8.14. Summary

8.14.1. The issue of spare parking capacity in the city centre has been emphasised in this chapter. The City Council is committed to a policy of reducing long stay parking but in practice the effectiveness of this policy is constrained by the City's limited control over the parking stock.

8.14.2. Options for city centre park and ride bus routing were discussed. In the short term simple, limited stop in and out routes appear to be preferable in order to ensure fast turnaround of buses. In the longer term eastern and western sites might be linked by a through city centre service if appropriate bus priority measures can be implemented.

9. Strategy Development & Opportunities

9.1 Approach To Strategy Development

9.1.1. This chapter brings together the research undertaken earlier in this study to identify and assess preferred sites and the corridors suitable for implementation of a park and ride service. The focus of this chapter is therefore to consider the development and implementation strategy for park and ride. The challenge is to offer effective solutions to the demand opportunities outlined in Chapter 2.

9.2 The Optimal Sites

9.2.1. The conclusion from the site selection exercise was that preferred sites could be identified to the west, north and east of Southampton. The eastern site, number 24, commonly known as the 'Windhover' site is one which has been seen to be a preferred site since the Wootton Jeffrey's report. As a result of this reassessment of sites on the eastern corridor this remains the case.

9.2.2. The western site, number 49, 'Redbridge Lane' is a new location to the south east of junction 1 of the M271. It appears to be superior to the earlier preferred site 7 'Test Lane' studied by Wootton Jeffrey's and MVA and also to sites 9 and 48, the 'Hotel' and 'P&O'. Furthermore development pressures to the west of the city mean that site 9 is already under development. Sites 7 and 48 have high commercial value that limits the potential to create substantial park and ride sites on the available land.

9.2.3. The 'Wide Lane' site number 38 is the favoured northern site. Although it is arguably not the ideal site in the north for bus based park and ride this location has the greatest scope for alternative uses, including providing parking for park and rail services from the parkway station. This site is advocated in place of the Stoneham sites (17 and 18) studied by WJ, HFA and MVA due to concerns about the suitability of this corridor for a bus based park and ride service. Furthermore site 18a is due to be developed as a new football ground whilst site 17 would need remedial works to compensate for flooding risks.

9.2.4. It could therefore be argued that the Redbridge Lane site 49 is the best location for a park and ride site in the city area. Operational and financial concerns about this site however suggest that the eastern 'Windhover' site should be developed first. This chapter aims to determine an appropriate strategy for the development for the three preferred sites. It is not certain at this stage that all three sites should be developed. The immediate concern should be to protect these sites from other development to preserve the option of developing park and ride services into Southampton

9.3 The Optimal Corridors

9.3.1. The corridors seen to be suitable for park and ride were:

9.3.2. the Millbrook corridor in the west where there is scope for some additional bus priority measures although the need for weaving space limits the scope for bus lanes.

9.3.3. The Thomas Lewis Way corridor from the north, assuming signalisation and road improvements around the Charlotte Place Roundabout are successful in easing congestion problems on the Bevois Valley Road. The suitability of this corridor needs to be reviewed in the medium term in connection with any plans to introduce a city centre bound park and ride service.

9.3.4. The Portsmouth Road corridor subject to further detailed study work on the scope for bus priority measures along this route.

9.3.5. The Northam Road / Bursledon Road corridor following assessment of the impact of further traffic management measures along this corridor.

9.4. *Developments Within The City Of Southampton Which Impact Upon Current Strategy*

9.4.1. Changes within the city since the WJ report in 1993, and more especially since the MVA Southampton Public Transport Development Study in 1999 need to be considered before developing a park and ride strategy. Consideration must be given to how the traffic patterns have altered and how it might change further in the future.

9.4.2. Significant changes include:

- The opening of the West Quay shopping centre (with a 4000 car parking spaces) in August 2000. One impact of this was the significant increase in the proportion of privately controlled parking provision within the city centre.
- ABP's Dibden Bay Terminal park and ride proposals published in September 2000. These were reviewed in chapter 5 'Alternatives to bus based park and ride'.
- The publication of the Local Plans and Local Transport Plans in 2000/2001
- Increasing levels of road congestion. The evidence to support this is not conclusive. City wide traffic growth has been at a low level but growth on certain corridors, especially the Millbrook corridor, appears to have been significantly higher than the city wide average.
- Southampton FC's move to the St. Mary's Stadium in 2001
- The PRISCILLA project - this will consider how bus priority can be achieved by alterations to traffic signal timings.

9.4.3. A good reference source for city wide developments is the Southampton Local Transport Plan published in 2001 [SLTP, 2001, p45]. This document cites:

- A major expansion of higher education in the City – therefore a greater potential demand for park and ride services to University/college campuses could be generated.
- Significant investment in the Ford Transit works at Swaythling – this might provide a limited reverse passenger flow/ weekday flow for a northern park and ride site.

- The city's hosting of major events such as International Boat Show, Tall Ships 2000, BT Global Challenge and Balloon & Flower Festival – park and ride can be used to improve access to these events.

9.5. The Southampton Area Road Network

9.5.1. A strategic approach to the development of park and ride must consider the interaction of park and ride services with the local and regional road network. MVA's M27 Integrated Transport Study highlights existing problems on the primary road network in the Southampton area. [M27 ITS Summary Report, December 2000, figure 2]

9.5.2. The M27 has become saturated with traffic. In particular there is congestion between Junctions 2 and 3 during peak times and slow moving traffic east of junction 3 towards Rownhams Services. The M27 is no longer a quick route around the city of Southampton. This reduces the value of the Halcrow Study work into park and ride that implied that a high proportion of motorists would divert along the M27 to a park and ride site.

Eastern corridor

- M27 Junction 8 – The high toll on the Itchen Bridge dissuades HGVs from using this Junction for access to the city via the Portsmouth Road corridor.
- M27 Junction 7 – This is a congested junction serving the Hedge End shopping centre.

Northern corridor

- M27 Junction 5 - There is congestion at this junction that provides the main access to Southampton Airport.

Western corridor

- M27 Junction 3 – Problem of northbound traffic queues occurs in the morning and evening peaks.
- A35 from Totton – Heavy congestion prior to the Redbridge flyover.
- MVA suggested that the M271 be improved by carriageway widening with HOV and HGV lanes [M27 ITS, 2000, Figure 5].

9.5.3. A brief comment about park and ride was also made in the final report of this MVA study [M27 ITS, volume 4: Final Report, December 2000, p56] "An assessment of the most advantageous locations for park & ride (based on major commuter flows) was examined, but specific sites were not identified. Therefore, it is not possible to assess the full potential impact of particular proposals but the broad effects of park & ride schemes have been predicted'.

9.6. Provisional Strategy Proposals

General Strategy

9.6.1. Of the six principle radial routes into the city centre two must be discounted for a city centre express park and ride service. Shirley Road is unsuitable since now it caters principally for local traffic. The Avenue is also unsuitable because of the difficulties of locating a parking site close to the northern end of this corridor.

9.6.2. In many respects the western 'Millbrook' corridor appears to have the greatest potential for a park and ride service. Demand is likely to be greater than for the other radial routes, land is available close to Junction 1 of the M271 that appears to be suitable for a park and ride service. A western site would be easier to progress on planning grounds and could be integrated with the Adanac Park development to create a reasonable level of reverse flow. There is also scope to integrate express X33 bus services from Poole and Bournemouth into a western site. This would provide public transport access to the Adanac Park development from these urban areas. This site could also be used to provide additional parking for the General Hospital and the Ordnance Survey offices.

9.6.3. There is however several critical concerns which need to be resolved to ensure the success of a western site. One is the cost of land acquisition since land values around the M271 motorway could well be prohibitively expensive. Another concern is that although the potential demand is very high the actual demand could be much lower unless city centre parking restraint and effective bus priority measures along the corridor can be introduced. The experience of poor performing park and ride sites in other UK cities where bus priority or parking controls could not be delivered also needs to be considered and recognised.

9.6.4. Indeed if the priority measures and parking controls cannot be progressed in the short to medium term it might only be necessary to secure a suitable site in the west and then to switch the focus of attention to progress a park and ride site to the east.

9.6.5. The eastern Windhover site has a number of advantages although again there is the key concern as to the effective level of demand for this site unless extensive bus priority measures are introduced. In the short term this site would provide a useful location for Southampton FC park and ride services. It might also be a good location for seasonal parking during the peak Christmas and January sales retail period.

9.6.6. A formalised park and ride could be developed later in connection with a strategy of revised long stay city centre parking charges, an increase of tolls on the Itchen Bridge to deter through traffic and signal priority for buses along the Portsmouth Road. There is some scope for physical priority measures, for example bus lanes east of the Botley Road Junction and some closures of side roads along the Portsmouth Road.

9.6.7. The existing number 29 Solent Blue Line service could be adapted to serve a Windhover park and ride site. A number of First Group services could also stop at this site including the number 72 from Gosport, the number 80 from Fareham and the hourly X27 service from Southsea. The X27 runs along the M27 between Junction 8 and the M275 Junction before running into Portsmouth. There is perhaps the option of a dual use with motorists driving out to the Windhover site to catch a bus for Fareham, for example.

Quick
Access
12
over 200
in 10 min

9.6.8. Therefore in the short term the viability of a formal park and ride service to the city centre may be questionable. The city has a highly accessible city centre with spare parking capacity that makes park and ride a much less attractive option for many potential users.

9.6.9. The immediate objective should be to acquire suitable sites and concentrate on developing trial park and ride schemes to cater for infrequent and seasonal demand for parking in Southampton. The ROMANSE traffic information system can be used to encourage motorists to divert to these park and ride sites. This trial operation will provide useful information on driver attitudes to using park and ride and enable fine tuning of scheme proposals before the implementation of full time park and ride on one or more corridors.

9.6.10. The lead in period for introduction of park and ride was thought by WJ to be one or two years and therefore it was recommended that "the process of public consultation, site purchase, planning application, and detailed design etc be commenced immediately" to cater for increased traffic flows resulting from an improvement in the financial climate. This view is still valid, and arguably even more so now given the need to secure suitable park and ride site before they are developed for commercial or residential purposes.

9.6.11. Existing informal park and ride sites could be promoted better. An example is the small parking site on the A35 at Totton that is connected with Southampton by local bus services and operated by New Forest District Council. Promoting the facility locally and increasing the bus service frequency might be a means to increase patronage at this small scale informal park and ride site.

9.7. Strategic Opportunities Outside The City Centre

Southampton FC Park And Ride Opportunities

9.7.1. It is important to understand where is the demand coming from and which is the best site to serve the new ground at Northam: Stoneham, Western Site or Windhover? It is also essential to understand whether the Saturday park and ride services be revised to cater for this football travel demand, without disrupting services for shoppers and other visitors. It may be that full integration of the two types of trips is difficult and may well be counter productive.

9.7.2. Windhover appears to have the most potential for football trips and could be developed in the short term, subject to planning approval. The Wide Lane site could be used at a later stage if there is sufficient demand to justify an additional site. Two sites could help permit the separation of the home and away fans. Windhover has the benefit for local people of being a site recognisable through its use for Sunday car boot sales.

9.7.3. Southampton FC is now operating a park and ride service to the stadium from four sites (2,500 spaces). The football club is now using the Windhover site for park and ride on a trial basis. Historically there was a problem with this site when the council lost an appeal over use of this land and was encouraged to develop a northern site. W.S. Atkins has prepared a report for the football club about how people travelled to the ground and it appears that there is a need to build up a case for use of sites such as Windhover.

9.8. Southampton General Hospital Park And Ride Options

They have a rail plan

9.8.1. This is a key opportunity, perhaps offering the greatest opportunity for early success for park and ride in the short term. There is both a widely held perception and an underlying reality that there is a shortage of parking at the General Hospital for patients, staff and visitors. A park and ride service could be operated to this site from the Stoneham or Redbridge Lane area. This might be able to drop hospital visitors off close to the main hospital entrance.

9.8.2. There is a severe parking shortage at the General Hospital site. This hospital is Southampton's largest employer with around 6,000 staff but only 2,100 parking spaces. In addition to staff demand there is also a considerable number of visitors to the site. Furthermore plans to expand the acute care facilities at this hospital site will generate increased demand for parking provision in the future.

9.8.3. An attractive option would be to develop site 49 to provide park and ride for staff thus helping to release parking spaces for visitors in the hospital car parks. A target market of 1500 hospital staff has been identified as potential users for this service. In addition parking stock on the hospital site could be converted from long to short stay to increase visitor use and thus in turn provide revenue for the hospital. In practice park and ride might serve the hospital during the weekdays and city centre retail demand at weekends thus providing daily use of this park and ride site.

9.8.4. At present the hospital operates a small informal park and ride service for staff using 140 spaces in a supermarket car park at Lordshill. This service is believed to be operated by two minibuses. The informal service could be replaced by a more intensive service operating from site 49 thus providing in initial base of park and ride bus users. Around 200 car drivers have been allocated a space in this supermarket car park.

9.8.5. A bus service linking Eastleigh to the General Hospital during the late 1990s was seen to be a failure. However the option of running shuttle bus services between site 39 and local towns such as Romsey at Eastleigh merits further consideration. The shuttle buses could bring employees to the Adanac Park site in addition to providing a public transport link to the hospital park and ride service.

9.8.6. Appropriate branding of a dedicated Hospital Park and Ride service could help increase staff awareness of this facility. Site 49 could also provide temporary overflow parking to permit expansion of the multi-storey car park on the General Hospital site.

9.9. Ordnance Survey

9.9.1. This office has at present constraints on the availability of parking at their site on the Romsey Road. Problems with the availability of parking will increase when the tax office relocates to this site during the spring of 2002. There is the opportunity to use a park and ride service from site 49 to ease parking problems for staff at this site. This might be done by adding a stop on the hospital park and ride service.

9.10. University Park And Ride

9.10.1. Constraints on the availability of parking at the University are less severe than that at the principal hospital sites in the city. However park and ride using part of site 44 is

already in operation. This connects with Uni-link Service operate by a fleet of 14 buses. Around a hundred permits have been issued for the park and ride car park on site 44. However daily use of this car park for park and ride is significantly lower. Spare capacity in the University car park is leased to South West trains to provide overflow parking for the station. The Uni-Link service is in the process of being upgraded with a new fleet of between 10 and 13 buses. There are plans to expand this site and improve it by laying asphalt in 2002.

9.11. Hamble Peninsula Park And Ride

9.11.1. The Tesco supermarket car park was suggested by Parkman [HPTAS, 2001] as a temporary park and ride site with the Windhover (24) site advocated as being as a permanent solution. The Windhover site could be used to cater for peak demand for parking. In particular a seasonal service could be provided to cater for increased demand for leisure activities such as yacht sailing.

9.11.2. Other sites cited by the Parkman study as alternatives to the Windhover site were:

- The Landfill site at Netley (suggested by Southampton City Council). This site has a number of key constraints including the problems of providing access from Hamble Lane, poor intercept, limited scope for alternative use and the potential remediation costs of the site.
- The Botley Road site (26) at the Botley Road / Bursledon Road Junction. This is a reasonable site since it is fairly level with scope for expansion. However this site is arguably less suitable than that at Windhover. There could also be access and egress difficulties for traffic using this site for a Southampton City Park & Ride.

9.11.3. A temporary park and ride service using the Tesco car park was costed at £3,000 with 'slightly positive' benefits expected to be derived. A permanent park and ride at Windhover shared with Southampton City Council was not costed but was also thought to produce slightly positive benefits. A park and ride service using the Tesco's car park for major sailing events can be seen as a short to medium term option. A more permanent park and ride service for work commuter journeys is a more long term option that may not be viable. "A Park and ride site solely set up to serve the Hamble Peninsula is unlikely to ever become a viable proposition" [HPTAS, 2001, p57]

9.11.4. Parkman's conclusions appear to accord with the strategy set out in this study. In the Short term use of the Tesco car park for season events is a sensible means to test for the demand for park and ride. Park and ride could then if necessary be developed further using the Windhover site.

9.12. Adanac Park Development Plans

9.12.1. The application to develop stage 2 of the Adanac Park development includes proposals for a park and ride site with a minimum of 650 spaces (a 6.78Hectare site). It is thought that this proposal could reduce the volume of traffic along the M271 south of junction 1.

9.12.2. This proposal appears to be compliant with the strategic objective of securing a site to the west of Southampton for park and ride. The location identified, the northern portion of site 49 accords with the findings of the site selection process that favoured this western site.

9.12.3. Several concerns should be emphasised:

- That sufficient land to the south of the 650 space park & ride site be secured for future expansion of this site. This may require changes to the design of the proposed balancing ponds towards the southern end of this site.
- That the proposed road alterations along Brownhill Way be further modified to permit easy access and egress to the site for motor vehicles on the M271 both northbound and southbound.
- That a dedicated walking and cycling route be provided from the site to the Adanac park leisure and business developments.
- The site benefits from a clear signing strategy for motorists, walkers and cyclists

9.12.4. A comprehensive Transport Impact Assessment has been produced for the Adanac Park development. This includes provision for cycle access to the park and ride site (49). Adverse environmental impacts have been considered and would be mitigated by site screening and provision of improved drainage facilities. The transport impacts of the Adanac site will necessitate junction improvements to ensure safe access to site 49. The Park and Ride site would be available for use as a public facility in addition to providing improved access for staff and visitors to the Adanac Park site.

9.12.5. It is essential that the 650 space park and ride proposal would not simply provide overflow parking for the principal Adanac Park developments. The existing proposals appear to fit within a strategic approach to the provision of park and ride in Southampton.

9.13. A Strategy For Park And Ride In The Totton Area

9.13.1. The Redbridge Lane site (49) does not address the need to provide convenient park and ride facility to ease traffic congestion in Totton. The following strategy is advocated:

9.13.2. Short Term - A cost effective short term option would be to enhance the existing park and ride operation on site 6 by the A35 in Totton. This could be achieved through marketing of the park and ride site and also through improvements to the reliability and frequency of bus services which link this site with the city centre.

9.13.3. Land to provide parking at West Totton Station should be safeguarded. Further work needs to be undertaken to assess the local traffic impacts of developing West Totton as a parkway station.

9.13.4. Medium term - Plans to develop West Totton station could be progressed subject to an assessment of the potential local traffic impact of a station on adjacent residential areas and the designated New Forest. Costs are likely to be high especially to provide dedicated access from the Totton Western Bypass but this station offers a good opportunity to reduce or contain road traffic into the city. However there are key issues to be resolved in

terms of providing adequate parking provision at this station site. Station users would need to be discouraged from parking in nearby residential areas.

9.14. Sites and Corridor Strategy - Summary

9.14.1. One site is acceptable initially but not in the long term. Opening date could be Autumn 2002 or 2003 in anticipation of the greater demand for city centre parking in the run up to Christmas.

9.14.2. High levels of demand for park & ride could occur in the pre Christmas and January sales shopping periods, particularly when Southampton FC play at home.

9.14.3. There is need for specific parking surveys to be undertaken – it may be possible to use data from latest parking survey, but it will be necessary to identify those trips which can most readily be switched to park and ride. It is important to understand the effects on journey origin and destinations following the opening of West Quay and relocation of the football ground.

9.14.4. A priority is to secure sites for long term park and ride implementation, especially a site to the west of Southampton

9.14.5. Developers could provide revenue support for an initial period prior to achieving commercial viability or ongoing revenue support will need to be secured by the local authorities.

9.15. Advantages Of The Western Park And Ride Site

9.15.1. It is simpler to provide P&R loop services to this site from West Quay.

9.15.2. One way journey time could be approximately 10 minutes, offering a competitive journey time with the private car (the eastern site would take 15 to 20 minutes). Therefore fewer buses are required which equates to less revenue support. 3 buses might be required to maintain a 10 minute frequency whereas 4 or 5 buses would be needed for an eastern site.

9.16. Advantages Of The Northern Park And Ride Site

9.16.1. The Wide Lane site has the potential to serve a good spread of transport markets from the north of the city. Core demand for trips to the city centre could be cross subsidised by providing overflow parking for the airport parkway rail station.

9.17. Advantages Of The Eastern Park And Ride Site

9.17.1. Analysis of the traffic flow data indicates that the Botley Road/Portsmouth Road is not an attractive route for through traffic. A possible explanation could be that the toll bridge on Itchen Bridge discourages city centre bound traffic from using this route. The lack of through traffic is an advantage for bus operations, as they are not subjected to the same variability of journey times caused by peak flows. This is in contrast to the Bitterne Road corridor that is the main route into the city centre for general traffic. It suffers high levels of

peak congestion and delay causing a high degree of journey time variability along this corridor.

9.17.2. Although there is little scope for bus priority along the Botley Road/Portsmouth Road corridor it does not experience the same levels of congestion as the Bitterne Road corridor. Peak journey times between Windhover and the city centre are approximately 5 minutes faster along the Portsmouth corridor than the Bitterne Road corridor.

9.17.3. It is recommended that consideration be given to the toll on Itchen Bridge to be increased to deter through traffic and so make the Botley Road/ Portsmouth Road the preferred route for park and ride buses. However it is recognised this will have a revenue impact on the operation of the toll bridge and would be unpopular with local communities.

9.17.4. Sites located close to junction 8 have an advantage over those near junction 7 as they have a choice of using either the Bitterne Road (via Bursledon Road) or the Portsmouth Road corridors. Since the destination rather than the route taken is important for park and ride services the ability to vary routes depending of road conditions. One scenario is that the ROMANSE centre could inform park and ride drivers of severe congestion and route buses accordingly.

9.17.5. To provide access to the Southampton FC's St. Mary's stadium park and ride buses could operate in a loop using Bitterne Road and Portsmouth Road.

- Dedicated buses may need to be used for football fans if demand requires.
- There is potentially funding from the Tesco superstore for the Windhover site to act as an overflow car park, but this would have to be reviewed in the light of local planning policies and parking standards.
- Park and ride bus services could operated in a loop along Hamble Lane, Portsmouth Road, Botley Road and Bursledon Road.

9.18. Operation Of Park And Ride Buses

9.18.1. Weekday service to the General Hospital could change to serve retail and football demand at weekends.

9.18.2. The service could operate with a lower frequency during off peak periods.

9.19. Cost Benefit Analysis

9.19.1. Detailed cost benefit analysis would be required before decisions on which site is to be developed and the priority order in developing sites. This should include all operational costs, including the site management, bus operations promotion and development costs. Similarly realistic detailed assessments of income, including car parking revenue, developer contributions, local authority grants and revenue support needs to be prepared. Utilisation of the NATA approach is anticipated.

9.20. Trigger Points

9.20.1. As the emerging park and ride strategy will allow staged implementation when the conditions are considered appropriate it is important to define what the trigger points will be. These should be the measures, both quantitative & qualitative, of key indicators that demonstrate both a demand for park and ride and the necessary confidence that such a service will be viable in passenger numbers, revenue and impact on traffic levels.

9.20.2. The trigger points need to be agreed, adopted and understood by SATS members to ensure that park and ride proposals can be delivered at the optimal point in time. If introduced too soon demand may be low and the service will be perceived as a failure. Left too late and the difficult parking situation may have shoppers and businesses to choose alternative locations. As always the balance point in this process is difficult to predict but by providing a range of measures it is possible that each complementary measure adds to the overall picture.

9.20.3. Options for trigger points include:

- Traffic levels on key corridors – both peak and off peak
- Air quality levels – on key corridors, in the city centre
- City centre parking utilisation – trends over time and by location, short and long stay trends
- Local bus service patronage – as an indicator of support for sustainable transport
- Development - city centre – For example, West Quay phase 3. This development of retail and multi-purposes facilities is not expected to have any new parking provided.
- Increased parking problems at the hospital
- Parking problems at the University
- City centre parking availability as further developments in the city increase the demands on the existing parking stock.
- Use of TRANSPOL transport attitude surveys to assist in the identification of sustainability indicators which could act as trigger points.

9.21. The Way Forward

9.21.1. Immediate action:

- Agree and adopt strategy
- Develop strategy for determining policy to implement Park and Ride (trigger points)
- Agree Action Plan and assign roles in park and ride development
- Secure the sites for future park and ride development
- Safeguard the park and ride corridors. e.g. ensuring sufficient carriageway width is preserved for physical priority measures

9.21.2. Work to be completed before the first park and ride site is implemented

- Making the case for park and ride through promotion, public debate.
- Scheme development
- Consultation with key stakeholders
- Obtaining planning permission to develop the favoured sites.
- Surveys
- A review of city centre parking strategy - to establish how parking charges can be revised to complement park and ride

9.21.3. Implementation process for the first park and ride site

- Timing of the implementation – based on the agreed trigger points
- Identify and promote scheme to the target market
- Branding and marketing initiatives
- Further travel awareness work
- Linkages to employers travel plans

9.21.4. Post implementation review – within 12 months

- Who uses park and ride in Southampton? What is their willingness to pay and their price sensitivity
- What has been the impact on the key indicators – congestion levels, air quality, parking availability, etc?
- How can park and ride be adapted to best serve the needs of the city?
- Should park and ride be developed further?

9.21.5. Long term - Developing a City wide park and ride network

- Which sites should be developed next?
- How can sites be linked together to provide a better service?

10. Conclusion

10.1.1. This study has identified both opportunities and constraints in developing park and ride for the Southampton area. There is clear national and local policy backing for such development, with valuable support from previous studies in narrowing down site and corridor choices to those most likely to be effective and viable.

10.1.2. As part of this study it has been possible to undertake a full site assessment, reviewing previously identified sites and those new sites that are potentially now available. This site assessment has been matched with detailed analysis of the principal corridors, reviewing traffic flows and opportunities for bus priority. Options to use other modes such as rail and ferry have also been reviewed.

10.1.3. The development of a strategy for park and ride in Southampton is therefore based on the detailed analysis described in earlier chapters of this report. From that work the key elements of the strategy are as follows:

- Three preferred sites for park and ride have been identified at Windhover (Site 24), Stoneham (Site 38), and Redbridge Lane (Site 49). These sites should be safeguarded for park and ride use in the relevant local plans.
- Permanent park and ride facilities on the preferred sites should only be implemented when an assessment of conditions indicate that they would be effective and viable. Trigger points need to be identified to indicate when the conditions will be right to develop each site. These may be traffic and air quality levels, city centre parking utilisation, public attitudes to park and ride, parking problems, etc., which all have to be identified and measured.
- In the short term opportunities for trial seasonal park and ride schemes should be explored.
- The recommended order for implementation of permanent sites is Redbridge Lane, Windhover and Stoneham, but with some important caveats as identified in the main report concerning availability, development, funding, etc.
- Both securing significant additional bus priority measures and reviewing city centre car parking will be essential components in delivering an attractive park and ride journey and discouraging trips to the centre.

10.1.4. Applying the strategy suggests that the immediate action required should be:

- To investigate the effectiveness and viability of the Redbridge Lane Site (site 49) as a staff park and ride facility for the General Hospital and other major employers in the area, in the short term, and to consider its suitability as a site to serve Southampton city centre and other potential locations in the medium and long term.
- Apply for planning permission to use Windhover site 24 as a permanent park and ride for retail, football and special event purposes, including access to the Hamble peninsula.
- Retaining an option on the use of Stoneham site 38 for a park and ride service. This might serve the University, football stadium, city centre and through an orbital link the General Hospital.