This report takes into account the particular instructions and requirements of our client. It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.
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1 Introduction

1.1 Background

In May 2008, the Milton Keynes South Midlands (MKSM) Strategic Transport Board commissioned Arup, supported by Richard Armitage Transport Consultancy and The TAS Partnership Ltd, to produce the MKSM Mode Shift Strategy for the MKSM Growth Area.

The Milton Keynes and South Midlands Sub Regional Strategy (MKSM SRS) outlines a plan to develop the area in the sub region for the period 2001 to 2021. The MKSM SRS builds on a framework set out by the Governments Sustainable Communities Plan, which has the objective of maintaining the economic success of London and the wider South East. In this plan, four growth areas were identified, of which the MKSM region was one. For each area proposed growth was outlined in terms of housing supply, the number of jobs, together with plans to meet the requirements of these proposals.

Currently there are a number of challenges facing the sub region if these benefits are to be realised. Significant increases in the number of homes and jobs will mean a significant increase in the number of trips undertaken in the region everyday, in what is an already congested transport network. The highway network in the region is under pressure, with notable pinch points at the strategic level along the M1 north – south corridor. This route not only carries a significant proportion of traffic that is strategic in nature and passes through the region, but also a high proportion of local traffic, with origins and destinations within the region. Furthermore, at the local level, the highways networks within towns such as Northampton, Milton Keynes, Kettering and Luton are experiencing regular delays. Significant growth in the number of trips, without measures in place to limit the impact of this growth, will lead to worsening conditions on the transport network, and will potentially lead to the main objectives of the MKSM SRS, in terms of economic growth, remaining unachieved.

This report presents the Draft Modal Shift Strategy as key output for Stage 3 of the commission. This stage builds on the work completed in the Stage 1 (Baselining) and Stage 2 (Workshop 1). This report will provide the basis for Stage 4 (Workshop 2) that will refine the strategy and allow presentation of the Final Strategy in Stage 5.

1.2 Summary of Growth Context

The Milton Keynes South Midlands (MKSM) Growth Area is located at the intersection of three regions:

- the East Midlands;
- the East of England; and
- the South East.

The MKSM sub-region incorporates Northamptonshire, Bedfordshire, Milton Keynes, Luton and parts of Buckinghamshire. Both Milton Keynes and Luton are unitary authorities separated from Buckinghamshire and Bedfordshire respectively.
MKSM Constituent Authorities

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<tr>
<th>County</th>
<th>Name</th>
<th>Status</th>
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<td>Shire District</td>
</tr>
<tr>
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<td>Shire District</td>
</tr>
<tr>
<td></td>
<td>Daventry</td>
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</tr>
<tr>
<td></td>
<td>Wellingborough</td>
<td>Shire District</td>
</tr>
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<td></td>
<td>Kettering</td>
<td>Shire District</td>
</tr>
<tr>
<td></td>
<td>Corby</td>
<td>Shire District</td>
</tr>
<tr>
<td></td>
<td>East Northamptonshire</td>
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</tr>
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<td></td>
<td>Bedford</td>
<td>Shire District</td>
</tr>
<tr>
<td></td>
<td>Luton</td>
<td>Unitary</td>
</tr>
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</tr>
<tr>
<td></td>
<td>Milton Keynes</td>
<td>Unitary</td>
</tr>
</tbody>
</table>

A Sub-Regional Strategy was adopted in March 2005 and, as a result, has been identified for substantial growth within the Government’s Sustainable Communities Plan. The scale of growth was defined to include over 200,000 new homes and 190,000 new jobs to 2021 and managing this growth on a sub-regional level is vital to ensuring that infrastructure and services remain available to the populace.

The delivery of this growth agenda is advancing steadily, with 43,000 new dwellings and an increase of 41,000 new jobs within the MKSM area since 2001. There are specific growth points where this development is concentrated, and this emphasises the need for co-ordinated land use and transport planning for housing and employment. For example, where possible, employment and residential development are to be provided together, to reduce the potential for traffic growth. The National Travel Survey already identifies over 1,000 trips per person per year for respondents in the MKSM sub-region, and over two-thirds of these trips are made by car. When these are considered in addition to the external trips carried through the MKSM region by the strategic motorways and trunk roads, it becomes imperative that these strategic links are kept free of congestion.
Figure 1.1: Milton Keynes South Midlands Growth Area

Development is becoming increasingly concentrated on expanding existing urban areas, and this growth will have a profound effect on travel patterns. Achieving the required level of travel behaviour change is a significant challenge, but one that is necessary and urgent, with a need for timely and effective planning. An integrated network for public transport and sustainable modes delivering the sub-regional connectivity required for strategic trips has not yet been established and improvements will need to be attractive and reliable to encourage mode shift.
1.3 Role of the Modal Shift Strategy

The aim for the modal shift strategy is to identify a framework for addressing the priorities for the sub-region as a whole, seeking additional benefits from a co-ordinated approach that will facilitate the delivery of the growth agenda in a sustainable manner.
The development of a Modal Shift Strategy for the Milton Keynes South Midlands Growth Area has a clear context in relation to securing planned economic growth. It is not possible or affordable to build sufficient road capacity to meet increased demand as a result of the growth agenda, and the production of an evidence-based modal shift strategy with proposed principles, measures, targets, priority actions (with milestones) and reporting mechanisms is fundamental to realising the planning objectives of the constituent authorities. There is just as clear an implication, based on evidence of existing highway congestion and traffic growth forecasts, that the planned development cannot be accommodated without a significant shift to public transport and other sustainable modes. The movement strategy within the MKSM Sub-Regional Strategy sets out the basis for managing the increasing needs of the growth area and the further demands that will be placed on congested roads and inadequate infrastructure. It is only with a massive shift of emphasis to sustainable modes that the scale of development planned for the sub-region will be achieved. There is some doubt as to whether realistic and achievable strategies for modal shift will be sufficient to address the future issues associated with growth. Rather than being concerned solely on physical measures and new infrastructure or services, this Modal Shift Strategy considers how best to attract a “virtuous” cycle of behaviour change, as illustrated below and previously identified for sustainable planning within the sub-region.

**Figure 1.3: Theoretical Cycle of Mode Shift**

Cycle of Modal Shift

- Sustainable modes / transit oriented land use planning
- Reduced vehicle ownership
- Reduced parking supply
- Urbanisation of cities
- Alternative modes championed
- Increased travel options
- Co-located development patterns
- Sustainable modes / transit oriented transport planning

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**Draft Strategy**

Ove Arup & Partners Ltd
Draft 2    30 September 2008

MKSM Strategic Transport Board

J:\207000\207379 MKSM GROWTH MODAL STRATEGY\4 INTERNAL PROJECT DATA\4-05 ARUP REPORTS\DRAFT MODAL SHIFT STRATEGY\MKSM.MSS.DRAFT.300908B.DOC Page 6

Ove Arup & Partners Ltd
Draft 2    30 September 2008
The Strategic Transport Board has an important role to help co-ordinate strategic transport investment priorities and strategies. It is also tasked with lobbying for funding and being a champion for the sub-region’s partners. However, an effective and meaningful strategy needs support at the delivery level, with the local authorities, development partners and the Highways Agency. This links the development of a cohesive MKSM Modal Shift Strategy with the successful completion of local plans for public transport improvements and other measures designed to meet the Local Transport Plan shared priorities of reducing congestion, improving road safety, greater accessibility and better air quality. It also places significant emphasis on the relationship between the private sector, the Highways Agency and local authority Development Control officers in the planning, approval and delivery of new developments. By highlighting the fundamentals of location (i.e. away from motorway junctions / high speed roads), development design and service provision, coupled with good, frequent public transport and smart programmes to influence travel choices, the key elements of a modal shift strategy can be in place very quickly.

It is intended that the Modal Shift Strategy will link to the prioritised schemes and interventions within a developing transport strategy. It should also clearly state the potential of modal shift to contribute to growth objectives and include a model framework for assessing schemes against the identified modal shift targets. It is noted that the Modal Shift Strategy will be developed prior to any Sub-regional Transport Strategy that may more correctly have provided the wider context for the more specific study. However, it is clear that there is an imperative for the use of more sustainable modes in securing the scale of development proposed. Despite the priority for developing more sustainable travel patterns, however, it is likely that significant infrastructure investment is still required to meet the needs of the growth. There has been no approach to securing Transport Innovation Funding on behalf of the MKSM sub-region that may have assisted with the planning and assessment of measures to tackle congestion. It is important that support for the major transport investment required for a successful modal shift strategy is forthcoming and support is sustained.

Analysis of the way in which public transport services and facilities are organised illustrate that a hierarchy exists in relation to supply and demand. This hierarchy reflects how well suited bus and rail networks are for different types of journey over varying distances. Issues related to the cost and economies of providing services and infrastructure have an impact on the delivery of sustainable networks. The flexibility of the services and the demands of the travelling public in relation to particular types of journey determine how patronage responds to these services.

There is clear demand for public transport across all journey purposes and for a wide range of origins and destinations. Whilst the volumes of these demands differ widely the key requirements for public transport are as follows:

- Reliable;
- Affordable;
- Efficient;
- Timely;
- Simple to use.

For longer distance journeys reliability and attractive journey times are required, particularly for trips between sub-regional centres and commuter journeys into regional and sub-regional centres.
The development of the Modal Shift Strategy can adopt one of a series of approaches depending on the appetite for achieving long term, sustainable change. This is illustrated as follows:

- **Business as usual**
  - Continue with current priorities and major schemes;
  - No additional initiatives to deliver sub-regional objectives;
  - No prospects for increased funding.

- **Incremental**
  - Adopt strategic regional and sub-regional priorities;
  - Deliver an integrated plan with public transport supporting land use;
  - Reflect demand for strategic regional and sub-regional movement corridors;
  - Modest investment in technologies, taking advantage of developments in existing modes (e.g. new fleets, environmentally friendly fuels);
  - Co-ordination of initiatives across authorities delivering added value.

- **Proactive, challenging**
  - Significant increase in the level of funding and investment is required;
  - Capability to deliver major regional public transport projects, including rapid transit;
  - Revitalised sub-regional railway services and interchanges;
  - Transformed local bus services.

- **Aspirational**
  - Delivers a significant change at different levels of the hierarchy;
  - Alternative policy and delivery mechanisms to maximise potential;
  - Radically different fiscal approach required, including sub-regional capital and revenue funding mechanisms;
  - Opportunities for significant innovation in technology;
  - Optimum scenario.
The rationale for a modal shift strategy for MKSM assumes Scenario 1 to be unsustainable and Scenario 2 to be insufficient. It also assumes that existing initiatives, such as the Sustainable Towns Initiative that has a demonstrable impact on an individual town, can provide some indications for rolling out sub-regional solutions to gain a greater impact but that to achieve a step change in behaviour and meet the targets for sustainable development that a comprehensive approach is required that goes beyond service provision and new infrastructure.

1.4 Structure of Report

In the following chapter, we consider the six components that make up the overall Modal Shift Strategy and explore their characteristics, issues, objectives and potential solutions. In Chapter 3, we consider the impact of the sub-regional modal shift strategy on the inter-urban corridors and how public transport gateways are expected to contribute to the strategy. Chapter 4 explores the strategy in the wider context - service integration, external links and the wider transport strategy.

In conclusion, Chapter 5 considers the strategy in the wider context of developing a Sub-Regional Transport Strategy that encompasses highway improvements and other policies and plans that may not contribute directly to modal shift.
2 Strategy Components

2.1 Introduction

It is important that the MKSM Modal Shift Strategy is coherent in order that it can deliver behavioural change at the sub-regional level. This will require a high degree of integration at the local level with an understanding of how initiatives at the sub-regional level will provide added value. There are direct links to the Local Transport Plan initiatives delivered by the constituent local authorities, each of which has its own public transport strategy. There is also the list of sub-regional priority schemes that were identified in the earlier work for the MKSM Strategic Transport Board. The level of integration must consider these policies and plans in the context of the scale and location of growth for the sub-region.

In order to make most efficient use of existing resources the Modal Shift Strategy needs to develop individual component strategies for the main initiatives being considered. These are categorised under the following headings:

- Bus Initiatives
- Rail Initiatives
- Accessibility Planning
- Parking Strategy
- Development Planning Guidance
- Information Strategy

Solutions under some of these strategies will be relevant to some parts of the sub-region but not necessarily to others. For example, bus and rail strategy solutions may differ in scale and importance and the approach to parking and accessibility will need to reflect the spatial relationships of primary nodes and corridors. Other strategies, such as information or development planning may take a more general and widely applicable structure.

The current level of trip making by public transport, particularly in the congested peak periods is illustrated by the journey to work statistics. Although there are some major movements to and from centres outside the MKSM sub-region.

The following sections consider the characteristics, issues, objectives and potential solutions under each heading to make up the overall Modal Shift Strategy.

2.2 Bus Initiatives

The scale of modal shift required in the MKSM sub-region is significant, particularly given the growth plans; furthermore, in the short to medium term, the potential for planning and related policies to reduce either the number or length of trips is limited. Consequently, achieving transfer from individual car to collective public transport modes will be critical for the success of the strategy. Given the length of time that will be required to enhance rail capacity, the lion’s share of the shift will fall upon the bus, coach and collective taxi sector, where improvement delivery times are potentially quite short.

The components of a generic incremental strategy that will result in a significant growth in bus patronage are reasonably well understood, and rehearsed in local LTPs and Bus Strategies – improvements in route frequency, penetration and time coverage, image, information, integrated ticketing, smart fares, vehicle quality, staff training and so on. The components have been set out in more detail in the baseline report. A recent CPT report estimates the impact on bus patronage when conventional components are applied more or

1 Moving Forward - New Opportunities, New Passengers, Confederation of Passenger Transport, November 2007
less intensively to an existing bus network in a major urban area. This is illustrated in Figure 2.1.

**Figure 2.1: Level of Investment vs. Possible Patronage Growth Levels**

None of this will be enough in the case of MKSM where we need to consider growth in trip rates, and consequent public transport demand, of a doubling or more. This scale of change presents its own challenges. Imagine a bus network that is 3 or 4 times as intensive as is currently in place – at a local level, this will have significant roadspace implications; do we have the bus station and interchange capacity, or even town centre bus stop spaces? More than this, however, and particularly given the need for seamless approaches on a cross-local-boundary basis combined with negotiation with the major bus groups at a national level to guarantee very significant investment, it suggests the need for effective planning and delivery on a sub-regional basis. This would seem to be well beyond what an extension of the current patchwork of local arrangements under bus deregulation, with or without Quality Bus Partnerships or similar arrangements, could deliver. Whilst we cannot ignore the need for financial sustainability within the bus network, the fact is that the sub-region has additional objectives which the market alone will not deliver. Furthermore, achieving these will require such a level of public investment as to necessitate significant public authority involvement in determining the approach to the market. For example, intensive bus networks need to be planned and agreed so that they can be included in the first marketing material that goes out to potential occupiers of new housing or business developments; they need to be fully functional before the first occupier arrives on site. This will require investment over a longer time horizon than the commercial bus groups currently utilise for payback justification.

Of the various components that are critical to success, two stand out as major challenges for the authorities involved:

- The ability to create the necessary budgets to match the scale of investment required
• The ability to allocate the roadspace and make a significant shift in priorities in order to deliver the perceived and experienced levels of reliability and punctuality that are required to attract car users onto buses

Particular delivery components of the large scale approach required include:

• A high quality interurban network that is consistent across the region
• Integration with a more extensive Park & Ride network
• Integration into a wider communication strategy designed to stimulate and support fundamental alterations in people’s travel behaviour

The design standards of the new network will need to be high and noticeably different in order to overcome the ‘invisibility’ barrier inherent in motorists’ current perceptions of bus services. Whilst this would support a move to new technologies, the delays inherent in introducing these within the English planning framework suggest that this would not be an effective sub-regional strategy, at any rate for the period up to 2021. A great deal can be achieved with existing technology provided all the successful components can be brought together and priority on the road allocated. If guidance is required because of width restrictions then this can be provided for, but the technology should not drive the corridor design. If there is to be any “big bang” approach, it is to bundle-together large numbers of actions, for simultaneous or near-simultaneous implementation as part of a package across the region, which could be marketed under a simple all-embracing memorable term (“MKSM Tube”), or whatever.

The Oxford Tube has demonstrated the potential for inter-urban bus/coach travel using conventional technology and linked to Park & Ride, firmly targeting the commuter and business traveller with features such as wireless internet availability. An interurban network in MKSM is required to the same sort of standards along the key corridors in MKSM, and serving Park & Rides sites at each urban node, as well as central penetration, if there is to be modal shift from car to bus for the majority of the journey length rather than for the last section into town. Such a network will be complemented by a significant increase in frequency, quality and scope of the conventional local bus network and will need to be integrated with more effective use of taxis, at the hubs, to guarantee connections and door to door journeys for premium or high needs passengers.

As regards the linkage of bus networks to new developments, which will be critical source of funds, as well as models of multi-agency partnership, the Kent ‘Fastrack’ service is a useful example. Fastrack was designed and built within, and at the same time as the Thameside (Kent) housing development, even to the extent of building in real-time bus information panels into the houses and providing all residents with a free Fastrack pass for life. Significant s106 funding for the capital investment was available from the developer, and other land and regeneration investors are involved financially. Over 50% of the approximately £80m capital cost of the first two phases of the project came from private sector contributions.

2.3 Rail Initiatives

The potential for rail to play a major part in a modal shift strategy in MKSM is severely limited by:

a) The extreme constraints on existing track and rolling stock capacity
b) The national nature of the decision-making (especially in determining investment priorities) and timetable setting
c) The way in which inter-regional needs override local priorities
d) Inherent delays in new development / capacity expansion within the rail sector
e) The change to the seven-day railway has only a minor impact on modal shift (as opposed to patronage growth), and certainly on freeing up road capacity

f) The related shift to night-time engineering reduces the potential for freight expansion

g) Current car parks at rail stations are at or near capacity with use by out of region commuters - this limits potential for modal shift within region

h) Planned expansion of the network is only keeping up with current demand, not future modal shift

There is limited local capacity to influence station car park pricing which is focused on revenue maximisation (given short-term capacity constraints) and not on modal shift. It therefore favours longer-distance journeys.

It is also important to understand how well cycle parking and bus access is catered for in comparison with car parking, not just in relation to availability but also location and quality. This is inevitably mixed, and there are locational factors affecting capacity for cycle parking and location of bus access, however these should not be relegated behind car access for interchange, particularly for central stations. Published information for ten principal stations in the MKSM sub-region is presented in Table 2.1. This identifies that there are nearly 5,000 car parking spaces spread between the ten stations but space for only 625 cycles.

Clearly, there is a requirement for effective pressure on national priorities for rail development, linking this back causally to the national requirement on the sub-region to accommodate housing and related employment growth. This could include tackling identified bottlenecks (e.g. on ECML), flyovers, the East-West rail link and even extend to electrification. The East-West link has specific potential for new stations to be developed relating to new housing.

Under more local control, and relating more directly to modal shift, improvements that MKSM can pursue will include:

• Developing parking capacity at key stations and related Park & Ride marketing
• Improving the physical connectivity and the quality of interchange arrangements with rail to benefit other modes including walking, cycling and taxis as well as bus
• Improving the local information offer in respect of multi-modal journeys to counter the perception that this is inherently problematic
• Undertaking a specific ‘Cycle and Ride’ initiative with consistent secure storage provision, and clear support / incentivisation for workplace travel plans that promote the bike + rail mode
• Information and marketing initiatives particularly related to demonstrating effective connectivity
• Fares / integrated ticketing initiatives (an MKSM Oyster or equivalent). Rail travel does not have the same visibility / credibility gap for car users as does bus use, therefore already attracts car users. Integrated ticketing can use this to improve the potential for converting these into car+rail+bus users.
• Development control that prioritises the use of brownfield sites around stations for medium density commuter housing and relocates non-rail users elsewhere
• Pragmatic support for initiatives that lever in frequency and capacity (extra coaches) improvements on existing local services
Table 2.1: Accessibility of MKSM principal railway stations

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<tr>
<th>Access</th>
<th>Aylesbury</th>
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</table>

| CYCLING         |            |             |                  |              |             |
| Cyle Parking Spaces | 40         | 117         | None             | 40           | 18          |
| Cycle Parking Location | Car park entrance by platform 3 | Station front | n/a           | Station forecourt | Platform 1 |
| Cycle Parking Covered | Sheltered + CCTV | No but CCTV | n/a           | Sheltered     | Sheltered but no CCTV |

| BUSES           |            |             |                  |              |             |
| Location of Bus Facilities | SilverRider from station | 10 mins from station entrance | None | 15min walk to bus station | Corby town centre & Kettering General Hospital |

| Main Bus Connections |            |             |                  |              |             |
|                     | All other services in Town Centre | n/a | | | |
Table 2.1 (cont.): Accessibility of MKSM principal railway stations

<table>
<thead>
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<tr>
<td>Step Free</td>
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<td>Whole station</td>
<td>Whole station</td>
<td>Whole Station</td>
</tr>
<tr>
<td>No. of Parking Spaces</td>
<td>488</td>
<td>815</td>
<td>964</td>
<td>692</td>
<td></td>
</tr>
<tr>
<td>No. of Disabled Parking Spaces (4)</td>
<td>unknown amount</td>
<td>unknown amount</td>
<td>18</td>
<td>13</td>
<td>3-south park</td>
</tr>
<tr>
<td>Parking Charges</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daily</td>
<td>£5.00</td>
<td>£5.00</td>
<td>£7.00</td>
<td>£6.50</td>
<td>£6.50</td>
</tr>
<tr>
<td>Weekly</td>
<td>£22.10</td>
<td>£22.10</td>
<td>£30.00</td>
<td>£26.00</td>
<td>£26.00</td>
</tr>
<tr>
<td>Monthly</td>
<td>£82.50</td>
<td>£80.30</td>
<td>£114.00</td>
<td>£104.00</td>
<td>£78.00</td>
</tr>
<tr>
<td>3-Monthly</td>
<td></td>
<td></td>
<td>£271.00</td>
<td>£210.00</td>
<td>£208.00</td>
</tr>
<tr>
<td>6-Monthly</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annually</td>
<td>£818.00</td>
<td>£768.00</td>
<td>£990.00</td>
<td>£725.00</td>
<td>£728.00</td>
</tr>
<tr>
<td><strong>CYCLING</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cycle Parking Spaces</td>
<td>48</td>
<td>100</td>
<td>200</td>
<td>40</td>
<td>22</td>
</tr>
<tr>
<td>Cycle Parking Location</td>
<td>Front platform 5</td>
<td>Station forecourt</td>
<td>Front of station</td>
<td>Station forecourt</td>
<td>north car park</td>
</tr>
<tr>
<td>Cycle Parking Covered</td>
<td>Partial, no CCTV</td>
<td>No</td>
<td>Yes; no CCTV</td>
<td>Yes, no CCTV</td>
<td>Yes, no CCTV</td>
</tr>
<tr>
<td><strong>BUSES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location of Bus Facilities</td>
<td>Platform 5 exit</td>
<td>None</td>
<td>Front of station</td>
<td>Main road opposite station</td>
<td>Front of station</td>
</tr>
<tr>
<td>Main Bus Connections</td>
<td>Virgin rail link to Milton Keynes, Dunstable local service</td>
<td>Shuttle bus operates to Luton Airport at 5min intervals</td>
<td>Rail Link service to Luton and other railway station links</td>
<td>Northampton area</td>
<td>Hourly to Northampton</td>
</tr>
</tbody>
</table>

(1) Staff member required for some platform access due to crossing Railway line.
(2) Scratchcards are available as follows: £45.00 for 10, £90.00 for 20, £135.00 for 30.
(3) Lifts from street level (near bus station) to public overbridge allowing step free access to ticket hall. Level access from Hightown area. Footbridge with stairs to all platforms. There is also a ‘barrow crossing’ allowing step free access between platforms.
(4) Free parking for disabled passengers where disabled spaces are present.

Information as published on NationalRail website.
2.4 Accessibility Planning

Public transport has defined networks requiring access and interchange at defined locations. The attractiveness of these networks is largely dependent on how accessible they are, in terms of distance, time and quality of access from the ultimate origin and destination of the trip. Improving access to services, by any sustainable mode, and encouraging interchange is fundamental to delivering a public transport based modal shift strategy.

The Accessibility Strategy is effectively embedded in the bus and rail components of the Modal Shift Strategy but it also reflects walking and cycling aspects of the overall strategy and the way in which travel planning contributes to the understanding of accessible networks. It also affects the way in which new development embraces sustainable travel. Consequently the accessibility strategy should be considered as covering:

- Ensuring walking and cycling routes to main interchanges, gateways and key stops correspond to desire lines, are clear, unimpeded, level and attractive.
- Signage requirements are reviewed and standardised with distance and walk/cycle time information incorporated
- Increased permeability of public transport networks within existing centres and new development, with highly visible key stops and interchanges
- Stricter minimum standards of accessibility and frequency of services for new developments across MKSM
- Understanding and provision of direct desire lines within developments and centres to focus signage, mapping and information
- A move to fully accessible vehicles as standard
- Strategy for ensuring access to information
- Integrated strategy for ticketing including type, method and location of purchase.

Access by walking or cycling is not just a local issue, but becomes part of the sub-regional networks being supported. It is critical with regard to new development and designing clear networks and signage for gaining access to public transport. Journey to work trips by walk or cycle within the constituent MKSM authorities, where the origin and destination of the trip are both in the same district or town, is typically around 18-19%. However, this is as low as 12% in Milton Keynes, reflecting the more dispersed nature of the central area. This will be an important issue to address as towns grow larger through urban extension.

It is unlikely that direct access to the rail network, via new or existing stations, will be available for most or all substantial new development. Instead sites must be developed on the basis of excellent bus access and penetration as a core feature, or in exceptional circumstances new and innovative technologies or initiatives. These issues should be central to design guidelines issued by local authority Development Control departments but the sub-region should seek to standardise the level of public transport accessibility demanded for new development at a very high level.

Consideration of the distance to bus stops and access to services must extend beyond the physical location of facilities and interchanges (reflecting a minimum distance from all properties in the development) and must consider the service level and destinations available. The quality of these connections, the permeability of the development for access to stops and the access and waiting environment must all exhibit the same excellence that will be expected of the public transport networks if lasting behavioural change is to be achieved.
For all new development the philosophy should be for car providing an alternative to sustainable modes and public transport, not the other way around. This formalises the terms by which the local planning and highway authorities and the Highways Agency view new development plans and must correspond to the commitment required for high public transport mode share. Existing minimum mode share targets proposed for new developments, typically in the range of 15-20% will not be sufficient and, though they may be challenging in some circumstances, the bar will need to be set higher. For example, recent proposals for the most sustainable developments suggest that no more than 50% of peak hour commuter journeys generated by the development should be made by car. It is likely to be at this level of commitment that the impact of a modal shift strategy is going to be meaningful in the long term.

Existing signage for access to interchange is mixed in quality and can illustrate a greater focus on telling car drivers where the station is than informing pedestrians and cyclists, never mind other public transport users. The immediate environment of stations can also be dominated by access for cars and taxis before pedestrian access and cycle storage provision. This is exacerbating the negative image of public transport connectivity and accessibility. Furthermore, main interchanges may be located close to historic centres, or constrained in the case of railway stations because of available track alignments, and may not reflect current activity centres. On a case by case basis it is therefore necessary to look critically at access arrangements for all areas surrounding the main interchanges and stops. This may require considering new and innovative solutions for urban areas, extending the directly accessible catchment of the main gateways with new services.

Many of the accessibility initiatives require engagement and partnership with service providers and developers, dealing with corporate information and meeting statutory requirements as well as the assistance and co-ordination of planning and highway authority duties. Setting targets and establishing standards will require extensive consultation but must achieve consensus so that the sub-regional identity of the strategy is established and maintained.

2.5 Parking Strategy

Regardless of the positive initiatives supporting mode shift to public transport the availability of private cars and their habitual use as the mode of choice is very difficult to counter. Relative changes in fuel price and the environmental and climate change agenda, whilst having an impact will not result in a cut in car use of the magnitude required. Even the most successful public transport systems in the most congested cities also require “sticks” to go with the “carrots”. In relation to parking this means two particular issues, the consistency of town centre parking strategies to the concept of large modal shift and the standards imposed for new developments to ensure behavioural change is immediate and sustainable. Without both these elements the resources and funding required to deliver the positive public transport services, networks and modal shift message will be diluted.

2.5.1 Town Centre Parking

Increased traffic is choking the centre of towns in the MKSM sub-region and in turn already reducing their economic viability and impeding access to main interchanges for the public transport alternative. Providing measures to stimulate an increase in public transport patronage will be most effective if they are demonstrably accessible and competitive. Encouraging park and ride and reducing the supply of long term town centre parking, or making it comparatively more expensive has to feature alongside these measures. It is clear that to do so an effective and attractive public transport alternative must be provided and that this needs to be in place at the same time or before the changes to parking,
Parking standards associated with new development should also reflect the sub-regional focus on sustainable transport and mode shift from car but only where it corresponds with a suitable alternative being in place prior to occupation and accompanied by suitable information on those choices.

2.5.2 Park and Ride

A particular feature of MKSM is the number of strategic, sub-regional roads with sections that are beyond, at or close to their design capacity at peak periods. The economic impact of such congestion is a concern to planners in the sub-region, both in terms of delay costs to businesses located in or trading within MKSM and in terms of the deterrence to inward investment and the location of new jobs. It is in this context that Park & Ride should be considered, rather than for any specific environmental or community severance benefits. Its primary function is to enable greater trip-making through existing road capacity, combined with relocating parking provision from high land value city centre locations to lower cost provision elsewhere. Occasionally, Park & Ride developments manage to capture the value of freeing up city centre land; even where there is no diminution in parking spaces in the centre, these should produce a higher yield because of the increased proportion of short-term stays.

Park & Ride can be the first experience that car drivers, especially those who use their cars for commuting, have of a bus service, that previously would have been almost invisible to them. Quality and reliability is therefore particularly important for Park & Ride services, in terms of stimulating further modal shift.

The polycentric nature of MKSM, combined with the need for significantly improved interurban bus links, gives an opportunity to transfer a greater proportion of the commuting journey onto bus (thereby achieving greater environmental and safety benefits as well) by locating corridor parking sites further from the urban centres or other attractions. The potential needs to be explored for pairing Park & Ride sites together at either end of inter-urban corridors and for incorporating sites into development proposals that are being considered beyond the existing urban fringes.

Many of the inter-urban distances are such that express bus and park and ride services could operate in both directions, introducing a innovative, but not unique, concept for bi-directional park and ride. Similar services operate successfully elsewhere, for example at Thornhill Park and Ride in Oxford where services to the city centre are overlaid with “Oxford Tube” express coach services to London. In order to provide a successful service for the longer leg of the route a high quality service must be provided and it is this concept that is needed to help develop the behavioural change required for modal shift. A number of key destinations can be served at either end of the route in order to offer appropriate accessibility.

A number of corridors have been identified as offering potential for this type of service, where there is already significant existing travel demand and the likelihood of major corridor growth. This is for main trunk routes, for example:

- Northampton – Milton Keynes
- Aylesbury Vale – Milton Keynes
- Bedford – Northampton
- Bedford – Milton Keynes

These corridors include those where rail also provides a service, bearing in mind that park and ride provides access to a wide catchment that may not have easy access to a central railway station.
Traditional park and ride can also be supported under the strategy, and this builds on proposals that local authorities have already considered or implemented independently. There may be further advantages to be gained from establishing a much wider, sub-regional network of sites for which a common standard, branding and strategy can be established. This will enable users with experience of one site local to their home to be confident of experiencing the same high standard through the MKSM sub-region.

2.5.3 Development parking standards

Reducing development parking standards for new sites can be adopted in parallel with accepting more stringent minimum standards for public transport access and travel planning. This approach would be consistent with new communities built and proposed on highly sustainable principles and according to Government guidance. Rather than identifying standards on a case by case basis however, this would lower the acceptable level of parking for all sites on the basis of supporting the long term modal shift. This will undoubtedly have an impact on the credibility of specific sites for development, with a greater implied concentration of urban extension and developments along established (or easily implemented) public transport networks. However, in adopting this aggressive modal shift strategy it is important to consider at what point unsustainable or “wrong” types or locations for development will be deemed acceptable if they are the only way of achieving the full housing and employment growth proposed.

A reduction in parking standards is therefore proposed with the relative contribution of new development traffic to the congested network monitored to ensure that corresponding changes are equitable across the sub-region. For example, ongoing discussions regarding the proposed Northstowe development in Cambridgeshire are working on the basis of a 50% reduction in the residential parking standard for the density of development linked to extensive travel planning and integration with the Cambridgeshire Guided Busway scheme. This may be the order of change required to stimulate the required modal shift. Concentration on travel by public transport and sustainable modes is also likely to lead to a reduction in the incidence of out-commuting which will help to internalise the economic benefits of development within Milton Keynes and reduce average trip lengths.

2.6 Development Planning Guidance

Fundamental to the potential for successful mode shift to sustainable modes will be the location of development. It is unlikely that any investment in physical measures or other initiatives put in place will have the desired impact if site choices do not correspond to a sustainable strategy. Figure 2.2 illustrates the level of potential reduction in car trips based on some research evidence from communities near Oxford.

Figure 2.2: Effect of housing location on levels of car use

![Diagram showing the effect of housing location on levels of car use.](image)
Good practice guidance and research indicates that the elements of a modal shift strategy that are important for new developments may differ from those relating to changing behaviour in existing communities across the sub-region. These are summarised as follows:

**For New Developments**
- Location (away from motorway junctions / high speed roads)
- High development densities
- Good range of local facilities
- Walk / cycle friendly street design
- Limited car parking
- Good, frequent public transport
- Smart programmes to influence travel choices

**Communities across the Sub-region**
- Improve the alternatives (walking, cycling, public transport)
- Marketing and information (smart measures)
- ‘Lock in’ modal shift through traffic restraint e.g. parking charges and parking supply

This identifies two further aspects of development planning should be integrated with the Modal Shift Strategy alongside revised parking standards and improved minimum public transport accessibility, these are travel planning and travel monitoring requirements and fiscal incentives to help fund associated public transport improvements.

The process of changing the Planning System to include Local Development Frameworks provides an opportunity to review and improve the way that developments prepare for the impact of new trip making on local networks. Development of sub-regional standards and guidelines are contingent on understanding the impact of development and the relative contribution to the strategic network rather than the more localised impact usually associated with Transport Assessments. The Highways Agency already considers the wider impacts of development when applying Article 14 directions in relation to developments that have an impact on the strategic highways network. An approach could be established for local authorities or the Highways Agency to act on the sub-region’s behalf to ensure specific MKSM standards for development are also met. This would reflect the overall sub-regional objectives and would require Supplementary Planning Documents to be agreed at the sub-regional level in order to provide a level of statutory enforcement.

The most critical aspect is to ensure that the travel planning and monitoring guidance is straightforward and understandable, with teeth but without being overtly onerous on developers that it constrains growth unnecessarily. There is already an appetite for clarity to develop travel plans and effective, low cost mechanisms for monitoring and evaluation. A travel plan monitoring mechanism for implementation across the sub-region would be useful in MKSM, as it will set a benchmark for all sub-regional partners.

The case for additional funding is clear. The likely funding bill for the extensive measures that will be required to implement a comprehensive modal shift strategy for MKSM will far outstrip the available LTP, major scheme, CIF, TIF, GAF or other public sector mechanisms that may be applicable. Current arrangements for Section 106 developer contributions will not be sufficient to cover this funding gap so more substantial contributions from the private sector, as well as public sector lobbying at the sub-regional level, will be required. The example set by Milton Keynes and North Northamptonshire for a tariff based system to pay for infrastructure ensures a greater combined contribution than can be achieved from individual developments. These “pooled developer contributions” are intended to increase this stream of funding for new infrastructure where such improvements are relevant to approving development plans and to help ensure that the required transport improvements are in place prior to occupation.
Funds should be gathered before the development takes place to fund advance works (which will also help counter “land-banking” of key sites) and fed into a programme of improvement relevant to the development growth taking place across the MKSM sub-region. This will need to be based on an equitable assessment of the impact per unit of development and the corresponding value of the interventions being proposed, co-ordinated at the sub-regional level with agreement from all the local authorities in respect of MKSM wide targets. The estimates for the amount of funding that rolling this approach out across the MKSM sub-region will depend on the strategic approach to new infrastructure and services required for modal shift.

Different approaches may also be considered that are aimed at the individual’s out of pocket cost. Once the decision has been made to purchase a car there is a strong urge to make best use of it, and there are sunk costs associated with any additional mileage undertaken. Measures that provide financial incentives for low usage, even linked to the use of car share facilities rather than privately owned vehicles could be relevant to managing the impact of developments.

### 2.7 Information Strategy

Achieving the level of modal shift required to meet the strategy targets will require a mixture of ‘carrot’ and ‘stick’ actions. On the ‘carrot’ side will be the improvements that the partners involved will make in the collective transport service offer, as well as the infrastructure and support for walking and cycling. On the ‘stick’ side will come tighter development control requirements and the pricing and control of parking; other ‘stick’ factors will be outside the control of MKSM partners, such as taxation, the cost of energy and the possible impact of the carbon economy. These are the ‘hard’ aspects of the strategy, but they will need to be supported by a ‘soft’ component to alter public perceptions.

This will be very challenging. To achieve the required shift will require that we attract onto public transport, and particularly onto buses, car users who have no recent experience of bus use and who hold fairly negative perceptions of its utility. The converse is that significant value is attached to their use of the car, despite experiences of cost and delay. Whilst it may be true that in the UK in general there is increasing awareness of the downsides to increasing car use, this has not been matched by an improved perception of the alternatives, particularly public transport.

The current public transport offer in MKSM is complex and fragmented, with a plethora of operating companies, an inconsistent and sometimes contradictory image, and the appearance that travel as a public transport passenger is a convoluted and potentially unpleasant process.

At an operational level the requirements to present information about journey opportunities in a simple, attractive manner appropriate to non-specialist consumers should be well understood. However, effort will be needed at MKSM level to coordinate the approaches across the sub-region so as to present a much more unified offer with an easily understood hierarchy of services. Some of the larger bus operators have grasped the concept of service simplification and more active marketing towards non-users, including the use of databanks (Mosaic, etc.) of individual consumer habits, but even they are failing to make a geographically widespread and integrated offer. In general, however, the sector still presents itself as offering a distress or a necessity purchase rather than meeting a desire. With the exception of green consumers, bus use is not yet integrated into positive lifestyle choice. However, the increasing penetration of ICT linked to consumer choice information provides such an opportunity, so that bus use can be promoted on a dynamic (real-time) basis within a balanced package of options, including car use where appropriate, rather than as an ‘either … or’ choice which will be rejected.
The conclusion is that the individual players within the public transport, cycling and walking markets, whilst they will undoubtedly innovate, will not be enough to counter the collective impact of the motor industry sector. Collective action on behalf of alternative modes will be required, and the necessary geographic scale for such action will transcend individual local authority boundaries. The challenge can be summarised as working in partnership to:

- Coordinate the image that is presented so that it is more consistent and seamless across the sub-region
- Coordinate service information provision so that it transcends individual operators
- Promote the upside of modal shift at a personal and societal level
- Enable integrated personal consumer marketing of less damaging travel opportunities, through adoption of technology (such as a unitary regional travel card with a loyalty/lifestyle component, linked to real-time information provision on a push or pull basis)

The strategy needs to tackle this in respect of marketing and promotion of the aims and targets, as well as clarity on what individuals can do to support the initiative, will be required at an early stage. Promotional events that make it easy for people to try the alternatives to car use should be a feature of the ongoing information strategy.
3 Implementing the Strategy – Corridors and Gateways

3.1 Introduction

Implementing the modal shift strategy requires translating the sub-regional policies and plans at the local level, with cross-boundary support. A large number of schemes have already been identified in previous prioritisation work and the degree to which these are consistent with the strategy needs to be determined. It is also important to look at how existing services and infrastructure is being used to identify any trends or issues with respect to using public transport and other modes for sub-regional travel.

The context for how these corridors and gateways perform can be illustrated by movements between MKSM constituent areas and their neighbours. Table 3.1 and Figure 3.1 presents information from the 2001 Census Journey to Work data summarising the distribution of trips to work.

Table 3.1: Concentration of journey to work trips in MKSM sub-region

<table>
<thead>
<tr>
<th>Name</th>
<th>% of total work trips within MKSM sub-region</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Internal trips¹</td>
</tr>
<tr>
<td>Aylesbury Vale</td>
<td>76%</td>
</tr>
<tr>
<td>Bedford</td>
<td>73%</td>
</tr>
<tr>
<td>Corby</td>
<td>65%</td>
</tr>
<tr>
<td>Daventry</td>
<td>61%</td>
</tr>
<tr>
<td>East Northamptonshire</td>
<td>69%</td>
</tr>
<tr>
<td>Kettering</td>
<td>71%</td>
</tr>
<tr>
<td>Luton</td>
<td>65%</td>
</tr>
<tr>
<td>Mid Bedfordshire</td>
<td>65%</td>
</tr>
<tr>
<td>Milton Keynes</td>
<td>69%</td>
</tr>
<tr>
<td>Northampton</td>
<td>67%</td>
</tr>
<tr>
<td>South Bedfordshire</td>
<td>61%</td>
</tr>
<tr>
<td>South Northamptonshire</td>
<td>61%</td>
</tr>
<tr>
<td>Wellingborough</td>
<td>59%</td>
</tr>
</tbody>
</table>

1 Journey to work trips with an origin and destination in the named area (as a % of all trips to that area)
2 Journey to work trips with an origin in the named area
3 Journey to work trips with a destination in the named area

The sub-region is fairly well contained with regards to the distribution of journeys to work from the 2001 Census. Whilst there are some differences (notably with the authorities closest to London) over half of the authorities show greater than 85% of employed residents travelling to work within MKSM and an even higher proportion of the total workers for the sub-region that are resident within the MKSM area. Furthermore, in all authorities except Wellingborough, over 60% of local employment is taken up by local residents from within that authority area.

These are important data for considering sub-regional travel and modal shift as it illustrates the importance of markets where there may be a higher or lower propensity to use public transport. Bearing in mind the above data it is interesting to note the current modal shares for public transport from the same dataset, which are shown in Table 3.2. Accounting for the movements with the highest volumes of journey to work trips (the 20 highest absolute volumes within the MKSM area) there are only three movements with a public transport (bus and rail) mode share higher than 6% public transport mode share.
Figure 3.1: MKSM “Top 20” movement corridors for journey to work (2001 Census)
Table 3.2: Public transport mode shares for the “Top 20” journey to work movements (2001 Census)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Movement</th>
<th>PT Mode Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>South Bedfordshire to Luton</td>
<td>10%</td>
</tr>
<tr>
<td>2</td>
<td>Daventry to Northampton</td>
<td>4%</td>
</tr>
<tr>
<td>3</td>
<td>Luton to South Bedfordshire</td>
<td>11%</td>
</tr>
<tr>
<td>4</td>
<td>South Northamptonshire to Northampton</td>
<td>6%</td>
</tr>
<tr>
<td>5</td>
<td>Wellingborough to Northampton</td>
<td>4%</td>
</tr>
<tr>
<td>6</td>
<td>Mid-Bedfordshire to Bedford</td>
<td>8%</td>
</tr>
<tr>
<td>7</td>
<td>South Northamptonshire to Milton Keynes</td>
<td>1%</td>
</tr>
<tr>
<td>8</td>
<td>East Northamptonshire to Wellingborough</td>
<td>5%</td>
</tr>
<tr>
<td>9</td>
<td>Bedford to Mid-Bedfordshire</td>
<td>6%</td>
</tr>
<tr>
<td>10</td>
<td>Aylesbury Vale to Milton Keynes</td>
<td>2%</td>
</tr>
<tr>
<td>11</td>
<td>Mid-Bedfordshire to Luton</td>
<td>6%</td>
</tr>
<tr>
<td>12</td>
<td>Kettering to Corby</td>
<td>5%</td>
</tr>
<tr>
<td>13</td>
<td>South Bedfordshire to Milton Keynes</td>
<td>6%</td>
</tr>
<tr>
<td>14</td>
<td>Northampton to Milton Keynes</td>
<td>4%</td>
</tr>
<tr>
<td>15</td>
<td>Bedford to Milton Keynes</td>
<td>3%</td>
</tr>
<tr>
<td>16</td>
<td>Kettering to Northampton</td>
<td>3%</td>
</tr>
<tr>
<td>17</td>
<td>Mid-Bedfordshire to Milton Keynes</td>
<td>3%</td>
</tr>
<tr>
<td>18</td>
<td>East Northamptonshire to Northampton</td>
<td>3%</td>
</tr>
<tr>
<td>19</td>
<td>Northampton to Daventry</td>
<td>4%</td>
</tr>
<tr>
<td>20</td>
<td>Northampton to South Northamptonshire</td>
<td>4%</td>
</tr>
</tbody>
</table>

Not only does this illustrate a relatively low overall base for public transport mode share, but it also suggests that even in corridors where reasonably attractive services are provided that these options are not being taken up in large numbers for regular journeys, illustrating a problem with the image and attitude to public transport.

It is noted that more recent data will show different figures due to changes over recent years, particularly where new infrastructure and facilities, such as park and ride, has been introduced or where there has been concentrated growth. Figure 3.2 shows the geographic distribution of the figures in Table 3.2. From Figure 3.2 it is more noticeable that there is a split between the north and south of the sub-region, with only the movements from Northampton and South Northamptonshire showing a strong flow towards Milton Keynes. In all other cases movements to and from Northamptonshire are all made within the county. Elsewhere in the sub-region there is a strong pull towards Milton Keynes and close relationships between Bedfordshire areas and Luton.
3.2 Corridors

3.2.1 Introduction
The main impacts of the sub-regional modal shift strategy should be felt on the inter-urban corridors where there are already significant movements and where it can be expected that the economic growth will generate a similar distribution of trips. Existing, and potential future, levels of congestion will provide a barrier to growth unless these additional trips can be accommodated using sustainable modes. There is strong support for urban expansion development that will encourage more local trips that can be better catered for with public transport, cycling and walking. However, it is naïve to assume that trips will not impact on the surrounding strategic network unless encouraged and incentivised to do otherwise.

Figure 3.2: Public transport mode shares for key movements
A number of core corridors have been identified as the most important for delivering sustainable growth based on the proposed sub-regional strategy. The precise location of development will have an impact on the detail of the strategy to be delivered but trips are expected to be distributed along these main corridors. Figure 3.3 provides a summary of the key corridors and specific characteristics relevant to the modal shift strategy.

Within each corridor there are different components of existing and potential capacity, both highway and public transport. This section outlines the current provision and issues for movement, how these will change in the future as a result of growth and how objectives for improvement may be achieved within a modal shift strategy.
Figure 3.3: Key corridors and characteristics (draft to be replaced)

Key motorway
Junctions
Rail Stations
Airports
3.2.2 Milton Keynes – Northampton
One of the key strategic corridors for movement in the sub-region Milton Keynes and Northampton sit close to the M1 and this has a major influence on the nature of local travel conditions and opportunities. There is a very large strategic through movement on the M1 and there are issues for capacity on the motorway and the relative constraints of mixing local and through traffic with particular emphasis between junctions 13 and 14.

There isn’t an attractive alternative for local traffic between the two towns as there is also congestion on the A5 leading north-west from Milton Keynes. The impact of congestion on and approaching the A45 to the south of Northampton is a further problem for strategic traffic and for the reliability of local bus services. Park and ride is planned for two sites on either side of the town but the sites are not yet fixed and timescale for delivery is uncertain.

Public transport services are provided by bus and rail, with a good rail service provided by West Coast Main Line services from London, but this still only results in a low mode share. The X4 “Express” bus service is relatively slow and infrequent but provides strategic connections beyond Northampton to Wellingborough, Kettering, Corby and Peterborough. Other bus services are local and not designed for inter-urban travel.

There is a high expectation for significant increased trip making in this corridor noting the proposed western expansion of Milton Keynes and the possible Waterside and Northampton South West development areas identified in Figure 1.2. Although a large number of trips will remain local due to these urban expansion sites there will be an inevitable impact on trip making along the M1 corridor.

Congestion on the M1 severely affects journey times and accessibility, particularly around Junction 14. The flow of traffic is affected by the combination of shorter distance sub-regional and longer distance demands on this section of motorway.

Bus services do not provide sufficient capacity or an attractive service to support mode shift compared to rail which is fast and frequent. The rail service is part of an important inter-regional route so peak capacity is an issue for substantial growth. Increasing rail capacity on the West Coast Main Line is a national priority and longer trains should be considered for sub-regional services, but a recent announcement for new carriages will be unlikely to impact on the relevant sub-regional connections.

A significant opportunity exists for park and ride to serve both towns but this will need to be provided with significant bus priority measures to avoid congestion, particularly at the A45 and to help cross the motorway at Junctions 15 and 14.

3.2.3 Luton – Milton Keynes
The Luton to Milton Keynes corridor is possibly the most congested in the sub-region, with congestion on both the M1 motorway and the parallel A5. The dominance of strategic through movements on the highways, and the lack of a parallel rail movement (Luton is on the Midland Main Line and Milton Keynes on West Coast Main Line services) constraints the sub-regional trips in peak periods. Good links south of Luton to London means that connecting Luton more effectively with the sub-region should be a key priority.

This particular section of the M1 suffers from the different movement needs of the sub-regional and through traffic, and these conflicts impact on effective capacity of the motorway, which is leading the Highways Agency to look again at traffic and demand management measures in this area. The availability of the A5 as an alternative route for sub-regional traffic must take account of the fact it is built up in places, is predominantly single carriageway with mostly priority junctions and subject to different speed limits along its length. The A505 corridor, which is part of the strategic east-west route network, also impacts on the A5 route through Dunstable.
These traffic issues make it difficult to develop a comprehensive public transport solution in the absence of a rail connection. Opportunities for park and ride would require a reliable and fast journey time, which will only be delivered with significant bus priority.

The corridor also serves Leighton Buzzard and Linslade and it would be possible to consider ways of co-ordinating opportunities to support sustainable travel north from Aylesbury to Milton Keynes via Leighton Linslade with the needs of the Luton to Milton Keynes corridor.

3.2.4 Aylesbury – Leighton Linslade – Milton Keynes

The highway routes in this part of the sub-region are rural single carriageways, with particular capacity constraints to the west of Leighton Buzzard and Linslade. The construction of the new A4146 link between Aylesbury and Milton Keynes effectively bypasses Leighton Linslade. The Arriva 150 is the only bus service providing this connection, taking 40 minutes to travel from Milton Keynes to Leighton Buzzard and a further 30 minutes to Aylesbury. There is no rail service from Aylesbury into other parts of the sub-region.

This lack of attractive public transport options to provide for existing corridor demand results in a very low public transport mode share for one of the top ten movements in the sub-region. Because of the highway capacity constraints balanced growth (residential and employment) may be difficult to achieve as there will be a tendency to rely on the rail line to London for outward commuting.

The core East-West Rail proposal does not provide a through service to Aylesbury though an Aylesbury to Milton Keynes service could be part of the network.

The need to reduce the reliance on car for journeys into Milton Keynes is a crucial issue for this part of MKSM and one of the major challenges for the modal shift strategy. Improvement to bus journey times, and better accessibility, through park and ride for example, is essential to reduce the dependence on links to London.

3.2.5 Daventry – Northampton – Wellingborough – Kettering – Corby

This spine for Northamptonshire is based on the A45 and A43, both of which provide a strategic function as east-west routes connecting north-south national highway arteries. The A45 in particular is congested at peak times and provides a major barrier to growth around Northampton, particularly to the western side of the town. From the M1 junction north and east towards Wellingborough the A45 has grade separated junctions improving the flow for through traffic but potentially restricting local and sub-regional access. This leads to some difficulties crossing the A45 where through traffic and local traffic meet.

Wellingborough, Kettering and, from this December, Corby will be connected by a regular railway service to London. This corridor also has strategic bus routes providing an infrequent service and connection to Stamford / Peterborough but neither bus or rail attract a large mode share of a significant market. There is huge growth proposed within this corridor and it is imperative that a shift to sustainable modes is achieved. Whilst the new railway station at Corby will assist this, there will need to be greater connectivity with Northampton, including the delivery of the proposed park and ride sites. Bus priority will be needed to offer attractive park and ride services and also support sub-regional express services, particularly for connection to Northampton.

The same is true west of Northampton, where the connection to Daventry is again constrained by the A45 nearing saturation during peak periods and delays either side of the motorway junction. Removing traffic from the A45 and more extensive management of demand is a core objective for the modal shift strategy and one that supports park and ride. It is important to note that Northampton is not far from Bedford and Milton Keynes and there is an opportunity to have a site that attracts trips in both directions and offers scope for a “double ended” park and ride service.
3.2.6 Luton – Bedford
The main highway route in this corridor, the A6, is mostly single carriageway with some grade separated junctions and dual carriageway sections. This sector of the sub-region has strong external links, particularly to Cambridgeshire and Hertfordshire and it is important to sell the high level of accessibility in order to keep the economic attractiveness.

Regular rail services are provided on First Capital Connect local services and Midland Mainline intercity routes and both are quicker than the equivalent connection by car (the FCC service is 10 minutes slower between Bedford and Luton than the MML service to Nottingham). There is a relatively modest flow from Luton to Bedford but the reverse movement is just outside the top 20 movements in the sub-region. However, the public transport mode share is still less than 10%.

Combined with the end to end movement is a high number of trips to and from South Bedfordshire and Mid-Bedfordshire, which contribute to this corridor and has seen successful park and ride implemented at Elstow south of Bedford.

It is important to build on the rail mode share and reproduce the success of park and ride in this part of the sub-region, also offering better interchange and connectivity with the main line rail services.

3.2.7 Bedford – Milton Keynes
Although it is not as heavily trafficked as other routes in the sub-region the A421 is an increasingly congested single carriageway with significant delays at M1 Junction 13. Short sections of dual carriageway ease some congestion around Bedford but this is a strategic east-west route carrying through traffic from Cambridgeshire. The main highway route is paralleled by the Marston Vale railway line providing local stopping services to Bletchley but requiring interchange to reach Milton Keynes.

As a consequence of not being able to provide a reliable bus service due to congestion and delay at key junctions, and the relatively slow rail journey time, which includes interchange at Bletchley, public transport mode share is low in this corridor.

This low base public transport demand is a problem that cannot wait for the East-West Rail proposal to be given funding approval from the DfT. Short term solutions, and techniques to maximise the behavioural change should the rail scheme be delivered. East-West Rail would have a significant impact on the public transport offer in this corridor but there is scope for a high quality, express bus service if it can be delivered reliably with priority, and this will be capable of achieving mode shift in a relatively short time.

3.2.8 Bedford – Northampton
Bedford to Northampton is not currently one of the highest trafficked corridors as much of the traffic from Bedfordshire districts and Luton will tend to use the M1. However, the A428 is increasingly being used for sub-regional traffic avoiding congestion on the motorway and with the substantial planned growth around Northampton this may change. There is no direct train service but an hourly bus service takes 50 minutes to travel the approximately 21 miles between the towns. Making this movement more attractive for travelling by public transport will require high profile services and innovative measures to capture the trips from a wider area that feed in at both ends.

Providing for increase public transport mode share on this corridor could help to establish a greater role within the sub-region and reduce pressure on other corridors.

3.2.9 External links
Added to these internal sub-regional connections the evidence suggests an additional set of movements to or from external centres that are particularly important. It could be argued that journeys to or from London and/or the Birmingham/West Midlands conurbation are relevant to most if not all local centres and particularly so for those areas at the outer edges...
of the MKSM sub-region (notably Aylesbury and Luton). The following are also of relevance:

- Northampton, Wellingborough, Kettering – Peterborough & Stamford
- Aylesbury – Oxford
- Bedford – Cambridge and Huntingdon
- Northampton – Leicester
- Luton and Bedford – Hemel Hempstead and St Albans

3.3 Primary Public Transport Gateways

3.3.1 Introduction

In addition to the corridor impacts it is crucial that the strategy deals effectively with the main locations where access to the strategic public transport networks is provided. These provide access to local services and act as hubs or gateways to national and international networks and services, thereby performing a dual function. The importance of a high level of accessibility for these gateways, and meeting certain levels of service to encourage behavioural change in the sub-region, are a central part of the strategy.

Gateway hubs have been categorised as primary and secondary, reflecting their role in connecting the sub-region to external markets and attractions or serving as distributor hubs for local services. Primary gateways are those that provide connections to national and international nodes and networks relevant to the sub-regions and are identified as the following:

- Milton Keynes
- Northampton
- Bedford
- Luton

How these gateways and interchanges are expected to function and contribute as part of an MKSM Modal Shift Strategy is considered in this section. In particular, the roles of each gateway, the existing issues and future potential, are considered in turn.

3.3.2 Milton Keynes

Milton Keynes has a centrally located railway station with a nearby main bus interchange facility allowing onward travel and dedicated stops adjacent to the front of the station for key service connections. It is a key access point to the national rail network via the West Coast main Line services to and from London, the West Midlands, North West and Scotland. There is also a bus shuttle connection to Luton for access to the sub-region’s only international airport.

The layout of Milton Keynes allows easy access for pedestrians and cyclists, with parking for 200 cycles at the front of the station. This level of accessibility should mean that the need for parking is reduced to a high mode share for access by sustainable modes. However, there are nearly 1000 car parking spaces provided (subject to changes as a result of the works to add platforms) with daily charges of £7.00 falling to a discounted equivalent of £2.75 per day for an annual car park ticket.

With enhancement of the railway track and platform capacity at the station soon to be completed the opportunity for enhanced services, or in the case of East-West Rail new connections (either directly or via Bletchley).

Bletchley provides added connectivity from Milton Keynes despite the interchange required with Marston Vale services to Bedford.
3.3.3 Northampton

The facilities for interchange and accessibility to the national and international transport networks in Northampton are very different. The railway station is peripheral to the town centre and is distant from the main bus station, which is on the northern edge of the town centre. A town centre improvement strategy is underway but accessibility for interchange and connectivity for onward travel will remain an issue.

Although the frequency of through trains on the national network is lower than at Milton Keynes the station provides access to the national networks via the West Coast Main Line.

The immediate environment of Northampton station, as well as its separation from the town centre does not offer an attractive gateway to the public transport network, with pedestrians and cyclists having to cross one of the parking areas and taxi rank and buses remaining on the main road outside the station with limited stopping facilities. There are nearly 700 car parking spaces but only 40 cycle stands.

There is an opportunity to remodel the forecourt and station frontage to provide a more integrated interchange facility and better access for sustainable modes. However, this would need to be seen as part of a co-ordinated strategy for the centre of Northampton.

3.3.4 Bedford

Bedford has two railway stations, Bedford Midland and Bedford St. John’s, both of which are served by the Marston Vale line services but only Bedford Midland station is served by intercity routes between London and Nottingham with onward connections to Yorkshire, the North East and Scotland.

The bus station is approximately half a mile from the railway station, closer to the town centre. This separation makes the provision of effective interchange more difficult and means that adjacent on-street bus stops and adequate information is required to develop wider network connectivity.

The Park and Ride service from Elstow has stops close to Bedford St. John’s for onward connections towards Bletchley, and stops in the town centre but not at Bedford Midland station for services north of Bedford. Bedford Midland station and the associated rail sidings occupy a large area of land immediately north of the Great Ouse and is consequently constrained in terms of access. However the proximity of the river does offer the opportunity for attractive pedestrian and cycle access routes to be provided.

There are very few facilities at Bedford St John’s with relatively limited car parking and no cycle facilities at all. By contrast Bedford Midland has spaces for over 700 cars and stands for more than 100 cycles in front of the station.

Again there are issues for connectivity and interchange in Bedford arising from the separation of the railway station and bus station. The opportunities for local use, cycle and walk access to mitigate these issues are important for the modal shift strategy, as is a greater appreciation of the role to be played by the second station in Bedford.

3.3.5 Luton

Luton also has two railway stations, one in the town centre, the other is the Luton Airport Parkway station, situated adjacent to Luton Airport and with easy access to the M1 via the A505. Both stations provide services to London and the airport station is marketed as a park and ride site into the capital off the motorway, with a regular and frequent shuttle bus from the railway station to the airport terminal.

The main station has a direct access from the town centre over the parking spaces that are provided. There is limited cycle storage but the environment of the station and access to it is constrained.

Luton Bus Station closed in January 2008 and services are now distributed to on-street stops in the town centre, a short distance away from Luton railway station. This may offer
operational flexibility but also raises an issue for signage and information so that it is clear how to find and use public transport for getting around the town and further afield.

As well as local services there is a rail link bus service from Milton Keynes, which offers regular and reliable access. This concept of express inter urban services to key destinations is one that fits well with the concept of parkway and park and ride facilities and key interchanges for the MKSM sub-region.

3.4 Secondary Public Transport Gateways

3.4.1 Introduction

Secondary level gateways are assumed to provide a different function to primary gateways. They do not connect directly to national or international networks, other than at a peripheral level (for example where a train service doesn’t always stop at this gateway) but have direct links to at least one primary gateway. They may also be limited in their scope to provide sub-regional connectivity, either because of infrastructure capacity or service provision.

The secondary gateways provide a focus for a range of local distributor services so that all parts of the sub-region can gain access through them to national and international networks with a minimum of interchange. These secondary gateways are the following:

- Aylesbury
- Leighton Linslade
- Wellingborough
- Kettering
- Corby

How these secondary gateways contribute to the sub-regional strategy, particularly in their relationship with primary gateways, is presented in this section. Their characteristics are not significantly different to primary gateways in that they do present a way to access wider networks outside the MKSM area, including national and international hubs.

Aylesbury railways station has an important role in terms of its connection to London but is isolated in respect of the rest of the MKSM area as it is currently a terminal station for services and opportunity for onward travel by public transport is limited.

Leighton Buzzard and Linslade are geographically much closer to Milton Keynes and Luton for onward connections to national networks and perform only a local interchange function. Because of its proximity to other centres it has an important role as an intermediate connection point, including for park and ride.

Both Wellingborough and Kettering provide access to the Midland main Line services north to Nottingham and are therefore important interchanges, performing a similar, if more localised, function to that of a primary gateway.

The new station and rail service at Corby, available from December 2008 may significantly improve mode share and the importance of interchange for East Northamptonshire to access external destinations and also to improve connectivity within MKSM.

3.5 Additional gateways

Apart from the main public transport interchanges and major centres where access to wider networks is best achieved, there are a number of other gateways that are relevant to developing a sub-regional transport strategy.
3.5.1 Railfreight at Daventry and Corby
Daventry does not have its own railway station, the nearest facility being Long Buckby, approximately five miles away. Daventry is a key centre for freight however with the nearby Daventry International Railfreight Terminal (DIRFT), located adjacent to the A5, A428 and M1 and with easy links to the A45, M6, A14 and A426 for onward distribution.

Corby Eurohub also provides a rail freight facility and both locations benefit from their central location for access to the rest of the country and easy access to the strategic highway network. It is noted that whilst there is a presumption for increasing the amount of lorry miles transferred to rail there is an inevitable balance to be struck between delivering additional train paths for freight an ensuring there is adequate rail passenger capacity for model shift. The relative proximity of both these sites to the A14 is also an issue for highway capacity and percentage of goods vehicles on the network further east towards the Haven Ports and the restricted access provided to the M1 at junction 19.

3.5.2 International Ports and Airports
There is only one international airport in the sub-region, at Luton. However, facilities just outside MKSM at Birmingham, Stansted and East Midlands airports as well as the London airports all provide relevant international connections, which are highly accessible from the sub-region. The importance of providing good public transport links relates both to the growth in international air travel and the dominance of car travel as the main mode of access. Luton Airport has regular bus links from the nearby Luton Parkway railway station and the Luton Railair coach service from Milton Keynes, both of which provide onward connection via the national rail network.

It is also important to note the direct rail services from Luton, Bedford, Wellingborough and Kettering straight to the international rail terminal at St Pancras via East Midland Trains services

3.5.3 Motorway Junctions
Key junctions on the motorway and trunk road network are also relevant gateways to national and international networks. In the context of a modal shift strategy their role is one of facilitating access and should not be one of a barrier to sub-regional movement. Inevitably, the strategic motorway and trunk road network is focused on north-south movements meaning there is a potential barrier to east-west travel where key junctions have constrained capacity. As well as the junctions within the sub-region on the M1, connection with the A1 at St Neots and strategic access from the A43 onto the A14 at Kettering are both important trunk road gateways, as are connections to the M40 corridor to the west.

3.6 Relevant Prioritisation Schemes
The work undertaken for the MKSM Strategic Transport Board earlier this year considered a wide range of proposals for individual transport measures that may form part of a comprehensive sub-regional transport strategy. These cover a range of modes and types of schemes and most will be delivered by individual authorities, but with sub-regional support.

In relation to the Modal Shift Strategy and the translation of its principles at the local level the list of schemes in Table 3.3 are considered relevant for each corridor or gateway.
Table 3.3: Prioritised schemes relevant to corridors and gateways

<table>
<thead>
<tr>
<th>Corridor/Gateway</th>
<th>Schemes</th>
<th>Priority Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aylesbury</td>
<td>Additional rail station in Aylesbury</td>
<td>43</td>
</tr>
</tbody>
</table>
| Aylesbury – Leighton Linslade – Milton Keynes | Aylesbury Primary Bus Corridors  
|                                   | Bletchley Public Transport Improvements Scheme                                              | 11            |
|                                   | East-West Rail Western Section (Bedford to Oxford and Aylesbury)                            | 14            |
|                                   | East-West Rail (Aylesbury to Bletchley)                                                    | 33            |
|                                   | Bletchley Bus Station                                                                      | 23            |
| Aylesbury – Oxford                 | Aylesbury to High Wycombe route upgrade                                                      | 8             |
| Bedford                            | Park and Ride: Biddenham Loop                                                             | 26            |
|                                   | Park and Ride: Clapham                                                                    | 38            |
|                                   | Park and Ride: Cardington Cross                                                            | 71            |
| Bedford – Cambridge and Huntingdon | East-West Rail (Bedford to Cambridge/Stansted)                                             | 30            |
| Bedford – Milton Keynes            | M1 J13 E-W Rail parkway station                                                         | 17            |
|                                   | East-West Rail station at Newton Longville                                             | 28            |
|                                   | East-West Rail (Oxford to Bedford)                                                        | 32            |
| Bedford – Northampton              | Strategic Bus Routes (Pluto & X7) - Northampton to Bedford and Leicester               | 15            |
| Daventry – Northampton – Wellingborough – Kettering – Corby | Northants Inter Urban Bus Rapid Transit System  
|                                   | Kettering to Corby Passenger Rail                                                        | 78            |
| Luton                              | Busway Extension to northern fringe - Luton                                              | 7             |
|                                   | Park & Ride Butterfield                                                                   | 36            |
| Luton – Bedford                    | Elstow Station                                                                      | 22            |
| Luton – Milton Keynes              | Luton Dunstable Guided Busway Scheme                                                       | 6             |
|                                   | MKSM Inter Urban BRT System                                                                | 12            |
|                                   | Busway Extension to M1 J10 A                                                              | 20            |
|                                   | Luton North Rail Station                                                                  | 18            |
| Luton and Bedford – Hemel Hempstead and St Albans | Thameslink 2001  
|                                   | Midland Main Line Route Utilisation Outputs                                               | 31            |
|                                   | Midland Mainline Enhancements by Network Rail                                            | 44            |
|                                   | Midland Mainline Enhancements by Network Rail                                            | 49            |
| Milton Keynes                      | MK Busways                                                                               | 10            |
|                                   | MK Core Routes (diameter)                                                                 | 16            |
|                                   | mk central - station interchange                                                           | 24            |
|                                   | CMK PT Access Improvements                                                                | 25            |
|                                   | MK P&R, A5n,A5s,A421w                                                                     | 39            |
| Milton Keynes – Northampton        | WCML Enhancements to MK & Northampton services                                            | 46            |
|                                   | West Coast Main Line Modernisation                                                         | 47            |
| Northampton                        | Riverside Park & Ride, Northampton                                                          | 9             |

It is important to note that delivering the Modal Shift Strategy is not about implementing the top performing schemes from this list. Firstly there is a question of process and justification, where comprehensive business cases would be required on an individual scheme basis to prove its value for money.

It is also important to consider these schemes in a sub-regional context in respect of the location of growth, as illustrated in Figure 1.2. Assuming a similar distribution of trips from new developments as exists for current sub-regional movement, except for a greater concentration of local trips arising from locating development sustainably, the corridors that are likely to see the greatest level of additional trip making are shown in Figure 3.4. Whilst it is clear that some schemes match well with the areas where most growth is expected, some gaps remain.
Figure 3.4: Key travel growth corridors in MKSM
4 Wider Context

4.1 Introduction

The modal shift strategy sits within the wider context of emerging sub-regional plans, national and international agendas.

4.2 Integration

A key feature of successful regional and sub-regional public transport is service integration and removing cross-boundary barriers. This applies importantly to fares, ticketing, information and marketing as well as to physical infrastructure and services. Integration of services, information and ticketing is exhibited in PTE and City Region areas where there may be established arrangements for cross-boundary working. The development of a Multi Area Agreement for the MKSM sub-region can perform in a similar way.

The aim of network integration is to make use of public transport as easy as possible. This requires a focus on interchange, availability and clarity of information, understandable and attractive fare structures and reliability. The level of understanding for travelling by car as the main alternative to public transport usually nears "perfect knowledge", except with regard to some elements of route and parking choice. This is difficult to achieve with public transport but simple measures can have a significant impact if appropriately co-ordinated.

Integrated information provision, with clear branding representing the sub-region will need to be a pervasive feature of delivering a co-ordinated strategy. There should be no gaps or boundaries visible to the public within the sub-regional public transport offer and a clear concept for networks, that is easily understood is critical. All elements of the network must also meet the same quality to ensure a consistent travelling experience. A similar level of integration should apply to ticketing, where opportunities for travel using more than one mode should be as easy as picking up a single ticket or using a single electronic payment method.

There is also a clear and pressing need for integration of policy and planning, at least at a strategic level that reflects the sub-regional objectives. It is acknowledged that this will need to be consistent with and not over-complicate the activities at the local authority level. However, if the sub-region is to achieve the value of developing a comprehensive modal shift strategy full integration and the support of all partners to ensure effective delivery is essential.

This assumes a significant function and resource representing the needs of the sub-region as a part of the MKSM Strategic Transport Board’s role on integration. In the same way that constituent authorities represent regional objectives at a local level, there will need to be consensus and support on the delivery of the modal shift strategy, targets and outcomes. The local authority partners in the sub-region should be aware that this co-ordinated approach presents a massive opportunity for financial and economic benefits that would not be available if they were acting singly and this should be one of the driving reasons for giving full support to sub-regional initiatives.

4.3 External Links

Whilst the focus of the MKSM Mode Shift Strategy is on internal trips within the MKSM region, it is also vitally important that external links are not neglected. Access to other city and regional networks is required to enhance social inclusion and the regeneration of deprived areas by enabling people to connect with additional employment opportunities, services, social networks and goods. This will only be achieved by maintaining, or indeed improving, accessibility, affordability and acceptability.

These benefits are not restricted to personal social changes, but can also contribute to the reduction in the gap between economic growth rates between different regions. This is not
only observed with regard to city and regional networks, but also national and international networks. The MKSM region is ideally placed to access a multitude of business centres of national and international importance. The region is within an hour of central London and close to the world-class universities and research centres of Oxford and Cambridge. Additionally, with international gateway in the Midlands and the South East, it has considerable potential for both commercial and industrial development.

Indeed, the MKSM was selected as a growth area in part because of its excellent connectivity, and this is still an important asset for the area and underpins much of its attractiveness to businesses and residents. The existing programmes of investment for the West Coast Mainline Thameslink services will assist in developing accessibility within the region, but from an MKSM-wide perspective, it is apparent that these proposals are focussed on the main radial routes to London. Whilst it is imperative to ensure that capacity is sufficient to deal with scale of growth envisaged within MKSM, it is clear that stronger promotion of schemes such as East-West Rail is required to improve connectivity and travel opportunities across the breadth of the region.

### 4.4 Wider Transport Strategy

#### 4.4.1 The Eddington Review

The Eddington Review highlights some crucial aspects of transport appraisal and economic review, which will impact on the introduction of the MKSM Mode Shift Strategy. The review highlights a new relationship between investment decisions and growth objectives, claiming that the economic impact of transport schemes has been systematically underestimated for poor appraisal, prioritisation, and short-term political decisions. The result is that there has been under-investment in transport improvements. The recommendations are that resources should be increasingly focussed on urban transport projects, as these can achieve economic, environmental and social goals, all of which are crucial if the MKSM Mode Shift Strategy is to succeed.

The Eddington Review focuses transport policy on improving the performance of the existing network as opposed to constructing new infrastructure, and this is of particular relevance in light of the current global financial situation. This does not, however, remove the need for new infrastructure, but highlight the need for greater focus on modal shift to create additional capacity upon the existing network.

#### 4.4.2 The Stern Review and Climate Change Bill

The publication of the Stern Review, followed by the introduction of the Climate Change Bill and EU climate change and energy packages will create legally binding and challenging emissions targets for the UK economy. At present, these are not expected to include any sector-specific targets, but it is foreseen that all sectors, including transport, will be required to input significant effort into reducing emissions. As Emissions from the transport sector are a significant and growing contributor (around a quarter in 2004) to the UK’s overall greenhouse gas emissions, although the growth in emissions is forecast to plateau in 2010. Those emissions impact on long-term economic growth by contributing to global climate change. Transport will therefore need to play an important role in an economy-wide response to that challenge.
Transport is a ‘non-traded sector’, as it does not fall under any emissions-trading schemes. The current DfT perspective is that a non-traded total target will be calculated, with as much scope for exchange with traded sectors as possible. This will ensure consistency with those recommendations for carbon dioxide reduction outlined in the Stern Report. However, it is entirely possible that the Committee on Climate Change will impose a transport-specific target with limited scope for exchange with other sectors.

In order to meet these carbon dioxide targets, it will be important to ensure that networks are all making appropriate contributions. This is applicable not only on an international and national scale, but also regionally and locally. Solutions must be developed on a regional and local basis to ensure that the best solutions are applied to individual networks. Eddington highlights that ‘transport policy has no choice but to respond the challenge of climate change, for both environmental and economic reasons’. It can be argued, however, that transport emissions reductions need not be delimited to transport solutions to transport problems, as other processes and sectors such as land-use planning can usefully contribute to reducing the impact of transport on the environment.

Assuming that new car carbon dioxide targets are in place, a 20% reduction from 1990 levels by 2020 (including a transport contribution of 16% from 2005 levels by 2020) will still leave an estimated gap of 9.7 million tonnes of carbon dioxide. If the EU target is increased to 30%, this gap will be estimated at 19 million tonnes. 74% of these gaps in emissions reductions are to be achieved upon urban and regional roads.

**4.4.3 Towards a Sustainable Transport System (TaSTs) and Application to MKSM**

Much of Stern and Eddington has been brought together by the DfT in their document “Towards a Sustainable Transport System”. This document sets out how the Government sees transport contributing to combating climate change and delivering economic growth, presents a summary of government policy and investment plans through to 2014, proposes a new approach to strategic transport planning for 2014-19 and beyond, based on the recommendations in the Eddington study and also commits government to an early, ongoing and open dialogue with users and other stakeholders.

The document proposes five broad transport policy goals which are:
• Productivity and Competitiveness
• Climate Change
• Safety, Security and Health
• Quality-of-Life, including environment
• Equality of Opportunity

The importance of TaSTs and its relationship to the success of the MKSM region cannot be underestimated and strict adhesion to these principles should provide the MKSM sub region to be able to move forward with a solid foundation.

4.5 Communication and Delivery of the Strategy

Given the scale of modal shift from car-driver to other modes, the way in which communication about the Modal Shift Strategy is handled will be critical.

Initially, it will be essential to make sure that senior decision-makers in the public sector, local politicians, and other key stakeholders – such as developers and public transport operators – understand the MSS and how it is intended to deliver modal shift throughout the MKSM sub-region over the coming decades. This communication exercise will be a test of whether the sub-region is going to be accepted as a credible and effective method of delivering modal shift.

Next, the relevant local authority teams will have to be thoroughly briefed about the Modal Shift Strategy Delivery Plan. Where necessary, there will need to be seminars, workshops, on-line webinars, and so on; to ensure all council officers who have a role to play are clear about what needs to happen, by when, and – most importantly – are motivated to make the effort necessary to make it all happen. It will be necessary at this point to undertake a skills and resources audit, which apart from identifying gaps that need to be plugged in order to deliver the Plan, is also likely to highlight training and information needs amongst existing staff.

Once the MSS Delivery Plan is agreed and implementation has commenced, the general public will need to be brought on board with a large-scale and comprehensive marketing campaign. Initially, the Plan will seek modal shift amongst the people and employees already in the sub-region; but it will, of course, seek to ensure new residents and people taking up work in the sub-region are presented with a wide range of travel choices that are attractive, efficient and affordable, and take people away from over-dependence on the car.

A communication programme on this scale will not work unless the sub-region invests immediately in an MKSM Modal Shift Marketing & Communication Unit. It would be possible to buy this in from the private sector, but it is going to be an important and evolving feature for the foreseeable future (i.e. at least the next 10-15 years) that should encompass a range of duties during the development, implementation and monitoring phases of the strategy and as such needs a strong commitment. It is considered likely that a more attractive, cost effective and focused solution will be to put together an ‘in house’ resource, buying in specialist input or additional labour power as required.

Once it has been approved, the Modal Shift Strategy will require a Delivery Programme. Some aspects of this will need to commence immediately (e.g. bus developments), so the sub-region should not delay implementation pending the creation of a fully-fledged comprehensive Delivery Plan. There will need to be an MKSM Modal Shift Delivery Unit, with suitably qualified technical staff, lead by someone who has the confidence of the senior decision-makers and key stakeholders mentioned above, and who has the vision and drive to see this to fruition.
On the ground, in specific parts of the sub-region, a more pragmatic approach to making specific parts of the Modal Shift Delivery Plan work will be required. The existing local authority resources and structures are unlikely to be sufficiently extensive to be able to fulfil all these obligations or take responsibility for sub-regional issues. Therefore, it is envisaged that there will a menu of sub-regional delivery mechanisms that will be drawn upon to implement the Delivery Plan at local or area level, including:

a) Business Improvement Districts
b) Transport Management Associations
c) Personalised Travel Planning programmes
d) Time-limited specialist interventions commissioned from consultants and other private sector service providers
e) Mobility Management Centres (e.g. in residential areas).
5 Summary Strategy

5.1 Introduction

The proposed Modal Shift Strategy has a number of components for improving the performance of public transport and providing greater accessibility, thereby encouraging a change in behaviour and mode shift away from car. The strategy should also be considered in the wider context of developing a Sub-Regional Transport Strategy that encompasses highway improvements and other policies and plans that may not contribute directly to modal shift. Within the context of the wider Sub-Regional Transport Strategy are also the schemes managed and delivered by the Highways Agency that are of national relevance on the trunk roads including:

- M1 widening, demand management and junction access control strategies
- A14 widening and access strategies

Also of relevance are components that directly affect public transport demand and capacity but that are outside of the direct control of the sub-regional partners, notably national rail network enhancement strategies.

The context for the strategy is wider than the economic growth agenda for the MKSM sub-region and considers the requirement to meet national energy and carbon emission targets of which transport is a key source, and ensure consistency with UK sustainable development aims.

It is not possible to base the strategy on a comprehensive evidence base of current movements. Whilst some data and modelling tools exist these do not cover the whole sub-region. Instead this strategy is based on the identified main corridors and current mode shares, the level of growth likely in these corridors and how this will impact on already constrained networks. This gives an indication of the level of modal shift required for existing trips and those generated by new development, such that the growth can be achieved sustainably.

The existing situation has been summarised in Section 3, identifying the likely growth in key corridors and the current mode share. Allowing for these levels of trip making without significant intervention will result in a significantly over-stressed network, with existing capacity issues, congestion and delays increasing in scale, spreading into other parts of the network, and lasting for longer periods of the day. The estimated impact of growth on the network is illustrated in Figure 5.1.
Figure 5.1: Locations of stress in the network without the modal shift strategy
5.2 The Strategy

The recommended Modal Shift Strategy builds on the existing networks for bus and rail, plans and commitments for new services and infrastructure as well as developing some new proposals. It is recognised that certain parts of the strategy are relevant to some parts of the sub-region and not to others. Some of the proposals are developed with particular issues or constraints in mind, others are generic and applicable across the sub-region with local variation.

5.2.1 Rail

In general terms the current structure for public transport in the MKSM sub-region allows for North – South and North-west – South-east connections to be provided by rail, including:

- Chiltern services
- West Coast Main Line (Leighton-Linslade, Milton Keynes, Northampton)
- Midland Main Line (Luton, Bedford, Wellingborough, Kettering, Corby (from December 2008))
- East Coast Main Line (Stevenage and Peterborough, with First Capital Connect local services to Arlesey, Biggleswade and Sandy)

The greatest potential for improvement is linked to national programmes:

- Thameslink project
- West Coast Main Line upgrade, including Milton Keynes station upgrade work (due for completion 2008)
- Midland Main Line Route Utilisation Strategy outputs
- Seven Day Railway
- Programme of delivering longer trains

This could impact on many of the inter-urban routes serving the sub-region although some of the improvements are specifically targeted at the longer inter-city connections that only affect a small number of MKSM station pairs. Added to these national improvements is the proposed East-West Rail scheme, which will extend the existing Marston Vale service. This does not provide direct access to Milton Keynes, instead requiring interchange at Bletchley but this connection could be improved in a number of ways (noting that the timing of connecting services is already quite good.

Aylesbury falls between the WCML and Chiltern services but has a connection to London. It will need the introduction of the East-West Rail scheme to provide any sub-regional rail offer.

There are few other local stations in the MKSM area other than the Marston Vale line, which would also become part of East-West Rail. As a consequence the potential for further rail enhancement is focused on the main interchange stations, combining accessibility to national and international networks and connection to local feeder services.

Other sub-regional rail-based opportunities:

- Improved accessibility at main stations
- Greater capacity through longer trains
- Interchange improvements at Kettering and Northampton
- Better quality interchange with local feeder services
• Better facilities for “cycle and ride”
• Improved information provision with sub-regional connectivity highlighted

5.2.2 Bus
Partly due to the orientation of the rail network the opportunities for bus lie with East – West and North-east – South-west connections. Where bus competes with rail the journey time differences are usually large so there are few comparable inter-urban services. The existing routes that provide strategic connections for the sub-region include:

• X4 Service (Milton Keynes–Northampton–Wellingborough–Kettering–Corby–Peterborough)
• X31 Service (Milton Keynes–Dunstable–Luton)
• X88 Service (Oxford–Northampton)
• Virgin bus-rail link (Milton Keynes–Luton)
• Other relevant local services

Potential improvement is most likely to be local initiatives in partnership with the principal bus operators (Stagecoach and Arriva):

• Develop high profile “BRT” routes from existing services with bus priorities at main pinch points (major intersections, entries to towns) on a number of routes, e.g. Milton Keynes–Bedford, Kettering–Wellingborough–Northampton–Daventry, Aylesbury–Leighton Linslade–Milton Keynes,
• Strengthen peak services to an attractive frequency
• Ensure consistent and reliable off peak service with good evening coverage
• Improve reliability and journey times, particularly when crossing the M1, with targeted bus priority
• Implement strategic programme of park and ride and cycle and ride facilities providing services in both directions between centres (e.g. Milton Keynes – Northampton, Bedford – Milton Keynes, Aylesbury – Leighton Linslade – Milton Keynes)

These should be linked to a sub-regional strategy for information, integrated ticketing, and potential branding.

Other bus-based opportunities

• Better links to main railway stations
• Cycle parking more widely available at bus stations and main interchanges

5.2.3 Accessibility
Public transport accessibility and the extension of physical networks to ensure that the choice not to use the car is clear and attractive are fundamental to the modal shift strategy. This is why measures to support cycling and walking to public transport interchanges and services are more than local issues but contribute to sub-regional modal shift.

The accessibility strategy is comprehensive and explicitly linked to the bus and rail strategies and to ensuring highly accessible sustainable development.

5.2.4 Parking
The development of an MKSM-wide parking strategy is particularly contentious and it is difficult to see this being achieved under the current arrangements and approvals required
at the local authority level. However, this should go hand in hand with a public transport
based modal shift strategy that seeks to reduce the impact of congestion. Although the
impact of traffic on reliability in the highway network is shared by sub-regional and strategic
through traffic the requirement for change in parking strategy for the local centres is
correlated to providing an attractive public transport alternative. It should be made clear that
for the purposes of this strategy the proposal is to change the relative pricing and supply of
long stay (commuter) town centre parking in favour of out of town park and ride and inter-
urban public transport services. This will reduce the impact of traffic on approaches to the
urban areas allowing for the required reliability of the public transport services. For this to
be effective park and ride must be in place to replace, or even increase, the amount of long
stay provision exchanged and the corresponding bus journey must be reliable with a
competitive journey time.

Parking standards associated with new development should also reflect the sub-regional
focus on sustainable transport and mode shift from car but only where it corresponds with a
suitable alternative being in place prior to occupation and accompanied by suitable
information on those choices.

5.2.5 Development Planning
The Planning System is undergoing a period of change and arguably the opportunity to
make significant changes to the travel planning requirements and support to local
developers is greater now than before. From experience elsewhere, developers are keen to
have clear guidance on travel planning requirements and transparency in dealing with local
authority development Control Officers and other parties (including the HA). In order for
trade plans to be implemented and monitored effectively and efficiently it will be essential to
have straight-forward guidance, which includes support for developing travel plans and
effective, low cost mechanisms for monitoring and evaluation. A travel plan monitoring
mechanism for implementation across the sub-region would be useful in MKSM, especially
as all of the partners will be grappling with similar issues and will be able to learn from one
another. This could be consistently applied across employment sites, residential sites,
schools and hospital facilities.

Additional incentives and fiscal measures to support the modal shift strategy could extend
initiatives such as the ‘pooled developer contribution’ employed in North Northamptonshire
to allow the funding of transport mitigation measures (specifically public transport schemes)
that support growth. This will need to be based on an equitable assessment of the impact
per unit of development and the corresponding value of the interventions being proposed.
This will need to be co-ordinated at the sub-regional level with agreement from all the local
authorities in respect of MKSM wide targets. Whilst this would not be sufficient to fund all
the required interventions it would be a transparent way of meeting some of the gap left
after any public funding. The aim is for this type of approach and the travel planning
guidance to enforce the implementation of sustainable travel initiatives, public transport
services and new infrastructure before the completion and occupancy of any new
development.

5.2.6 Information
Achieving behavioural change from this Modal Shift Strategy requires two distinct
programmes of information, one in respect of the MKSM partners, transport providers and
developers, the other in relation to the public transport users. Both are critical to its success
and are clearly inter-related.

Support from the strategy partners is required for effective delivery and that comes from a
clear understanding of the need for substantial action, the objectives and targets to be
achieved and the key responsibilities for delivery. This will require a concerted information
and consultation phase linked to developing the programme for delivering the strategy and
ensuring it fits in the wider sub-regional and national context. The strategy will require some
major challenges to be faced and significant change accepted if the most effective outcome
is to be achieved. The appetite for this change at a local and sub-regional level must be demonstrated to ensure the credibility of the strategy moving forward to wider consultation.

The public consultation and information phase, both in terms of presenting and educating people on the strategy and information provision pre- and post- implementation, is a significant undertaking given the expected change required. The evidence and need for change must be compelling and the choices to be made are clear and acceptable. Change is likely to be more immediate and sustainable if it is incentive-based or if other choices are either being withdrawn or become comparatively undesirable. Behavioural change due to exogenous factors, such as climate change or fuel price for example, will not occur fast enough for the required economic growth to be achieved. However, this is relevant context to managing the impact of the strategy as supporting attractive alternatives as wider economic constraints are imposed.

Post implementation the information that will help to inform choice must be available when, where and in a form that can be used effectively in decision making. This should focus on removing the barriers to using public transport, making mode choice and interchange as easy as possible. Electronic media and real time information is becoming the norm for public transport information and new techniques, including home- and office-based information for new developments should be included.

5.3 Further Issues

On its own the above strategy is unlikely to deliver the amount of modal shift necessary to accommodate growth without any additional congestion on the strategic highways network. Allowing for the network performance illustrated in Figure 5.1 the estimate of sustainable mode share required for strategic trips from new development is likely to be in the order of 40%. This is likely to mean that the overall percentage will be higher, given that the location of development should be favouring more local trips. Until the location of development is fixed it is not possible to establish the relative scales of local and sub-regional trip making so an accurate mode share for the strategic network is not possible without detailed analysis. Coupled with this, the modal share for public transport in the existing strategic sub-regional trips must increase in the corridors exhibiting greatest flows to at least 15% overall. This will result in managing the increased travel such that stress on the networks is more manageable. However, additional interventions, particularly to improve the reliability of the strategic highway network and manage demand will be required to bring network stress levels back to acceptable levels. Figure 5.2 provides an illustration of the likely modal shares required for public transport to bring network stress due to increased trip making to acceptable levels. This is translated in Figure 5.3 to indicate the geographic focus for the modal shift strategy components to achieve the required modal share.

During the course of the consultation for this study the local study partners significantly underestimated the amount of modal shift required to accommodate the proposed growth and therefore the level of intervention that would be needed. Therefore two further sub-regional policies must be linked to public transport investment:

- Co-ordinated parking policy that increases the relative cost of town centre parking and reduces peak parking capacity in favour of Park and Ride.
- Policy for developers that seeks a requirement for supporting sustainable modes including pump-priming support of bus services, strict travel planning guidance, opportunities for site-based park and ride to/from local towns (for example the HA stipulation for Northstowe in Cambridgeshire to be predicated on completing the Cambridgeshire Guided Busway to avoid adding to A14 congestion)
Figure 5.2: Estimated mode share required in key corridors
Figure 5.3: Summary of Modal Shift Strategy components to meet targets
This also highlights the importance of a wider Sub-Regional Transport Strategy that delivers targeted highway improvements and traffic demand management proposals to improve the reliability of the network. These improvements should aim to identify routes where strategic through traffic and sub-regional traffic can be separated or managed better (motorway management strategies). The detail of the required highway improvements will depend on the location of development but is likely to include the A14, A45, A5 and M1 proposals.

MKSM need to understand market appetite for cross boundary services – what do the operators say?

The biggest funding gap is likely to correspond to the support of bus services that may take some time to become commercially viable.

5.4 Next Steps

In taking this strategy forward the MKSM Board and its partners must consider the timescale and implications for delivery. This strategy should be developed in partnership with the local authority development of LTP3 schemes, many of which will be relevant to achieving behavioural change and embedding sustainable travel in the mindset of the population.

There are crucial challenges to be met in terms of meeting the objectives of modal shift and issues for the MKSM Board and local authority partners to address over the coming months. These include:

- A commitment to developing parking strategies for the main urban areas that are compatible with a high modal shift target.
- Communication at a high level with public transport operators and providers to gauge the level of appetite for the substantial investment required.
- Consultation on the delivery and management of the strategy and consensus on the responsibility of the MKSM Board to drive the strategy forward with unequivocal support from the local authorities.
- Engagement of the three regional partners to securing the necessary support through the Regional Funding Allocations for transport and for developing additional funding submissions to Government.
- Public consultation to articulate the need for and vision of the Modal Shift Strategy, and its relationship to changing behaviour.
- Developing a policy programme and plan for delivering the relevant parts of the strategy in a timely manner to support incremental growth, with an understanding of the timescales involved.

The conclusions on the Modal Shift Strategy acknowledge the pressing need for a Sub-Regional Transport Strategy that encompasses those elements not directly related to a switch to sustainable modes, but are nonetheless important for dealing with the proposed economic growth. The overall transport strategy will need to take account of the work undertaken to develop the case for modal shift and some consistency should be expected.

The Modal Shift Strategy is also caveated against the completion of the MKSM Business Plan that will set out the aims and objectives for the MKSM Board and will provide targets against which progress can be measured.