

January 2010

Highway Authority,  
Essex County Council,

## **Comparative Transport Analysis**

### ***A Transport Analysis of potential Strategic development locations in Uttlesford***

#### **Introduction:**

In order to support Uttlesford District Council with their Local Development Framework (LDF) Allocations, Essex County Council, as the Highway Authority has been asked to provide Highway/Transport input into the process.

Uttlesford is a rural district where car ownership is greater than the national average<sup>1</sup> and the majority of journeys are car borne. It is acknowledged that if people own a car they are likely to use it in preference to alternative modes (i.e. bus, cycle) as it offers great flexibility and freedom. In order to influence change to sustainable modes of travel, they must be convenient and attractive.

There is no clear destination draw in Uttlesford. Any residential development of a substantial size is likely to disperse people across the district and beyond in terms of employment destinations with key employment centres being Saffron Walden, Great Dunmow, Stansted Airport, Bishops Stortford, Chelmsford, Braintree, Cambridge and London. The main towns of Saffron Walden and Great Dunmow offer a limited selection of food and non-food shops and again, residents are likely to travel further afield to other locations that offer a wider variety.

Given the district's rural nature, there are limited existing public transport services, with the majority of bus services funded by the Local Authority and not run commercially. Services are infrequent at the majority of locations.

Any of the major allocation sites proposed is likely to be required to provide and fund a high frequency bus service for the first five years of the development or until the service is self funding (whichever is first), evidence shows that a regular service with 10-15 minute frequency is the level at which people will actually consider changing their travel habits from car to bus as it offers a viable alternative. For people to use the bus, a service of high quality will need to run from initial occupation of the development. A step change on to buses is unlikely to happen if a service were introduced at the final stage of

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<sup>1</sup> Census 2001, Office for National Statistics. Percentage ownership of 1 or more cars, Uttlesford = 87.8%, England = 73.2%

development once many residents have already moved in and developed travel routines.

Essex County Council's Preferred Option Consultation Response to Uttlesford District Council in November 2007 stated that in overall terms there was insufficient evidence published to establish which was the preferred option, and advised that further work was undertaken. Uttlesford District Council Members determined Option 4 with 3000 dwellings located at Elsenham as their preferred option.

Some of the promoters of the allocation sites have already approached the Highway Authority with a view to determining our requirements. Site specific details have been discussed, however the Highway Authority has decided that any site promoter wishing to submit a Transport Assessment will be asked to prepare it using a standard criteria to be determined by the Highway Authority. The criteria will be the same for all sites (i.e. trip generation, etc.) as it is considered by the Highway Authority that any site in Uttlesford will have similar traits in terms of traffic movements.

The purpose of this report is to set out the likely Highway/Transport requirements for each proposed location. The report does not conclude which option is best as there are more factors to consider than just Highways/Transportation, however it does provide an overview of requirements and potential issues of each location.

## **Methodology:**

The Uttlesford District Council Preferred Options Document 2007 considered 4 options for the scale of development in the towns and key villages in Uttlesford. The District Council requested that the Highway Authority submit their professional opinion regarding the potential options selected in the LDF process. It would be resource and time hungry for the Highway Authority to prepare its own individual Transport Assessments for each of the sites and this method would not provide an overall comparison of the options that is required at this stage in the LDF process.

In order to provide a traffic analysis which is useable and easy to understand the Highway Authority has developed a matrix and this supporting summary document looking at key transport/highway related points by way of a desk top exercise, it focuses on the strategic site at Elsenham and the alternative sites for new settlements being suggested to the District Council, and the maximum development being proposed at Saffron Walden, Great Dunmow, Stansted Mountfitchet and Takeley, under options 1 and 2, which are the alternative options to a new settlement.

Preparation of the Transport Analysis was split into two areas, facts on the facilities available to the proposed development and the "Infrastructure Required" should the option be pursued. This report should be read in conjunction with the Comparative Transport Analysis Table.

The Highway Authority's main concern is to consider the impact a development will have in terms of traffic generation on the existing network. It is essential that any development is assessed and provides necessary mitigation in order to limit its detriment impact to the highway and provide necessary sustainable transport solutions.

## **Explanation:**

### ***Station (within or greater than 5km or 3.1 miles):***

PPG13 acknowledges that people would be prepared to walk up to 2km and cycle up to 5km to get to facilities/services. Due to its location, Uttlesford has a high frequency of commuters travelling to London and other close by towns (i.e. Cambridge, Bishops Stortford) by train, therefore the presence of a station will lead to an option of travel other than the car, given that parking availability and cost are a factor which discourages people from driving to their place of work. However, even when a station is not within a proposed settlement, there is still likely to be a proportion of residents driving to/being dropped off at near by stations.

Sites which have a station within 5km can offer a benefit, and a possible reduction in car journeys, however it must be considered that the West Anglian Mainline is close to capacity and many of the Stations do not have a high frequency of service (i.e. many have only 2 trains per hour in the peak). This lack of frequency could lead to people travelling to stations with a higher frequency (e.g. Bishops Stortford, Stansted Airport), travel to these locations is likely to be by car due to a poor frequency of Public Transport services. Often commuters travel out of the District to travel to a rail station which offers a shorter journey to London (i.e. Chelmsford, Central Underground line).

### ***Existing bus service (origin, destination and daily frequency)***

Locations with an established high frequency of bus service have potential to offer a sustainable alternative to car travel. A high frequency service is considered when there is at least a 15 minute service in the peak. Providing a service in the evening also allows people greater flexibility and improves the likelihood of the public choosing to use the bus as a sustainable travel mode.

The 'October 2009 Essex County Council Bus Timetables for Essex' document was consulted to determine the current provision of bus services in the vicinity of each proposed site. For places where potential development site locations are yet to be determined fully (i.e. Great Dunmow, Saffron Walden) all bus services were listed, however with locations which are more defined (i.e. Priors Green) it was possible to identify services which would pass directly past the site. The Comparative Transport Analysis Table should therefore be read with caution as Great Dunmow and Saffron Walden appear to be well served by a high number of services, when in reality, not all these services will pass by the site.

It should be noted that many of the existing services within the Uttlesford district are school services and/or only run one service in each direction per day and often not every day of the week. There are some services between the major settlements and draw destinations, i.e. Chelmsford, Great Dunmow, Stansted Airport, Braintree and Saffron Walden which do offer a more regular service, however the greatest frequency services only offer an hourly bus which is not sufficient frequency service to offer a viable alternative to the car.

***Proximity to Strategic Road Network (i.e. M11, A120), within or greater than 5km or 3.1 miles:***

Locations close to the Strategic Road Network offer a benefit by providing a fast, easy connection to many destinations and by reducing traffic on local roads. Whilst it is unlikely developments would take direct access onto the Strategic Road Network due to policy objections, there is a benefit in the sites being close. Strategic Roads are designed to carry greater amounts of traffic compared to local roads. Development located remote from the Strategic Road Network is likely to have a greater detrimental impact on local roads and existing communities the non-strategic roads pass through and have a far greater negative effect than development located near to strategic road connections. Detrimental impact being increased traffic volumes causing congestion, delays on the network, increasing the risk of accidents and in some cases verge and carriageway damage through excessive use.

***Existing facilities at development location (e.g. excluding newsagents and local stores etc.) Potential for car journeys:***

It is important that any development of a significant size has adequate facilities within the site to keep the number of external journeys to a minimum. Newsagents and local stores can provide convenience shopping (i.e. the emergency bottle of milk etc.) but they are no substitute for a superstore or a town centre providing a range of shops (butchers, grocer, baker etc.). If services or facilities are not available within a development (internal), journeys will be required external to the site.

**Food Shopping:**

Food shopping is an essential task of everyday life, whilst there has been a swing away from using individual stores such as the butcher and the baker, supermarkets now account for a large proportion of the food shopping market. People like to have choice and most of the time a small local store will not carry the range of goods people require so they will travel further afield to larger stores or to a variety stores. The vast majority of people will rely on the private car to do the food shop, as cycling or bus travel does not offer the same flexibility. Even sites offering a small store can still expect to see external car trips as if people have access to a car they are likely to use it to widen their choice of food stores.

### **Non-food Shopping:**

Non-food shopping includes clothes, electrical, DIY, anything other than food. Facilities are unlikely to be provided on site so the majority of non-food shopping trips are likely to be car borne.

### **Primary Healthcare:**

The Primary Healthcare Trust would determine the need for GP provision at a new development. Should no GP provision be provided on site then it is acknowledged that there is likely to be an increased number of car borne trips as people travel out of the development for Healthcare needs. It should also be acknowledged that the likely mode of travel to and from healthcare provision is likely to be by car (when available) as this offers the most flexible method of travel.

### **Primary School:**

A Primary School is generally required on sites with a development of 750 dwellings. It is preferable for any development to have a school internal to the site to reduce the number of external car trips made.

### **Secondary School:**

A Secondary School is generally required on sites with a development of 4500 dwellings. For sites smaller than this, consideration must be given to the available capacity at the local catchment school, and this is determined by the Education Authority. Many school children can be bussed to school, if there is a large enough population in one location or on a school bus route, however for smaller developments it is likely the journey to and from school will be by parents in their car. It is preferable to the Highway Authority for any development to have a school internal to the site to reduce the number of external car trips made.

### **Further Education:**

Further education covers post compulsory education but not Universities, and usually comes in the form of colleges and sixth form education. Most Further Education establishments are attached to Secondary Schools. Whilst Further Education is not compulsory, it is still necessary to consider this facility as travel to and from these sites will be additional journeys on the network.

### **Employment:**

Employment takes a variety of forms and in a range of locations, towns and larger villages will account for the vast majority of employment. Residential Developments detached from these locations are likely to generate traffic in the form of external trips with people travelling to and from work. Ideally residential development should be located near to employment, or employment provided within new settlements. However by providing this there is nothing to say the residents of the new development will work within the development and the likelihood is that people will travel in to the new development to work whilst residents travel out to work in other locations, thus creating more journeys on the network. Locating residential development on

the periphery of an existing town which has employment facilities is more likely to keep the number of vehicle trips reduced compared to a residential development remote from employment sites. It is important to consider the socio-economic make up of the proposed development, if many of the houses are large 4+ bedroomed, costing a large amount, only people on a high wage will be able to afford to live there, high wage paying employment is unlikely to be available in the vicinity on a large scale and will mean external trips, to likely locations outside of Uttlesford, to London and Cambridge.

### ***Impact on historic road network:***

Many towns and villages in Uttlesford are old and feature historic street networks which are often not ideal for modern day vehicles and traffic flows and offer little opportunity for improvement. This is especially so in the historic market towns of Saffron Walden and Stansted Mountfitchet. Any residential development near to these towns will only add to the traffic flows and cause increased congestion on the historic network within the areas.

### ***Air Quality:***

Air Quality Management Areas have been declared in 3 locations in Saffron Walden, these are locations where the air quality does not meet the required standards and the main contributory factor is traffic congestion. The Local Authority must develop an action plan for each site. Any future development in the vicinity of the AQMA's will impact on them (development traffic travelling through the AQMA's) and therefore the development will have a negative impact on the AQMA's. Any development must demonstrate that their impact on the site can be mitigated so not to cause additional pollution.

### ***Infrastructure Required:***

For the majority of the proposed sites, similar infrastructure will be required i.e. high frequency bus service, improvements to local/strategic road network (junctions etc.), footway/cycleway connections, however due to location, some sites will require more than others in order for them to be a successful and sustainable as possible.

### ***Bus Service and Infrastructure:***

It is acknowledged that for people to make a step change out of their private cars and onto public transport a high quality service needs to be provided. A 10 minute frequency service is required, at the very least 15 minutes. At this frequency a resident is likely to not need to check what time the bus leaves at and instead just travel to the bus stop and wait a short while. With service frequencies of less than 15 minutes, residents will need to consider what time the bus leaves and ensure they are ready and waiting at the stop, this adds pressure and inconvenience to their journey and they are likely to look for alternatives i.e. private car, which offers a more convenient straightforward journey. All houses on a development should be within 400m of a bus stop.

Due to the dispersed nature of Uttlesford, it is unclear where the main draw will be from the development site which makes planning bus services difficult.

***Potential Additional infrastructure to Strategic Road Network:***

Additional infrastructure to the Strategic Road Network is expensive and is not straightforward to implement. Adding junctions to a Strategic Road Network can cost many millions of pounds and the requirement of the additional junction needs to be weighed up against the effect its addition would have on the through flow of existing traffic. In the majority of cases, additional junctions are unlikely to be justified, however in cases where there are currently only entry/exit slips in one direction, it may be feasible to require additional slips. Access onto the M11 and A120 falls under the jurisdiction of the Highways Agency and further investigation and consultation with them would be required.

***Potential Additional infrastructure to non-Strategic Road Network:***

Works to the non-Strategic Road Network are not generally as expensive as strategic roads although still significant. However cost is not the only factor, often there is not the physical room to improve roads (i.e. widen them, upgrade junctions, implement traffic management features).

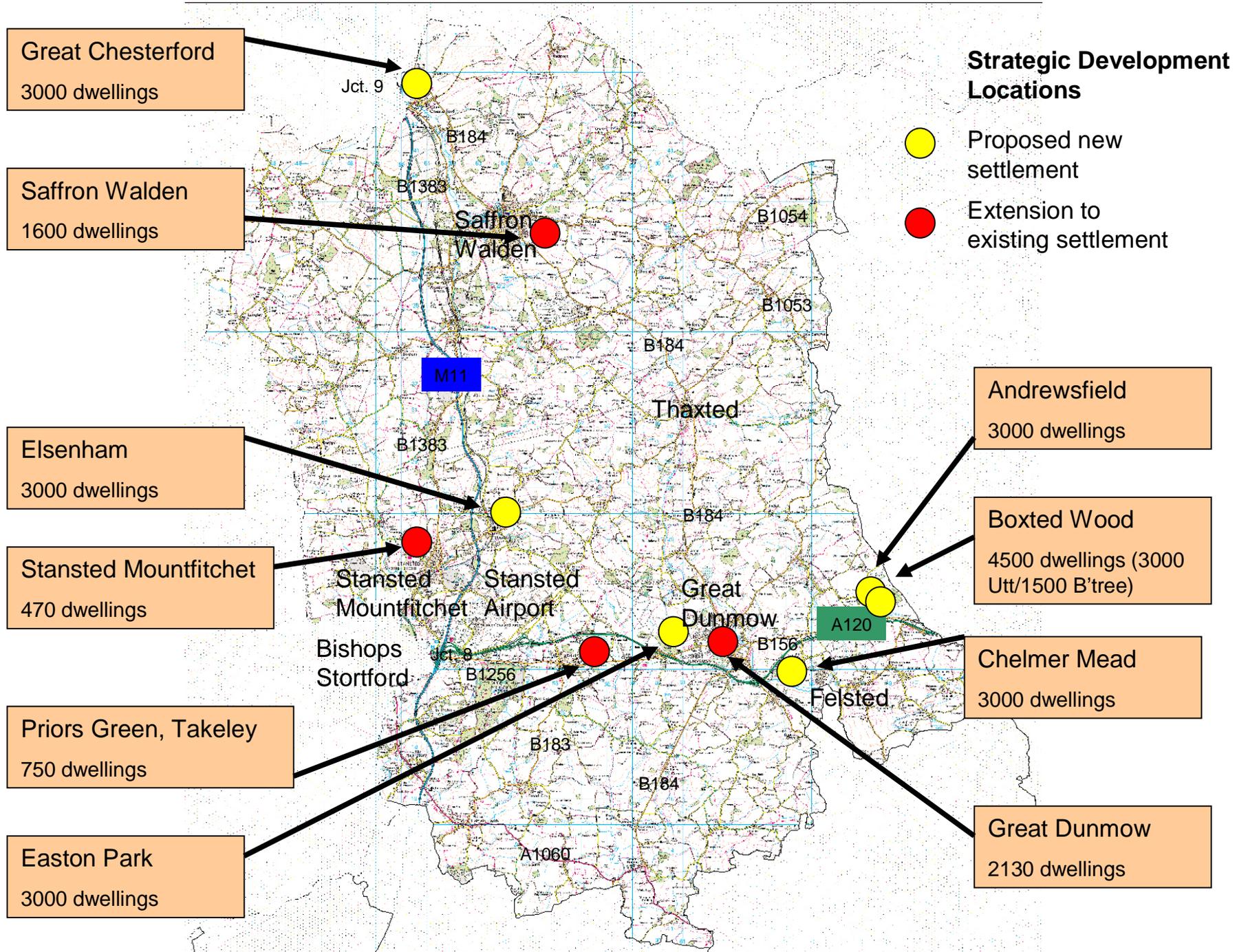
***Footway/cycleway connections:***

**Internal to site:**

It is essential that within the site there are adequate footway/cycleway links to allow people to move easily, clear links should be provided to local neighbourhood shops, facilities and schools.

**External to site:**

Links allowing people to travel out of the site are essential, both on a level where the links connect to services and facilities at nearby locations and also amenity links, providing connections to Public Rights of Way and the cycleway network.



## Key messages from the Transport Summary Table

### ***Elsenham, Option 4, 3000 dwellings:***

The proposed development would be close to a railway station that currently has 2 trains stopping per hour to London in the peak. The line is already close to capacity, there are proposals to upgrade services from 8 to 12 carriages on the West Anglian Main Line requiring station platforms to be lengthened. Timescales for the implementation of this is currently unknown but it has been indicated by Network Rail that only some stations will require the works (Newport, Elsenham and Great Chesterford are not committed, Stansted Mountfitchet is committed), as it is the intention that 12 carriage trains will not serve all stations in Uttlesford. Until the works have been undertaken, new stock (being introduced in 2010-11) will be used for the 12 carriage service, which has the facility to control door opening so 12 carriage trains could feasibly stop at unlengthened platform stations but certain doors will remain shut when passengers embark/disembark. At the present time future plans are unclear and because of this the option of rail travel only has limited benefit.

There is one established bus service currently operating between Bishops Stortford and Stansted Airport via Elsenham which offers an alternative to car travel by providing an hourly service but limits people's destination options to Bishops Stortford or Stansted Airport and those destinations en-route.

The site is remote from the strategic road network. A significant amount of mitigation measures will be required in order to upgrade the existing roads to be capable of carrying larger flows of traffic associated with the development and encourage residents to use Hall Road and avoid the more confined historic road network of Stansted Mountfitchet. This route could suffer from congestion and junction capacity issues should development traffic choose to travel via here to get to Bishops Stortford, the M11 and beyond.

There is likely to be a large proportion of external trips for food and non-food shopping, despite the proposal including a small superstore, people like to have choice.

The proposal does include two primary and potentially a secondary school which will keep school trips internal, but the secondary school could relocate from Stansted Mountfitchet which could result in additional movements on the network from pupils living in Stansted Mountfitchet travelling to school in Elsenham, or if not relocated, pupils living in Elsenham travelling to school in Stansted Mountfitchet. Inevitably, as with any new settlement options there will be some residents that will still send children to schools outside of the development, staff are also likely to live external to the development and therefore some external trips associated with education will occur. Trips related to Further Education will be external trips unless the Stansted Mountfitchet School is relocated and includes a sixth form.

It is thought that the majority of people will be employed out of the development and therefore external trips on the network. Inevitably some development traffic will use the Stansted Mountfitchet route, which has a network of historic roads which were not built to carry large traffic flows, many junctions do not have the highway land available to implement improvements making it difficult to mitigate against development traffic.

### **Likely Infrastructure Required:**

- A 10-15 minute frequency, high quality circular bus service between the site, Bishops Stortford, Stansted Mountfitchet and Stansted Airport.
- Upgrading of Hall Lane (widening to allow 2 HGV's to pass comfortably)
- New link road from Henham Road to Hall Road to avoid Elsenham Cross
- Junction improvements in Stansted Mountfitchet, Takeley and Elsenham to encourage traffic to use the Hall Road route as opposed to the Stansted Mountfitchet route.
- Traffic Management features around Elsenham
- Footway/Cycleway links within the site to connect with key services/facilities etc.
- Footway/cycleway links to connect with amenity routes outside of the site. Links to further destinations such as Stansted Mountfitchet should be considered however large numbers of people are unlikely to walk or cycle to employment/services outside of Elsenham due to the distances involved.

***Boxted Wood, Option 4 alternative location, 4500 dwellings (also relevant for proposal for 3000 dwellings at Andrewsfield, north of Boxted Wood):***

The proposal site has no station within 5km and would involve a significant journey to a station. Braintree station is closest although this is only a branch line and offers one train per hour in the peak to London, with the quality of the road network in the area it is highly likely that commuters would consider travelling to Chelmsford Station in order to pick up a higher frequency service and faster journey to London. Therefore any commuter journeys are likely to be by car as a bus (unless a high frequency service is provided to the required destination) would involve a longer journey with rigid timetables people would have to work around.

Existing bus services passing the site along B1256 and passing through Great Sailing have been considered, there is an established service between Braintree and Stansted Airport running on an hourly frequency, which could be improved/extended and used as a commuter service to transport people to the rail station, as result of the proposed development. It is also considered that a large proportion of residents would head south towards Chelmsford for which there is currently no service.

The A120 currently only has access from and to the east with no west bound slips, meaning development traffic wishing to travel west towards Great Dunmow, Stansted Airport, M11 and beyond would have to travel along the B1256 to Great Dunmow before being able to access the strategic road network.

There is likely to be a large proportion of external trips for food and non-food shopping, despite a food store likely to be provided this will not be of a large enough size to offer the variety people have grown to expect and will therefore travel out to increase choice.

The development will certainly require two primary schools and is likely to require a secondary school which will keep school trips internal. Inevitably, as with any new settlement options there will be some residents that will still send children to schools outside of the development, staff are also likely to live external to the development and therefore some external trips associated with schools will occur. Trips related to Further Education will be external trips unless a secondary school with sixth form is provided on site.

It is thought that the majority of people will be employed out of the development and likely that any employment use within the development is likely to have a high number of people travelling into the site, therefore there will be additional trips on the network.

**Likely Infrastructure Required:**

- A 10-15minute high quality and frequency bus services between the site and Braintree, Chelmsford and Great Dunmow.
- (Andrewsfield only, new road link from site to B1256/A120)
- Additional west slip onto A120, this would need to be agreed with the Highways Agency and would be subject to further capacity assessments.
- Traffic management enhancements through Rayne to discourage development traffic from using this route into Braintree.

- Footway/Cycleway links within the site to connect with key services/facilities etc.
- Footway/cycleway links to connect with amenity routes outside of the site, especially the Flitch Way. Links to further destinations may not be essential given that large numbers of people are unlikely to walk or cycle to Braintree and beyond for employment/services due to the distances involved, however a link to the Flitch Way provides this option.

### ***Chelmer Mead, Option 4 alternative location, 3000 dwellings:***

The proposal site has no station within 5km and would involve a significant journey to a station. It is highly likely that commuters would consider travelling to Chelmsford Station in order to pick up a high frequency service and fast journey to London. Therefore any commuter journeys are likely to be by car as a bus (unless a high frequency service is provided to the required destination) would involve a longer journey with rigid timetables people would have to work around.

Existing bus services passing the site along Station Road and passing along B1256 have been considered, there is an established service between Braintree and Stansted Airport running on an hourly frequency, which could be improved/extended and used as a commuter service to transport people to the rail station, as result of the proposed development. It is also considered that a large proportion of residents would head south towards Chelmsford for which there is currently no service.

Access to the strategic road network would be via the B1256 to the A120 at Great Dunmow. A large proportion of journeys may well be towards Chelmsford which would involve traffic travelling through Felsted village and put increased pressure on the existing junctions of which there is little opportunity to improve. Therefore mitigation measures will be required in order to attempt to encourage residents of Chelmer Mead to initially travel North and use B1256 route to avoid Felsted village which would likely suffer from congestion and junction capacity issues should development traffic choose to travel via here to get to Chelmsford and beyond.

There is likely to be a large proportion of external trips for food and non-food shopping to Great Dunmow and beyond, even if a food store were provided on site, this will not be of a large enough size to offer the variety people have grown to expect and will therefore travel out to increase choice.

The development will certainly require two primary schools, the local secondary school of Helena Romanes is unlikely to be able to cope with the additional capacity demands, yet there is unlikely to be enough demand for a new school within the developments (this would be considered by the Education Authority), however for the purposes of this report it should be anticipated that trips to secondary school would be external trips from the site. Inevitably, as with any new settlement options there will be some residents that will still send children to schools outside of the development, staff are also likely to live external to the development and therefore some external trips associated with schools will occur. Trips related to Further Education will be external trips.

It is thought that the majority of people will be employed out of the development and likely that any employment use within the development is likely to have a high number of people travelling into the site, therefore there will be additional trips on the network.

### **Likely Infrastructure Required:**

- 10-15 minute high quality and frequency bus services between the site, Great Dunmow, Braintree and Chelmsford.
- Possible junction enhancement required to signalise Station Road/B1256 junction, depending on capacity assessment.

- Footway/Cycleway links within the site to connect with key services/facilities etc.
- Footway/cycleway links to connect with amenity routes outside of the site, especially the Flitch Way. It is likely large numbers of people will not use a footway/cycleway from the site to Great Dunmow for employment/services, instead choosing to use a car due to the distances involved, however links to the Flitch Way are essential.

### ***Easton Park, Option 4 alternative location, 3000 dwellings:***

The proposal site has no station within 5km, the nearest station being Stansted Airport. Whilst there is a high frequency service from here, there is a charge to drop off/pick up and rail fares are high. Residents wishing to use the train are more likely to use Bishops Stortford Station which offers a higher frequency service and there is opportunity to drop off/pick up for free. For this reason a high quality and frequency bus service should be considered to Bishops Stortford to offer commuters a real alternative to the car.

Existing bus services passing the site along B1256 have been considered, there is an established service between Braintree and Stansted Airport running on an hourly frequency, which could be improved/extended and used as a commuter service to transport people to the rail station, as result of the proposed development.

Access to the strategic road network would be via a new spur on the North Dunmow junction roundabout of the A120. There is adequate room at the existing roundabout to fit a new access in with limited highway works required.

There is likely to be a large proportion of external trips for food and non-food shopping to Great Dunmow and beyond, however there is an existing supermarket near to the site which would reduce the number and length of car trips on the network, although an allowance needs to be made that residents may wish to visit other stores.

The development will certainly require two primary schools, the local secondary school of Helena Romanes is unlikely to be able to cope with the additional capacity demands, yet there is unlikely to be enough demand for a new school within the developments (this would be considered by the Education Authority), however for the purposes of this report it should be anticipated that trips to secondary school would be external trips from the site. Inevitably, as with any new settlement options there will be some residents that will still send children to schools outside of the development, staff are also likely to live external to the development and therefore some external trips associated with schools will occur. Trips related to Further Education will be external trips.

It is thought that the majority of people will be employed out of the development and likely that any employment use within the development is likely to have a high number of people travelling into the site, therefore there will be additional trips on the network, although Great Dunmow could provide employment opportunities for a proportion of the residents keeping external trips lengths down.

### **Likely Infrastructure Required:**

- 10-15 min high quality and frequency bus services between the site, Great Dunmow, Stansted Airport, Bishops Stortford and Chelmsford.
- Additional spur to A120 junction roundabout at North Dunmow
- Completion of the North West Bypass may be required, depending on traffic distribution, this is under third party control. Completion of the bypass could serve as a useful passenger transport link to Great Dunmow.
- Footway/Cycleway links within the site to connect with key services/facilities etc.

- Footway/cycleway links to connect with Great Dunmow and amenity routes outside of the site, especially the Flitch Way.

### ***Great Chesterford, Option 4 alternative location, 3000 dwellings:***

Great Chesterford has a station that has 2 trains per hour in the peak to London. The line is already close to capacity, there are proposals to upgrade services from 8 to 12 carriages on the West Anglian Main Line requiring station platforms to be lengthened, timescales for the implementation of this is currently unknown but it has been indicated by Network Rail that only some stations will require the works (Newport, Elsenham and Great Chesterford not committed, Stansted Mountfitchet committed) as it is the intention that 12 carriage trains will not serve all stations in Uttlesford. Until the works have been undertaken, new stock (being introduced in 2010-11) will be used for the 12 carriage service has the facility to control door opening so 12 carriage trains could feasibly stop at unlengthened platform stations but certain doors will remain shut when passengers embark/disembark. At the present time future plans are unclear and because of this the option of rail travel only has limited benefit.

Existing bus services passing through Great Chesterford have been considered, there is an established service between Cambridge and Saffron Walden running on an hourly frequency, which could be improved/extended and used as a commuter service for people working in Cambridge or Saffron Walden, as result of the proposed development.

The site is remote from the strategic road network and will mean traffic will travel along the B184 to access the M11 southbound, or further to the A1301/A505 into Cambridgeshire to access the M11 northbound.

There is likely to be a large proportion of external trips for food and non-food shopping to Saffron Walden or Cambridge, even if a food store were provided on site, this will not be of a large enough size to offer the variety people have grown to expect and will therefore travel out to increase choice.

The development will certainly require a primary school, and whilst the development will not be large enough to justify its own secondary school, the education department of Essex County Council will need to assess potential demand from the development and capacity at existing schools. Inevitably, as with any new settlement options there will be some residents that will still send children to schools outside of the development, staff are also likely to live external to the development and therefore some external trips associated with schools will occur. Trips related to Further Education will be external trips.

It is thought that the majority of people will be employed out of the development and likely that any employment use within the development is likely to have a high number of people travelling into the site, therefore there will be additional trips on the network. Due to the location of Great Chesterford it is anticipated that many residents will be employed within Cambridgeshire and more specifically within Cambridge and choose to use facilities located here also.

**Likely Infrastructure Required:**

- 10-15 minute high quality and frequency bus services to Saffron Walden and Cambridge.
- Potential amendments to junction of A1301/A505 and M11 junction 9, in conjunction with Cambridgeshire County Council (dependent of further assessment work).
- Footway/Cycleway links within the site to connect with key services/facilities etc.
- Footway/cycleway links to connect with existing links in Great Chesterford and amenity routes outside of the site.

### ***Saffron Walden, Option 1, 1600 dwellings:***

Saffron Walden does not have its own station, however Audley End station is within 5km of the proposed site. Journeys from the town to the station are likely to be by car, unless a high quality and frequency bus service is provided along with a high quality, segregated cycle route (without which cycling to the station is unlikely to be a popular mode given the existing arduous route via B1052 which is also the main HGV route into Saffron Walden). The line is already close to capacity, there are proposals for the West Anglian Main Line service to be upgraded from 8 to 12 carriages, with new stock planned for 2010-11. Audley End station already benefits from a platform capable of receiving 12 carriage trains therefore, despite the remoteness of the station from the town, rail travel could provide some benefit to a new development location at Saffron Walden.

There are a high number of bus routes which converge on Saffron Walden, however the majority only offer a one each way daily service, often in conjunction with school start and finish times. A town circular service is provided which does not have a high frequency but there is opportunity to improve it.

The strategic road network is remote from Saffron Walden and the historic network of streets within the town prevents large flows of traffic from travelling freely, causing congestion. There is little room to improve junctions within the town and consequently any development is likely to have a detrimental impact on the road network.

It is likely the majority of food and non-food trips will be internal to Saffron Walden town, however there will always be people who wish to travel out to enable wider choice.

Development of the proposed scale will certainly require an additional primary school. The local secondary school of Saffron Walden County High School is unlikely to be able to cope with the additional capacity demands, yet there is unlikely to be enough demand for a new school within the developments (this would be considered by the Education Authority), however for the purposes of this report it should be anticipated that trips to secondary school would be external trips from the sites but internal to Saffron Walden, the distance from the sites to the existing school is likely to be some way and therefore it is likely that many children will be taken to school by car, or use the bus, cycling could be considered an option but improved cycle routes will need to be provided. Trips related to Further Education will be external trips from the sites and may be further a field than Saffron Walden.

The majority of residents from the proposed developments are likely to be employed external to the developments, some maybe within Saffron Walden but not all, therefore there will be additional trips on the network.

Additionally Saffron Walden has 3 declared AQMA sites which need to be dealt with by way of an Air Quality Action Plan. Uttlesford District Council have developed various measures in an attempt to deal with the issue, however the fact of the matter is the issue has occurred partially due to congestion at these locations, any further development within the town is likely to put further pressure on these sites and do nothing to improve the air quality in the area.

### **Likely Infrastructure Required:**

- 10-15 minute high quality and frequency bus services within Saffron Walden and to Audley End Station (at times to coincide with rail services) and potentially beyond.
- Significant engineering measures required to junctions within the town (historic road network) to increase capacity, this may not be feasible given limited land availability
- Link road required between Radwinter Road and Thaxted Road to relieve Thaxted Road/Radwinter Road/Chaters Hill/East street junction
- Footway/Cycleway links within the sites to connect with key services/facilities etc.
- Footway/cycleway links to connect with employment/services and schools in Saffron Walden, Audley End Station and amenity routes within and adjacent to Saffron Walden.

### ***Great Dunmow, Option 1, 2130 dwellings:***

Great Dunmow has no station within 5km, the nearest station being Stansted Airport, whilst there is a high frequency service from here, there is a charge to drop off/pick up and rail fares are high, residents wishing to use the train are more likely to use Bishops Stortford Station which offers a higher frequency service and provide free drop off/pick up facilities. For this reason a high quality and frequency bus service should be considered to Bishops Stortford to offer commuters a real alternative to the car. The alternative could be that commuters will choose to travel to Chelmsford Station which offers a shorter journey time into London.

There are a relatively high number of bus routes which converge on or pass through Great Dunmow, there are established services which go from Chelmsford to Bishops Stortford and from Braintree to Stansted Airport via Great Dunmow and there is opportunity for these services to be improved as a result of the proposed development.

Great Dunmow has good links to the strategic road network with both a west and south junction onto the A120.

The majority of food and non-food trips could feasibly be undertaken within Great Dunmow, however there will always be people who wish to travel out to enable wider choice.

As a result of development at least one primary school will be required. The local secondary school of Helena Romanes is unlikely to be able to cope with the additional capacity demands, yet there is unlikely to be enough demand for a new school as a result of development (this would be considered by the Education Authority), however for the purposes of this report it should be anticipated that trips to secondary school would be external trips from the sites but internal to Great Dunmow, the distance from the sites to the existing school is a significant distance and therefore it is likely that many children will be taken to school by car, or use the bus. Trips related to Further Education will be external trips from the sites and may be further a field than Great Dunmow.

The majority of residents from the proposed developments are likely to be employed external to the developments, some maybe within Great Dunmow but not all, therefore there will be additional trips on the network.

### **Likely Infrastructure Required:**

- 10-15 minute high quality and frequency bus services within Great Dunmow and to Stansted Airport or Bishops Stortford Station and Chelmsford.
- Completion of the North West Bypass may be required, depending on traffic distribution, this is under third party control.
- Footway/Cycleway links within the sites to connect with key services/facilities etc.
- Footway/cycleway links to connect with existing links and employment/services and schools in Great Dunmow and amenity routes outside of the site, especially the Flitch Way.

## ***Stansted Mountfitchet, Option 1, 470 dwellings:***

Stansted Mountfitchet has a station that has 3 trains per hour in the peak to London. The line is already close to capacity, there are proposals to upgrade the service on the West Anglian Main Line from 8 to 12 carriages, for which Stansted Mountfitchet station is committed in Network Rails plans for platform upgrades. Timescales for the implementation of these works is currently unknown, however the new stock (being introduced in 2010-11) will be used for the 12 carriage services and has the facility to control door opening so 12 carriage trains could feasibly stop at unlengthened platform stations but certain doors will remain shut when passengers embark/disembark. At the present time future plans/timescales are unclear and because of this the option of rail travel may only have limited benefit.

There are two main bus routes serving Stansted Mountfitchet which offer a reasonable level of frequency, being hourly, the other routes serving the village only offer a one each way daily service, often in conjunction with school start and finish times.

The site is remote from the strategic road network and will require mitigation measures in order to upgrade the existing roads and junctions to be capable of carrying larger flows of traffic associated with development.

There is likely to be a large proportion of external trips for food and non-food shopping, despite the presence of existing local stores within the town, as these stores only provide limited selections and people like to have choice.

The proposal will rely on existing primary and secondary school facilities within the town but inevitably there will be some residents that will still send children to schools outside of the development, staff are also likely to live external to the development and therefore some external trips associated with schools will occur. Trips related to Further Education will be external trips

It is thought that the majority of people will be employed external to Stansted Mountfitchet and therefore external trips on the network are likely.

Stansted Mountfitchet has a network of historic roads which were not built to carry large traffic flows, many junctions do not have the highway land available to implement improvements making it difficult to mitigate against development traffic.

### **Likely Infrastructure Required:**

- High quality and frequency bus services to Stansted Airport and Bishops Stortford and potentially Saffron Walden.
- Significant engineering measures may be required to junctions within Stansted Mountfitchet (historic road network) to increase capacity, this may not be feasible given limited land availability
- Footway/Cycleway links within the site to connect with key services/facilities etc.
- Footway/cycleway links to connect with existing links, employment/services and schools in Stansted Mountfitchet and amenity routes outside of the site.

### ***Takeley Priors Green, Option 2, 750 dwellings:***

The proposal site has no station within the development, however Stansted Airport is within 5km. Any commuter travelling from the development to the Station would use either a bus or private car, it is not reasonable to expect commuters to walk or cycle to the station due to the route. Whilst there is a high frequency service from here, there is a charge to drop off/pick up and rail fares are high, residents wishing to use the train are more likely to use Bishops Stortford Station which offers a higher frequency service and there is opportunity to drop off/pick up for free. For this reason a high quality and frequency bus service should be considered to Bishops Stortford to offer commuters a real alternative to the car.

Existing bus services passing the site along B1256 have been considered, there are established services between Braintree and Stansted Airport and Chelmsford and Bishops Stortford running on an hourly frequency, which could be improved/extended and used as commuter services to transport people to the rail station, as result of the proposed development.

Access to the strategic road network is via the B1256, which was downgraded from the A120 when the new A120 was opened, therefore there is plenty of capacity on this route to accommodate development traffic.

There is likely to be a large proportion of external trips for food and non-food shopping.

The development has a new primary school planned but will not meet the threshold for requiring a secondary school, staff are also likely to live external to the development therefore some external trips associated with schools will occur. Trips related to Further Education will be external trips.

The majority of people will be employed out of the development therefore there will be additional trips on the network.

### **Likely Infrastructure Required:**

- 10-15 minute high quality and frequency bus services between the site and Great Dunmow, Stansted Airport, Bishops Stortford and Chelmsford.
- Footway/Cycleway links within the site to connect with key services/facilities etc.
- Footway/cycleway links to connect with amenity routes outside of the site, especially the Flitch Way. It is likely large numbers of people will not use a footway/cycleway from the site to Stansted Airport or Great Dunmow for employment/services, instead choosing to use a car due to the distances involved, however links to the Flitch Way are essential and other links should be considered.

Please note, at this stage this report amounts to officer opinion only and no detailed assessments have been carried out.