

## **North Harlow**

### **Public Transport specification to meet sustainability goals**

This note includes some suggested objectives and principles to guide the specification of the public transport system to serve Harlow. These are followed by a broad specification for the system itself. This includes specification of the urban structure and layout required to maximise the operational efficiency and mode share of the public transport services.

#### ***1. Personal and community transport objectives***

1. Everyone should be able to meet their normal daily requirements comfortably without needing a car. (This is not to say that people should not be able to use a car. The issue is avoiding dependence, not removing choice.)
2. People should be able to go about their business without danger from traffic or pollution.
3. People should be able to complete their journeys on public transport reliably, without undue delays, and at reasonable cost.
4. Getting around Harlow should be sufficiently comfortable and convenient for people to regard this as a generally positive experience.
5. People should not be subjected to excessive noise, danger or pollution in their homes and neighbourhoods.
6. People should be offered a choice of means of travel to suit the range of circumstances in which they travel (bad weather, with children, accompanying elderly or disabled people, carrying bags and so on).
7. People should be able to reach their work and other essential destinations at reasonable cost.
8. Walking and social activity in streets and public spaces should be a positive experience for residents and others in the town.

#### ***2. Transport and planning objectives***

1. Accommodate and support growth, and rapid growth
2. Constrain immediate and long term infrastructure costs for transport and utilities (compact city)
3. Ensure short-medium term transport investment is good value and serves majority of people
4. Plan accessibility to a range of employment and services for everyone. No significant employment should be planned in locations that are accessible only by car
5. Public transport should be planned to provide “seamless” journeys between any two points in Harlow (i.e. no more than one change of

bus required, no multiple fares, no time penalty for changing more than 5 minutes)

6. All public transport to be accessible to all people
7. Achieve a high quality travel experience (comfort, convenience, safety, cost). This should be measured with “satisfaction” surveys
8. Similarly achieve high quality public realm.
9. Plan the urban structure and transport facilities in ways that make a low call on non-renewable energy sources
10. Similarly plan so that transport makes a small ecological “footprint” in terms of noise and pollution
11. Ensure that transport does not lead to any increase in road casualties in Harlow, especially fatalities, serious injuries, and injuries to children.

### **3. Principles guiding public transport provision**

#### *Integration with existing Harlow*

The system will need to be specified in a way that takes into account of other parts of Harlow, especially the key destinations (town centre, railway station, hospitals, leisure centres and employment locations).

The entire Harlow local public transport system should be improved and restructured so that a common standard “offer” applies to all residents and visitors to the town, not just north Harlow. This means route structures and timetables and tariffs that are “seamless” across the whole town.

The development of North Harlow should present an opportunity for the existing Harlow to be provided with a much higher standard of public transport service.

#### *Attractiveness for car owners, not just captive users*

Bus use by people in car owning households is more than four times higher than people in non car-owning households. We can assume that car owning amongst new residents will be much higher than for the existing population.

Consequently the bus services must be of the highest quality and offer advantages to all users, not just those without a car. High quality specification, operational efficiency and absolute priority on the street system, are therefore non-negotiable aspects of the public transport specification

#### *Vehicle technology*

While opportunities can be explored for guided systems (guided bus, tram-on-tyres, light rail, ultra light rail), the assumption here is that high-specification buses will provide the transport system for Harlow well into the future.

Track or guided systems are not recommended for the following reasons:

- Cost, and difficulties of funding
- Risk and uncertainty attached to innovative systems
- Serving one or two corridors with guided system divides them from other parts of the network, whereas a uniform and integrated system is required
- Whilst north Harlow could in theory be structured with densities high enough to support light rail or similar, existing Harlow cannot be structured in this way
- Legislative and regulatory hurdles associated with tracked and guided systems, leading to delays in implementation and higher costs
- Modern buses and bus stop and busway technology can provide extremely high levels of service

#### *Financial viability*

Sustainable public transport includes financially viable public transport. A system that requires heavy subsidy (except for pump priming before development is complete) is unlikely to be serving a high proportion of trips, and consequently would signal failure in terms of transport sustainability.

#### *Absolute priority for buses*

Operational efficiency is needed to provide reliable services for passengers. Without the ability to run buses on time or at regular intervals it will be impossible to entice people out of their cars. For this reason buses must be protected from delays and unpredictability caused by traffic congestion. Whole-route priority is therefore a non-negotiable principle for the design and layout of north Harlow. The same principle must be adopted for the restructuring of bus services in existing Harlow.

#### *Clockface timetables*

Timetables must be unnecessary. Services should run frequently enough during the day that they operate on a “turn up and go” principle (buses at least every 8 minutes). Where it is reasonable to provide less frequent services (e.g. late evening) they should operate on a fixed interval basis. There should be **no** exceptions. If it leaves at 05, 25, 45 minutes past 7pm, then it should also operate 05, 25, 45 past 11pm.

#### *Hours of service*

Buses are to serve all people for a wide range of their travel purposes. This means services starting early in the morning and finishing late at night. It also means 7 day a week services. Any trip one can make on a weekday should also be possible to make on a Sunday.

#### Some Harlow facts

- 2,538 persons per square km in Harlow (Essex CC data)
- Population 2001 was 78,768
- One of most deprived districts in Essex
- Household size average 2.37 pph
- Proposed 20,000 dwellings in North Harlow, population would be 47,400, or 60% increase, but household size could be smaller than existing town
- 48% of workforce commutes into Harlow. Consequently job requirement for new population could be lower than straight 50/100 ratio i.e. people could move into North Harlow to be nearer their existing jobs in the town

## 4. Public transport system specification

### *Vehicles*

All buses should meet highest specification:

- Quiet
- Low emission (bio-diesel, hydrogen, hybrid diesel-electric etc)
- Fully accessible
- Comfortable ride characteristics
- Comfortable seating
- Provision for wheelchairs, buggies, luggage
- Stop and other information screens inside
- Good ventilation or air conditioning
- Smart design and livery

### *Stops*

- High quality attractive bus shelters for all inbound stops
- Both directions served at same location (stops opposite one another, no split routes)
- Interchange using “same direction” stops
- Provide extensive and easy to understand information on services at all bus stops throughout North Harlow

### *Information*

- Timetables will be displayed at all stops and in all public access buildings
- Timetables for any particular stop will be simple enough for people to be able to carry the information in their heads (clockface or regular interval services)
- Information should be readily available in the home and workplace via the internet, mobile phone and landline. Major public areas such as town centre shops and spaces should have realtime screens.
- Nearest bus stops should be signed (e.g. simple lamp post signs)
- Ensure information is provided within the rail station as well as at the stops themselves

### *Routes*

- Direct routes, no diversions, no long loops
- Routes can “double up” in areas of most intensive demand, e.g. approaching the rail station or the town centre
- Radial routes to key destinations essential, supplemented by tangential route(s) serving out of centre employment etc
- Any journey should be possible with maximum of one change of bus
- All routes protected from traffic congestion by segregated sections or bus “gates” ensuring freedom from other traffic
- Non-residential development should front onto bus routes (for visibility, convenience)

- Provide simple and logical route numbering system, and ensure integration with rest of the numbering for the town. E.g. Key axes / groups of routes, such as south to centre, north to centre, east to centre and west to centre be given route numbers distinctive to that specific axis
- Incorporate branding and apply specific and distinctive livery to each route group / axis
- Routes will need to serve 20 catchment areas each of 1000 dwellings
- This might be four routes with 5 catchments (bus stops) each, or 3 routes with 7 catchments each
- Routes must be direct, with as few sharp changes of direction as possible (visibility plus passenger comfort reasons)

#### *Stop area design (Catchment areas)*

- Stop areas, areas within 300 metres of stops, should be planned in terms of the range and type of facilities to be provided, graded according to their role (interchange or otherwise) and importance
- Stops serving 2 or more routes may be suitable for people-attracting activity including schools, health facilities, shops, community facilities, intensive leisure facilities
- 80-90% of dwellings and 100% of non-residential uses should be within 300m of a “quality service” bus stop
- A gross density of 40 dph produces 1000 dwellings per 25 ha catchment
- Total requirement is therefore 20,000/1,000 catchments, equals 20 stops
- 20% bus mode share (aspiration?) implies about 130-140 bus boardings generated per catchment in the morning peak hour

#### *Interchange*

- Provide high quality visible interchange facilities at key locations – train stations (Harlow Town and possibly Harlow Mill) and Harlow town centre and possibly the hospital.
- The frequency of service should enable interchange with a time penalty of not more than 5 or 6 minutes for town services.
- Out of town services should be included at the town centre interchange, and where possible also the rail station.

#### *Fares*

- Fares and ticketing should be integrated throughout.
- Fare levels should provide financial advantage over parking charges in the town centre, especially for short stay (up to 2 hours) and long stay (over 6 hours).
- Off-bus ticketing should be the norm, but on-bus possibility should be available for one-off non-resident users.
- Smart card technology should integrate bus fares with other charges, especially parking charges. Innovative schemes should be considered – for example car park ticket providing a one-day bus pass.

- Free travel should be provided for all schoolchildren (to inculcate bus habit) and people over 60.
- Concessions should be available for people seeking work, with disability, and in full time further and higher education.
- Subsidised travelcards should be encouraged from large employers.

#### *Complementary planning*

- Designing for public-transport must be **instead of not in addition to** planning for access by car. Complementary measures, in particular in relation to parking supply and management, and integrated approaches to parking charges and public transport fares are required.
- Also, no development that is “people heavy, lorry light” should be allowed or planned away from the locations served by public transport
- Reduce parking ratios further for new development – in existing Harlow as well as north Harlow
- Ensure that all new development in the local centres and at other locations uses shared rather than dedicated parking (there should be a presumption against dedicated parking, although individual cases can be reviewed on their merits). Measures are required that simultaneously improve the quality of public transport, and reduce the relative attraction of car use.

#### *Phasing*

- It is not necessary to start with areas closest to the existing town, although this would minimise the amount of up-front street infrastructure
- From a public transport perspective, there are merits in having early phases at the more distant locations. This ensures that the public transport services are established from the start, and bringing credence to the remainder of the route as this is developed. This model would, however, be likely to involve subsidy in the early years, and carries greater risk if the extent of development turns out to be lower than expected
- Whichever pattern is adopted, it is vital that high quality services are provided from day 1 to serve the early residents and to inculcate the public transport habit amongst new residents. The subsidy involved **must** be included in the cost of the development.
- Build-out should be geared to providing viable bus services at an early date.

#### ***Urban structure and layout requirements***

- All development to be based on “corridors”, of which bus routes are the spine
- The highest residential densities should be close to the spine routes

- All non-residential uses should be located on or near to these spines, especially where they meet. This is important to ensure all activities have good “inbound” access by public transport, but also to ensure that all retail and other activities are highly visible to public transport users
- The spines should not provide through access for car/lorry traffic, unless managed to provide absolute priority to bus traffic
- In designing the street layout, buses should be provided with “preferential routing”, that is to say more direct routes to the main destinations than is offered for car traffic
- Bus routes should be provided with priority over other traffic at junctions
- Bus routes should be protected from the effects of congestion throughout their length. Wholly segregated sections of route may be used, but are probably unnecessary. Bus gates and short bus-only sections should be sufficient.
- Bus route corridors should also be the main corridors for pedestrian and cycle movement and should incorporate all the main public squares and spaces.

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