

HARLOW AREA STUDY

MASTERPLANNING PRINCIPLES & SUSTAINABILITY CRITERIA



FINAL REPORT

PREPARED FOR
HARLOW DISTRICT COUNCIL
IN PARTNERSHIP WITH
ESSEX COUNTY COUNCIL
HERTS COUNTY COUNCIL
EAST HERTS DISTRICT COUNCIL
EPPING FOREST DISTRICT COUNCIL

APRIL 2005
PREPARED BY
MATRIX PARTNERSHIP IN ASSOCIATION WITH HALCROW & LEVETT-THERIVEL

The options and conclusions set out in the Study report are entirely those of the consultants, and do not necessarily reflect the formal views of the Steering Group. The reports are made available solely for information purposes and have the status of background technical documents.

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HARLOW NEW TOWN

Planning and building Harlow was a heroic and idealistic endeavour. Despite much greater wealth it's not clear that we are still collectively capable of an enterprise of comparable ambition. Even if we now conclude that aspects of it were misguided, or now need radical change, we should approach it with due respect.

The original motives of Harlow - to house people in the South East in genuine communities with good services and amenities and high design quality while protecting and enhancing environmental quality - are amazingly similar to those that motivate the Sustainable Communities Plan and current housing growth targets. Amazing because our assumptions and responses to essentially the same challenge are in some ways so different. This should make us pause to consider whether our 2004 orthodoxies are any better founded than those set out so confidently by Gibberd and his collaborators half a century ago. We must ensure that they fare better when looked at in another 50 years time.



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Note: All figures not referenced are produced by Matrix Partnership Ltd.

By the year 2016 the population of the London-Stansted-Cambridge area (one of the Sustainable Communities Plan Growth Areas), is predicted to be in excess of 2.7 million people (DETR, 1998), an increase of over 200,000 from 2001. The more recent Draft East of England Plan housing proposals (circa 23,900pa) will augment this overall rate of growth to around half a million by 2021. Harlow, identified as one of the Priority Areas for Economic Renewal (PAER's), will have an important role to play in this metropolitan sub-region as a major centre of provision within a network of centres and sub-centres.

Harlow was identified by ODPM as a priority area for growth within the designated London-Stansted-Cambridge-Peterborough Growth area to support the regeneration of Harlow. The Harlow area is assumed to include the entire administrative area of Harlow District Council, part of Epping Forest District within Essex and part of East Hertfordshire District Council within Hertfordshire. This epitomises a characteristic of New Town administrative boundaries, which are often defined tightly against their settlement footprint.

In the present case, the New Town of Harlow was laid out in 1947 by Sir Frederick Gibberd, and was both intended and built as a compact settlement to absorb the overspill from London. Designed with a hierarchy of amenity cores to serve residential neighbourhoods, a distinct plan form, urban boundary and population of 80,000 was envisaged. Today the town includes some 79,000 inhabitants though over a slightly larger footprint than was intended. The impact of a dramatically increased population calls for a re-evaluation of the town's edge condition, access and movement network, amenity provision and overall relationship to its rural hinterland including adjacent settlements.

A key consideration and issue central to this study will be for the town to accommodate its growth requirements whilst promoting wider sustainability goals, including the unique and intrinsic historical character and context of the town's formation. The need to consider sustainability is clearly now a major focus that includes an increasing awareness of the need for high design quality. The legacy of Harlow New Town has resulted in much of the urban fabric requiring renewal, along with the need to address more fundamental design assumptions. The New Town site today must be seen not as a blank 'canvas' to be drawn upon, but as a set of closely interlinked environmental, social and economic systems whose overall performance in delivering human quality of life with the least environmental damage should be improved.

Brief chronology of events and issues

2000 - RPG6 - (East Anglia) Cambridge growth potential

2001 - RPG9 - (South East)

- Development rates not meeting national/regional needs;
- Growth potential in the Stansted area focused on Stansted airport – called for a sub-regional study;
- 'PAER' – Harlow regeneration needs;

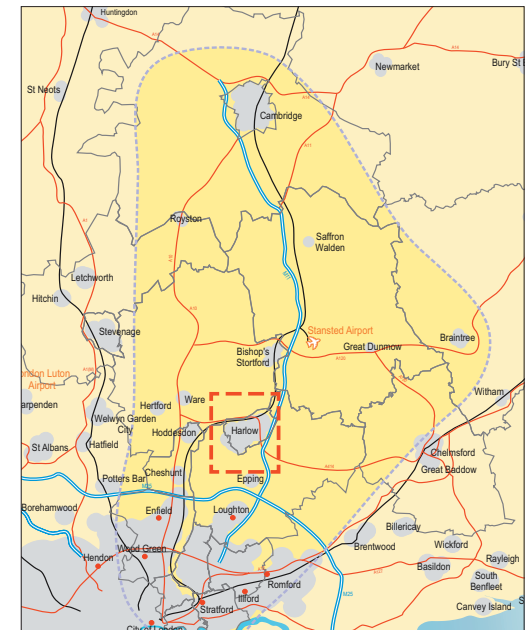
2002 - London-Stansted-Cambridge Sub Regional Study (Ecotec/DLA/Oscar Faber).

2003

- Harlow Options Study (Atkins);
- Sustainable Communities Plan (John Prescott) - £164m for the new growth areas outside Thames Gateway;
- Government providing £10.85m support for the Harlow Gateway project and £1.4m towards a range of feasibility work on environmental and landscape assessment, transportation, health, masterplanning and sustainability criteria and building capacity with further funding provided to develop a green spaces strategy;
- M11/Stansted Study (Colin Buchanan and Partners);
- Transport 'inter-urban' Study (MVA).

2004

- Greenspace Strategy (Middlemarch / Nortoft);
- Masterplanning Principles and Sustainability Criteria Study (Matrix Partnership / Halcrow / Levett-Therivel)
- Harlow Regeneration and Implementation Study (Halcrow / PACEC);
- 'Strategy Review' (Robin Thompson) commissioned to review all Stansted/M11 studies;
- Draft RPG14 'banked' (5th February);
- Draft East of England Plan (December 2004).



Harlow within the London-Stansted-Cambridge sub-regional study context (2002)

This study has been funded through growth areas funding and commissioned as one of a number of studies looking at: landscape and environment; masterplanning and sustainability; access and movement; and, regeneration. These studies will help to provide a technical baseline level of understanding that will assist with guiding any further regeneration and growth in the Harlow Area.

The Masterplanning Principles and Sustainability Criteria study called for Consultants to set the parameters for future growth and change for Harlow New Town. The study was undertaken in the context of:

- The need to understand the historical rationale for Harlow New Town against today's agenda of sustainable outcomes and increasing urban design awareness;
- East of England Regional Assembly housing requirements set out within the Draft East of England Plan for the sub-region constitute a major expansion for the town of Harlow, with potential impact on adjacent settlements;
- Regional policy objectives relating to key infrastructure and expansion of a second runway at Stansted airport, informed by regional/sub-regional studies; and,
- Existing technical assessments relating to urban capacity, landscape, ecology, and transport.

This document describes the approach and outcomes of a team towards this challenge led by Matrix Partnership and supported by Halcrow and Levett-Therivel, across 7 Chapters outlined below.

Chapter 1 introduces the background, purpose and methodology to the study and key requirements of the study brief. Five Local Authorities at District and County level are represented in the client steering group, along with GO East. The process of communication and coalescence of these views took place through Harlow District Council.

Chapter 2 sets the sustainability context for the project, establishing current ODPM guidance and policy. The baseline position towards 8 key sustainable objectives, to inform the basis of the overall study's 'principles and criteria' output is put forward.

Chapter 3 carries out a historical review of the original motives towards planning the town of Harlow. The ideologies behind Sir Frederick Gibberd and his 1950's collaborators are discussed in light of current planning orthodoxy and an understanding of urban design best practice.

Chapter 4 tests the New Town of Harlow against the set of commonly agreed urban design criteria, established in much published design guidance literature today. Critically, an

approach towards new definitions of the rural-urban interface or 'settlement boundary' is identified. Early findings and principles are proposed as summaries throughout this review.

Chapter 5 structures a comprehensive approach to masterplanning principles and sustainability criteria. Both generic and Harlow-specific principles are put forward that 'operationalise' the 8 sustainable objectives into positive outcomes related to both regeneration and new development across Harlow.

Chapter 6 crystallises these principles into 10 key 'moves' that Harlow should take forward and test in order to become a more sustainable settlement, whilst accommodating the required levels of new development. These principles include:

- (1) ***Provide a new high quality sustainable transport system;***
- (2) ***Revitalise current neighbourhoods;***
- (3) ***Town Centre revitalisation;***
- (4) ***Broaden the employment base;***
- (5) ***Foster quality spaces and streets;***

- (6) ***Intensify use of green corridors;***
- (7) ***Resource management and emission control;***
- (8) ***New neighbourhoods along the new public transport system;***
- (9) ***Creating best practice urban settings; and,***
- (10) ***Retaining an enduring Harlow spirit and character.***

Chapter 7 finally identifies the next steps required to take the principles and criteria forward, testing them against specific types of development and location across Harlow and embedding them within the local policy review process.

EXECUTIVE SUMMARY

INTRODUCTION

CHAPTER ONE

“The principle of sustainability is at the core of the Government’s policies and strategy for the environment. It is thus at the heart of planning. It focuses on the simple idea of providing a better quality of life for everyone, both now and for generations to come.”

“[The vision] sees Harlow contributing to global sustainability, with a more sustainable local environment, which emphasis quality of life and well-being.”
(Replacement Harlow Local Plan, January 2004).

1.1 Planning Context

Harlow has been the focus of much planning analysis and review since Regional Planning Guidance for the South East (RPG9 - published 2001) identified the growth potential of the London-Stansted-Cambridge corridor focused on Stansted Airport.

A summary of the key planning and transport studies which have been undertaken and some of the wider sub-regional issues which provide the background to the proposals for growth in the Harlow area are set out in Appendix 5 to help set the context for the masterplanning principles and sustainability criteria.

The proposals in Draft East of England Plan will not be finalised until late 2006 after public examination and therefore this report puts forward generic design and sustainability principles upon which any future growth and development with a Harlow focus should be based. It does not prejudice or influence issues relating to the location of any future growth that may come to Harlow as this is matter for the Draft East of England Plan process and ultimately Local Development Frameworks.

1.2 Background to the Study

The study was commissioned as one of a number of studies (Landscape; Regeneration; and Transport) to undertake feasibility work to establish a better understanding to the Harlow context and explore key issues facing Harlow in relation to its future regeneration and sustainable growth and to explore how Harlow can be transformed from an ageing declining town to a vibrant sub regional center. The studies were funded by ODPM Growth Areas Funding.

The Masterplanning Principles and Sustainability Criteria was steered by Harlow District Council with Essex County Council, Hertfordshire County Council, East Herts County Council, Epping Forest District Council and GO East forming the technical group. Regular technical group meetings allowed for dissemination of study findings, the expression of views and consensus on the study direction. In addition the consultant team reported to the Harlow Area Working Party (HAWP) that included representatives from GO-East and EERA as well as various County and District Councils.

The study began in April 2004 and included input from Halcrow and Levett-Therivel. It was set to run throughout the course of 2004 over 5 stages, concluding in 2005.

This document constitutes the draft submission on the first two stages of the main study brief (as outlined below), focusing on establishing sustainability criteria and masterplanning principles. The other stages have not yet been undertaken.

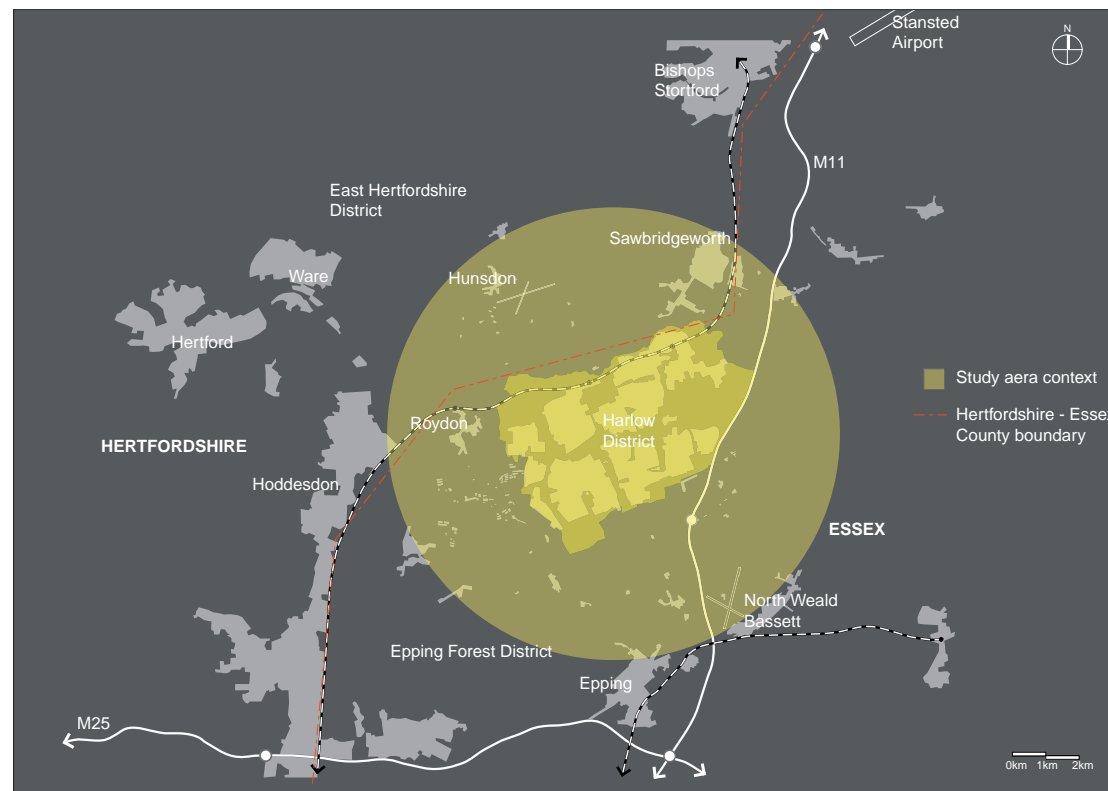


Figure 1.1: Harlow District within the wider study context.

1.0 INTRODUCTION TO THE STUDY

1.3 Principal Aims of the Study

The principal aim of the study as set out in the client brief (2nd March 2004) is "to establish an agreed set of masterplanning principles and sustainability criteria to guide regeneration developments within Harlow and possible future urban extensions".

The core brief called for the current work to set growth parameters in terms of the 'Principles' and 'Criteria' that any new development in and around Harlow would need to meet in order to promote sustainability. These principles would then be required to inform an overall spatial framework that would be tested on pilot regeneration areas within the town.

The current document will form, initially, a technical background document and the master planning principles and sustainability criteria are intended to form the basis of a Supplementary Planning Document to the emerging Local Development Frameworks for the area.

1.4 Method

The study was designed to run over a five stage work programme from April 2004 through January 2005, with stage outputs to be signed-off by the client steering group throughout the process. That process included:

Initial consultation with stakeholders to clarify key requirements and outputs of the study and to gain a quick insight into local concerns and key issues;

- A desk-top mapping survey and walking-surveys of the town, along with faster 'windscreen surveys' by car of the wider study area extending north to Hunsdon, west to the Lee Valley, south to Epping and east to the M11 was carried out in the early stages;
- Focused issue-based discussions with selected members of the client team; and,
- In-house design workshops both across the various studies' consultant teams and within the current study team.

Stage One: Setting out the scope of the overall study, including definition of the study area. A review of Sir Frederick Gibberd's original principles and spatial concepts in today's urban design and planning context. Establish links to other parallel studies.

Output: Scoping Report.

Stage Two: Review the character of the existing town against current urban design best practice. Establish the core sustainability criteria relevant to Harlow and evolve initial Harlow-specific masterplanning principles.

Output: Draft 'Principles and Criteria' Report.

Stage Three: Focuses on the review of the principles developed in Stage Two through consultation with Client Stakeholder Group and physical application to new growth locations and a regeneration area. Rural impact/mitigation measures are considered and the principles are revised as necessary.

Output: Design testing on a regeneration area and Growth Area (Addendum Report to main study)

Stage Four: Prepares material for and running of the Consultation event - (to be confirmed).

Output: Consultation material (large format boards) and write-up of event (report format).

Stage Five: Revises the final masterplanning principles in light of the consultation event. The overall framework for growth is reviewed by the Stakeholder Group, and the final 'Principles and Criteria' delivered.

Output: Final report - 'Principles and Criteria'

Stage Three has only considered the application of principles to new growth locations, while testing on regeneration areas existing neighbourhoods) has been delayed. Consultation on the study findings is to be carried out on agreement of all pilot locations.

Consultant Team

Matrix Partnership Ltd. (lead consultant) was supported by Halcrow, who provided regional planning policy review and transport planning expertise, and Levett-Therivel, leading experts on sustainability and lead consultants for the Sustainability Appraisal and Strategic Environmental Assessment of Draft East of England Plan. The Bartlett School of Planning at UCL were called on at key points to assist in links to latest Government policy as it relates to the urban Design agenda.



Visiting the areas around Harlow, April 2004.



Inputting across the consultant studies.



An aerial view of Harlow.

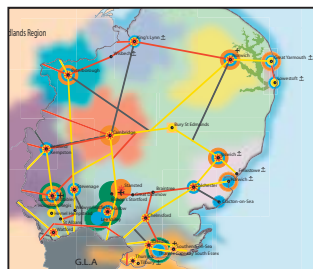
1.5 Harlow - the context for change and scale of growth

The New Town of Harlow has suffered manufacturing decline, its existing building stock and community infrastructure is becoming obsolete, and the town centre is in need of regeneration and renewal is compounded by poor accessibility. Harlow must manage change into a high quality, desirable location for living and working, or risk further decline. To achieve this shift, substantial levels of investment are needed for Harlow to fully exploit its prime location in the prosperous M11 corridor. Harlow is located to the south of the East of England region, with existing links (road and rail) to 'growth poles' such as Cambridge, Stansted and London. The town is within the London-Stansted-Cambridge-Peterborough growth corridor, one of 4 proposed major growth areas in the South East.

The draft East of England Plan identified that growth could be driver for regeneration and Harlow is identified as strategic employment site, a priority area for regeneration, a regional interchange centre and subject to green belt review. The Draft East of England Plan sets a number of objectives for Harlow over a 15-20 year period, defining its role within the region and sub-region. The Draft East of England Plan has outlined that Harlow should develop as the key regional centre, with new development allied to regeneration priorities and measures to address social deprivation.

The scale of growth that Harlow may be required to accommodate over the following decade would be considered a major expansion of the existing settlement. The Draft East of England Plan proposes 20,700 new dwellings to be accommodated across Harlow, Epping and East Herts. Proposals are for 8,000 within Harlow of which 3,000 are to the east, 10,000 to the north of Harlow, implying that the remaining 2,700 dwellings are to be accommodated to the south and west. However these proposals are subject to examination in public before they are finalised. A further 6,000 dwellings are proposed for North Weald.

As an illustrative guide, Figure 1.2 indicates the land take required by 18,700 new dwellings. The requirement (at assumed current Harlow densities) of some 740 hectares gross (incl. of public open space and amenities), is roughly a quarter the size of Harlow again.



East of England Draft RPG 14 - Key Diagram

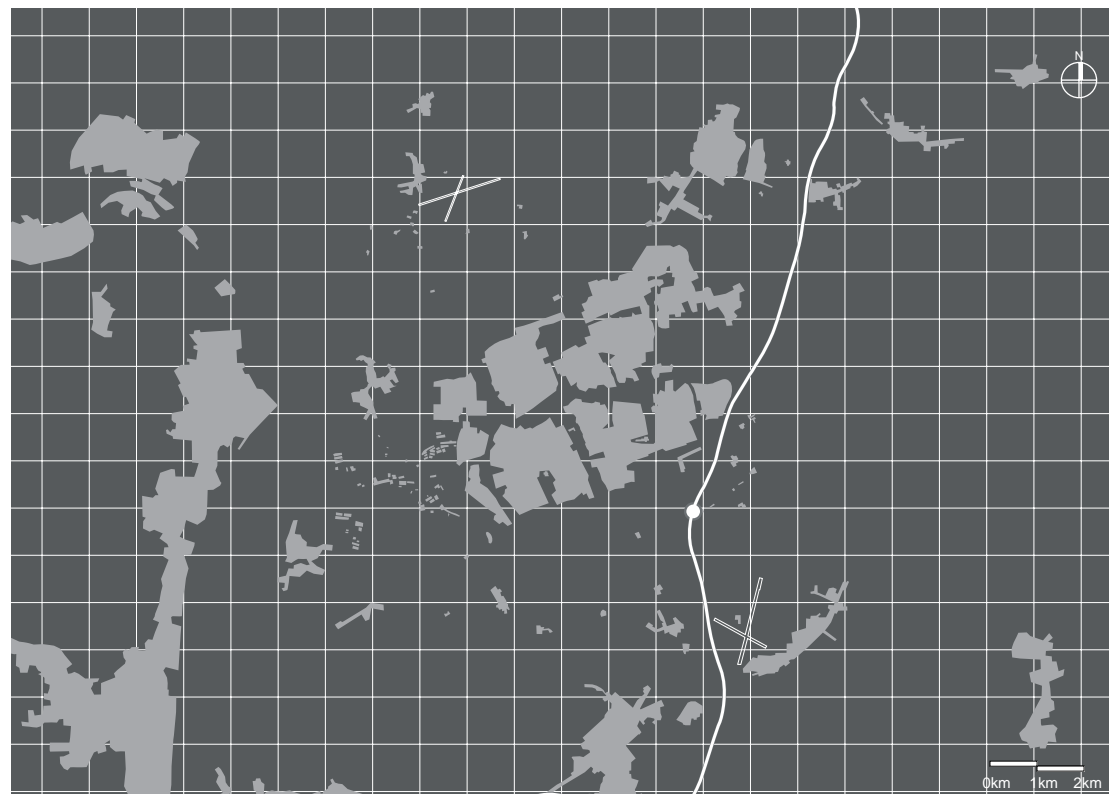
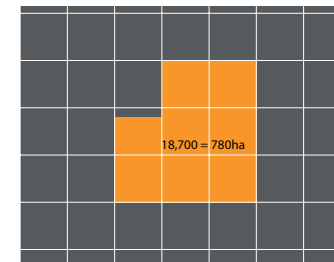


Figure 1.2: Illustrating the scale of Harlow's housing targets.



THE SUSTAINABILITY CONTEXT

CHAPTER TWO

The distinctive challenge of sustainable development is to reconcile aspiration and constraint. It is not good enough to 'balance' these in the sense of trading them off against each other. We fail if we give people a good quality of life now at the expense of damaging the environment or restricting the opportunities available for future generations. But we also fail if we protect the environment only by thwarting the aspirations and cramping the lives of people here and now.

2.1 Introduction

Since the New Town of Harlow was planned and designed, basic human needs have stayed the same, but the way these are fulfilled has changed. So although the core urban functions of providing decent homes and employment in an attractive setting are still there, the emphasis given to different issues has changed on several fronts. In particular an awareness of the sustainability agenda and the focus on 'outcomes' as measures of quality of life.

The need to consider sustainability is clearly now a major focus. The New Town must be seen not as a blank 'canvas' to be drawn upon, but as a set of closely interlinked environmental, social and economic systems whose overall performance in delivering human quality of life now and for future generations, with the least environmental damage, should be improved.

The plan for Harlow made thoughtful use of green spaces and landscape, but today's sustainability-oriented agenda would give more weight to ecological value and biodiversity as well as the traditional use of green space for its visual and recreational value and providing 'definition' or 'separation' of neighbourhoods. Sustainability considerations would promote the development of a compact form to minimise travel and landtake as far as possible. Other considerations also tend to favour roads and road layouts that might be designed to discourage car-borne travel rather than to expedite it.

The idea of a town being designed on the basis of more or less self-contained neighbourhoods has a resonance with today's desire for 'walkable catchments' and mixed use developments offering the choice to live and work in the same locality. However, we no longer make the same assumptions about people necessarily using their local school or local shops. Further, the general idea of self-containment has been largely exploded, through increased mobility, telecommunications and globalisation.

Commuting patterns have changed, especially in relation to 'who is doing the commuting' ie. not just a single 'breadwinner' per household, but households with two partners working and perhaps driving to work in opposite directions, leading to complex patterns of in-commuting and out-commuting. Along with the reduction in need for physical separation of 'industry' from residential areas, journey to work patterns have changed further.

The demand for housing is clearly a key driver for development then and now, although today we plan for smaller households and there is greater emphasis on the private sector to deliver them.

The physical setting of residential areas and sense of place is still considered important, perhaps more so, whereas many of the 20th century new towns could look rather like each other, at least as far as housing stock is concerned. There is greater emphasis today on the need for context-sensitive design and respect for local traditions and styles of building. This extends to the idea of a shift away from open-plan layouts, back to



Harlow - intended to create genuine communities with good access to services and amenities (Harlow Town masterplan, 1952)



Harlow - Design quality of residential areas was compromised by regulation and procurement factors

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more streets-oriented approach, using streets as urban places rather than just roads as traffic arteries. Future development must now seek to promote broader and wholistically considered sustainable aims, creating environments that encourage non-car reliance on movement patterns and minimising the need to travel.

2.2 A Progressive Sustainability Agenda

Over 100 definitions of sustainable development are in currency. The two most famous, and frequently quoted worldwide, are the Brundtland Commission's 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs, and the WWF/IUCN 'caring for the earth' definition 'improving the quality of life within the carrying capacity of supporting ecosystems'. Both emphasise a feature which distinguishes sustainable development from environmental protection or social welfare: the tension between an aspiration - to meet human needs, or improve the quality of life - and a constraint - to live within environmental capacity, to avoid foreclosing the options available to people in the future.

The distinctive challenge of sustainable development is to reconcile aspiration and constraint. It is not good enough to 'balance' these in the sense of trading them off against each other. We fail if we give people a good quality of life now at the expense of damaging the environment or restricting the opportunities available for future generations. But we also fail if we solely protect the environment and limit the fulfilment of other needs.

In the most general sense, sustainable development of Harlow therefore means developing the town in such a way as to meet human needs and aspirations while not breaching the environment's capacity to support all eco-systems. These both have specific local dimensions: the needs and preferences of Harlow's current residents, and the town's particular environmental characteristics. But they both also need to be set in a broader context. Harlow needs to make its contribution to environmental targets at higher spatial scales. The Strategic Environmental Assessment of the East of England Plan highlights water resources management and maintaining and consolidating wildlife habitat as important issues relevant to the Harlow area, while the national target to reduce greenhouse gas emissions by 60% by 2050 has big implications for development everywhere.

The Government's belief that supporting major economic and housing expansion in the south east of England (26,700 homes) is in the national interest has been strongly criticised on sustainability grounds. However Harlow needs growth to reverse downward decline and must be planned to provide a good quality of life for a large number of new residents as well as those already there. Reconciling this with the environmental constraints outlined will require a vigorous and ambitious planning response.

(1) ODPM (2003) Sustainable Communities: building for the future

We next review generic knowledge and advice about sustainable settlements before applying this to Harlow's specific circumstances

2.3 Generic Sustainable Settlements Good Practice

Two key authoritative sources are drawn from that reflect both current thinking and Government adopted advice. The ODPM's Sustainable Communities Plan: building for the future (2003) and earlier Millennium Villages and Sustainable Communities initiative (ODPM, 2000) propose that more integrated sustainable settlements could be achieved if sustainability aims were adopted as central objectives, including utilising locations that include an availability of 'sustainability infrastructure' (e.g. good quality public transport). Such objectives are set out in this section.

The Government's Sustainable Communities Plan(1) lists some 'key requirements of sustainable communities':

- A flourishing local economy to provide jobs and wealth;
- Strong leadership to respond positively to change;
- Effective engagement and participation by local people, groups and businesses, especially in the planning, design and long-term stewardship of their community, and an active voluntary and community sector;
- A safe and healthy local environment with well-designed public and green space;
- Sufficient size, scale and density, and the right layout to support basic amenities in the neighbourhood and minimise use of resources (including land);
- Good public transport and other transport infrastructure both within the community and linking it to urban, rural and regional centres;
- Buildings – both individually and collectively – that can meet different needs over time, and that minimise the use of resources;
- A well-integrated mix of decent homes of different types and tenures to support a range of household sizes, ages and incomes;
- Good quality local public services, including education and training opportunities, health care and community facilities, especially for leisure;
- A diverse, vibrant and creative local culture, encouraging pride in the community and cohesion within it;

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- A “sense of place”; and,
- The right links with the wider regional, national and international community.

These issues are considered in relation to their applicability to Harlow at a masterplanning level and a detailed review is included in Appendix 1a.

The second key source is drawn from the ODPM’s earlier research on evaluation of sustainable communities (*Millennium Villages and Sustainable Communities, 1999*). A more detailed list is applied, (as set out in Table 1) that forms the core headlines of the sustainability criteria context for this study.

Table 1

1 ENVIRONMENTAL RESOURCES
How much greenhouse emissions does a resident produce through energy use in the home?
How much treated water does a resident consume living in the home?
How much greenhouse emissions does a resident produce in daily travel (especially by car?)
How much greenhouse emissions does a resident incur in buildings / infrastructure?
How much aggregate is used in the construction? How much of this is virgin?
Land take per resident
2 ENVIRONMENTAL BENEFIT
Has the development avoided or substituted for any loss of quantity or quality of important environmental benefits and services provided by the site?
Has the development increased or enhanced any important environmental benefits and services already provided by the site, or secure new ones?
3 DESIGN QUALITY
Local Identity Is this a place of character and distinction that strengthens the existing community or creates a new identifiable community neighbourhood?

Beauty Are the designs considered attractive?
Provision of Open Space Is there sufficient suitable open space to provide for all the residents’ needs and wishes (including informal/’untidy’ recreation)?
Accessibility and Integration Do the quality, location, frequency, convenience and image of walking, cycling and public transport facilities make them attractive alternatives to the car? Is there a network of convenient and comfortable routes within the site that link with the surrounding context favouring pedestrians, cyclists, public transport and other vehicles – and in that order?
Security and Safety [Cross-reference- quality of life] Does the configuration built form help safety and feelings of security?
Legibility Does the design make it easy to find your way around and make the function and ownership of spaces clear?
Privacy Do gradations of public to private space fit with the cultural and lifestyle preferences and promote local community cohesion? Are the boundaries ‘legible’ to users? Are private spaces free from overlooking, noise and light pollution?
Personalisation Can occupants express their personal tastes and preferences in the way they inhabit and modify their environment?
Disabled Provision Are buildings accessible to, and usable by, people with disabilities?
Adaptability Can buildings and open spaces accommodate shifts in user requirements arising from changes in demography, technology, affluence and lifestyle fashion with the minimum resource costs?
Interior Space Do homes have sufficient space to meet user requirements?
Construction Quality Are the new building works free from defect?

2.0 THE SUSTAINABILITY CONTEXT

4 QUALITY OF LIFE / CHOICE

Are high quality public services accessible to all residents? Does the development improve access to services for other local people?

Does the development help reduce crime and residents' fears of crime?

Does the settlement make secure and fulfilling work opportunities available to all who want them?

Will the settlement make it easier or harder for other people in the area to get and keep jobs?

Can everyone in the settlement get appropriate training when they need it?

5 EQUITY / INCLUSION

What opportunities /initiatives are there for the intermediate labour market, LETS etc in the area?

How is the voluntary sector being integrated to improve equity?

Does the settlement have a diverse social mix, and how is this achieved?

How are equity and equal opportunities promoted in the development process and when the development is occupied?

6 COMMUNITY PARTICIPATION / GOVERNANCE

How much say do the people who live or work in and near the settlement, or are otherwise affected by it have over:

- the nature of the settlement (including whether there should be one at all);
- how it is developed and implemented;
- how it is run and managed once it exists.

How lively is the community sector?

7 ECONOMIC VIABILITY

How much public funding was required to make the development happen?

Is any extra / special public funding needed to keep the settlement functioning?

8 INTEGRATION OF ALL THE ABOVE OBJECTIVES

Does development enable people to live well with less resource consumption?

An analysis of these 8 objectives in relation to Harlow can be found in Appendix 1b.

THE GIBBERD REVIEW

CHAPTER THREE

This section carries out a review of the original intentions and objectives towards the design of Harlow New Town by Sir Frederick Gibberd. The review is based on material published in 'Harlow New Town - Masterplan', August 1952 (first published 1947). Also reviewed is 'Harlow - The Story of a New Town' (Frederick Gibberd et al, 1980). The purpose of such a review is to identify those characteristics, which, due to changing circumstances have become dysfunctional over time. Our intention is to remain true to the *spirit* of the original idea but recognising that specific interventions in the *fabric* will be required today in order to do so.

3.1 Overriding Principles

3.1.1 A “self contained balanced town” for 80,000 people.

Extremely close to the present day population, but land-take is greater due to drop in population density (occupancy) from 3.8 in 1961 to 2.4 today.

3.1.2 Describing shortcomings of conventional (post war) approaches to town planning “at the worst they need only provide a *Factory Estate, a series of Housing Estates, and a Town centre, all sub-divided by an open space and parkway system*”

Exactly what was built! The implementation therefore led to a town form different from that envisaged, which Gibberd makes clear reference to.

“... we must be careful not lose the most characteristic feature of any great town, that of *Urbanity*” and,
“It is the urban quality which one senses in such towns as Edinburgh, Bath, Oxford, and Florence which must be captured in the new town of Harlow”.

3.1.3 “How is the urban quality captured? Certainly not by regarding town planning as the preparation of a map showing different coloured areas for different purposes and for different circulations”

Exactly the message put across in the Urban Task Force Report. The masterplan for Harlow, however, was laid out in exactly this manner with no specific design guide.

3.1.4 Architecture and Civic Design: “A Masterplan must make possible fine architecture” and “the relationship of the buildings to each other – Civic Design.”

This is how we would regard urban design today, and further to:

- “think of the spaces between them as volumes”: not “an average housing estate [that] is dull and lacking in qualities of Urbanity, because buildings of similar size are equally spaced along roads of similar width. [With] no sense of space enclosure at all...”
- “..arrange buildings in groups – with continuity between the buildings themselves and the spaces they enclose, and enclosed spaces varied in shape and size (height and plan): plan in three dimensions”.

Harlow does not exhibit typical street types. Many of the streets would be better defined as roads to expedite car movement. Where local streets do exist, building edges are discontinuous, leaving unproductive pieces of open space.

3.1.5 “Splendid Urban Areas... are limited in size”: 80,000 people ‘broken down into compact units by areas of landscape’, each related to “open spaces required for use, such as parkways and playing fields”.

Neighbourhoods often ‘back’ onto green wedges and therefore fail to connect with each other. Differentiation in character (identity) can be achieved without enforced

wedges as is the case in many of the quality towns cited earlier by Gibberd (Florence, Bath, Edinburgh etc);

3.1.6 Time: establishing “roots with the past: preserve the form of landscape and buildings of any worth; integrating them with new buildings”.

Harlow responds and draws sensitively from its natural setting, respecting natural topography and water features. Local historic buildings of note are retained. Some new development however ‘encases’ and disconnects former villages (Churchgate).



Poor connections between old and new areas in Harlow (Churchgate Street)



Figure 3.1: Harlow Town Masterplan by Sir Frederick Gibberd, 1947. “..a plan of different coloured areas for different purposes..” exactly what Gibberd stated he was to avoid.

3.2 Plan Pattern

3.2.1 Evolve *“the pattern of the new development ... from the existing topography”*.

The footprint of Harlow is located within the southern ridgeline and northern Stort valley, and local elevation guides neighbourhood layout. Much of the built fabric is nestled and screened by planting and landform. The Town Centre is on higher ground.

3.2.2 Provide efficient means of access from the main road system.

The current movement and access pattern was entirely different from that envisaged – see ‘Circulation’ below.

3.2.3 The railway line, river and new road as the ‘baseline for the town’ – with the Hertfordshire Hills free of building to the north.

Gibberd’s baseline suggests a restriction on development north of the Stort. Current best practice, however, seeks to maximise highly accessible locations and Regional growth pressures will call into question Harlow’s existing settlement boundary.

3.2.4 *“If the town is to be a coherent unit no part must straggle too far from the centre” – the semi-circle establishes a compact perimeter. Railway and bus stations are conveniently placed close to the Town Centre, which is placed on the top of the hill and “... extended to the railway station by an area devoted to sports, housing and service industry”.*

In perceptual terms this has led to the railway and Town Centre seeming far-removed.

3.2.5 Industry is situated in the valley with its road and rail communication – efficient means of access to the motorway *“without crossing the area of the town proper”*.

The realignment of the then Norwich Radial to become the M11 meant this was never the case.

3.2.6 Valleys and brooks are preserved, with the Stort an important river valley.

3.2.7 Housing Groups in clusters *“on the high ground, clear of the main traffic connections, with natural features as barriers between them”*

These ‘barriers’ have undermined the ‘urbanity’ of the town, rather than help define it.

3.2.8 Creation of a Central Area and three other major centres.

The outlying neighbourhood centres perform poorly in economic & social terms today.

3.3 Landscape

3.3.1 *“A design which both contrasts landscape with building groups and welds them into a coherent whole”*

The landscape reads most clearly as the dominant element across Harlow, while built form fails to provide a convincing and contiguous civic sense of place. The urban realm does not adequately define open space within the town boundary.

3.3.2 Links to the countryside *“projected into the area as wedges, which bring rural life into immediate contact with the urban area”* - kept as natural as possible and designed to embrace natural features such as valleys, woods, brooks and quarries
- as *“broad as possible, to avoid bricks and mortar merging into one vast area”*;
- include secondary schools to expand the wedges.

The green open spaces are highly valued by local people – but the way that ‘wedges’ have become a divisive urban element, lined by rear garden fences, is at odds with Gibberd’s advocacy of integrated ‘Civic Design’

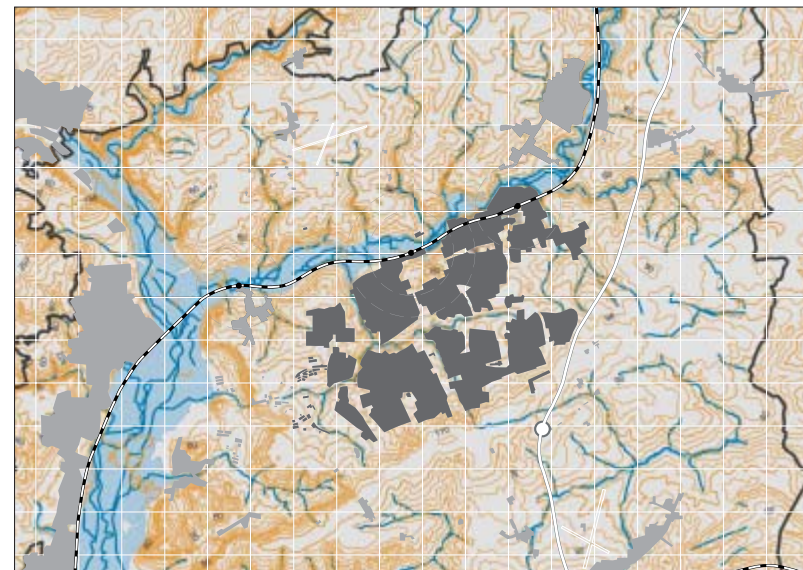


Figure 3.2: Gibberd envisaged Harlow New Town to respond sensitively to existing topographical features, particularly the southern ridgeline and northern Stort river valley.

3.3.3 Gibberd set space standards of 4 acres per 1000 persons for 'public recreation' and sought to relate facilities to neighbourhood centers. In addition 1 ½ acres of allotments, 2 acres of 'private recreation areas' and 1 acre of parks and parkways per 1,000 persons, which allows for a total of 8 ½ acres/1000 persons.

This constitutes significantly more than the conventional 6 acre standard

3.3.4 "A footpath system independent of the main town roads" as part of the landscape pattern.

The result is reduced activity on, and perceptions of safety of footpaths. Current approaches would integrate and focus movement modes along street systems.

3.4 Circulation

3.4.1 **Road system:** (see Figure 4.3 overleaf) The route of the regional motorways – the "Norwich Radial" (now M11) and the North Orbital (now M25) have a major influence on the New Town location and layout.

The motorways took an entirely different route from that envisaged, fundamentally undermining many of the assumptions in the Gibberd Masterplan. It was anticipated the main radial road from London would skirt the town west of the Pinnacles and run along the northern valley slopes to the north of the town, whilst the M25 was to have been aligned much closer to the town. Realignment of the A11 was implemented - extending from the present-day Junction 7, along the present A414 on the eastern edge of the town and connecting to the A1184 – but it was never envisaged that the M11 would be built east of this.

The circulation principles were:

- Access from London via a new road from the Norwich Radial to the north west (by the Pinnacles);

Norwich Radial never built

- Access from the north via a new road from the Norwich Radial to the north (by the railway station);

Norwich Radial never built

- Access from the North Orbital enters via the south-west – converging on the Pinnacles;

Connection never built

- Traffic from Epping uses the realigned A11 (present day A414 – A1184);

Built as intended

- East-west B183 diverted to pass through south of the town;

This 'local approach' was upgraded to Southern Way

- New road along baseline connects two industrial areas and railway station – "*the industrial estates thus have direct access to the region*";

With re-alignment of the M11 replacing the Norwich radial, access to the two industrial areas became constrained in a way never intended.

- Radial roads run in the natural valleys to meet at the Town Centre, which is bypassed;

Potential negative impacts of bypassing on vitality and viability are now realized.

- Roads designed as "an integral part of the landscape structure, and have dual carriageways";

Now seems contradictory, and potential negative impacts are now realised.

- Secondary north-south roads intersect the radials to provide north and south connections between the Housing Areas and the Industrial Estates;

Implemented as envisaged

- Local roads run through neighbourhoods to give easy connection to residential areas, the shopping and neighbourhood centers and the main town roads – designed so that traffic is led naturally towards the neighbourhood center;

In reality the primary routes running past neighbourhoods have made it easier for residents to access amenities elsewhere. The circulation network presumes workers live close to industrial areas. This is far from the case now, and centres have been bypassed. Increased mobility due to the explosion in car use has changed employment patterns.

3.4.2 **Bus Routes:** "*passing bus routes through residential areas and linking up major Town Centres*": therefore follow a radial route. All routes pass through a bus station in the Town Centre.

The bus network services Neighbourhood Centres and connects into surrounding residential neighbourhoods. The Town Centre acts as town-wide bus interchange.

3.4.3 **Cycle Tracks and Footpaths:** Circulation to the Town Centre, neighbourhood centres and industrial areas provided by cycle tracks and footpaths that are independent from roads (using underpasses where necessary). These take the shortest possible route – and therefore run through residential areas

Current orthodoxy has moved away from modal separation. The current cycle usage split is very low (3%), in part due to the location of footpaths running through areas with no natural surveillance from development.

3.4.4 **Rail:** The new station built as intended. A rail freight goods yard was also built to serve a sub-regional function integral to the eastern Industrial Estate, beside the present-day Harlow Mill Station.

3.0 GIBBERD REVIEW



Figure 3.3: Comparison of circulation networks - 'Then' and 'Now'

3.0 GIBBERD REVIEW

3.4.5 River: Navigable in both directions and envisaged as potentially used for freight transport.

3.4.6 Air: The potential expansion of Stansted was being considered. A helipad was also proposed south of Town Centre for a cross-country helicopter service.

3.5 Use Distribution

3.5.1 Employment Areas

The following principles hold good today:

- Industry placed for ease of access close to railway, motorways and potential canal wharf (the latter never implemented as intended);
- Service industries placed adjacent to the town centre;
- Employment not concentrated in one large area;
- Buildings placed closely together to form “a series of street pictures with untidy back areas shut out of view”;
- Direct footpaths and cycle routes to residential areas;

It was anticipated that 20% (16,000) of the 80,000 population would work in the employment areas. (presumably the employment density is considerably lower



Figure 3.4: Location and walkable catchments of employment areas.

3.0 GIBBERD REVIEW

3.5.2 Residential Areas

- 14 small, compact units – each with its own Primary School and sub-shopping center within close walking distance;
- Each with a 4,000 to 7,500 population;

Which would suggest 1,300 to 2,500 units applying present-day 2.2 person/unit – similar to primary school catchments today

- To foster neighbourliness and cohesion;
- Each separated by natural topography, planned open spaces and common land;
- Average net residential density of 50 pp acre.

At the then occupation density of 3/unit, 50pp acre / 125 persons per ha would yield 41 units per ha).

- Densities graded: higher adjacent to the Town Centre, lower in outer areas and deep valleys (Masterplan, 1952, p15);
- Each 'Major Neighbourhood Centre' (4 including the Town Centre) has approximately a ½ mile catchment area;
- Each 'Major Neighbourhood Centre' would have "fifty to sixty shops" together with "a post office, bank and commercial offices. Other social amenities normally included are two public houses, a dance hall, restaurant, church, health and community centre. An area of service industry is planned adjacent to the main centers to accommodate builders, cobblers, electricians and other servicing trades..."

Clearly this quantum of uses proved to be unviable and massive changes to the dynamics of retail and service sectors, coupled with much greater personal mobility, undermined the level of 'self sufficiency' originally intended.

The 3-tiered hierarchy of Town Centre, Major Neighbourhood Centre and Neighbourhood Sub-Centre is no longer viable with current movement patterns.

- Each neighbourhood contains a sub-centre – usually near the Primary School – "with shopping facilities catering to the daily needs of the population";
 - normally... "four or five shops, a public house, a community hall and perhaps a church";
 - "quarter of a mile is the maximum distance from any part of the neighbourhood";

¼ mile = 400 m (5 minutes walk) – remains the rule of thumb today. Sub-centres were laid out within the walkable catchment limits though expansion of neighbourhoods has left some areas outside of these limits. Many of the sub-centres contain only 1 shop and a pub and are in a state of disrepair.

- A Primary School in each neighbourhood with pedestrian approaches or quiet lanes – children do not need to cross busy roads. Secondary Schools in green wedges.

This is not always the case. Generally primary schools are well distributed within neighbourhoods though expansion of some neighbourhoods have put schools beyond '5min' walkable catchment zones (Fig 6.6). Some Secondary Schools locate along busy primary routes with poor crossings into residential areas (see photograph below).

- Each neighbourhood comprises Housing Groups, each with 150 to 500 dwellings For visual variety and social grouping three possible groupings were considered:
 - with its own play space and possibly common room;
 - with the Primary School, small group of shops, hall, public house and recreation area; or,
 - where the neighbourhood cluster (population 15,000) focuses on a major shopping, social and sports area.

Some neighbourhoods include specific Estates of poor built quality with poor visual richness/variety/experience (eg Barley croft, Copshall Close). These let down the overall image of the Neighbourhoods.



Secondary School along First Avenue. Dangerous crossings and poorly designed connections into adjacent housing.

3.0 GIBBERD REVIEW

3.5.3 The Central Area

- Sought close links between the centre and adjacent housing.

Yet highway design had a severing effect.

- “car parks are distributed around the centre and the entrances are plentiful and easy to access... This planning system thus draws off the road traffic entering the centre, leaving the inner core primarily for pedestrians.”

Though the Town Centre succeeded in achieving a pedestrian only environment, the result was an introverted form, with backs/rear service areas lining the external street and a core area lacking ‘high street’ feel and activity from all modes of movement.

- “It is of prime importance that the Central Area should at all times be alive”, with a diversity of “overlapping functions”

This was not the case as housing was banished from the Town Centre, thereby removing occupation from upper floors after normal working hours. Current understanding today is to achieve a 16hr activity period for core public areas.

The poor performance of the Town Centre has been recognised by Harlow District Council and a number of studies are underway to consider improvements including rebuilding the connections to adjacent town blocks and neighbourhoods (Town Centre North masterplan study, DLA). Other studies such as Gateway Masterplan review the potential for the area between the railway station and Town Centre to be brought forward thereby seeking to redress the remoteness of the station from the central area.



Figure 3.5: Pedestrian connections to & from the Town Centre are severed by the 'ring-road'. Parking at the edge results in a poor street frontage.

3.6 Key principles to take forward in today's context:

Strategic goals

- Overall population may expand beyond the 80,000 as originally planned;
- Planned densities acceptable at 41DPH and in line with PPG3 requirements;
- Achieve high quality civic design from overall layout to detail street, space and building;
- Reinforce unique neighbourhood identity and character, with open space designed to connect across them;
- Integrate new development & renewal with existing built structures of merit. Reinforce natural landscape forms.

Plan pattern

- New development to evolve from an understanding of clear landscape and ecological conditions;
- The 'baseline' to be reinforced as a strategic, connecting spine;
- Maintain acceptable catchments, both town-wide to the rail station and the Town Centre;
- Reinforce 3No. existing major sub-centres and Town Centre. Consider new sub-centre(s) for new major expansion;
- Employment to be designed and located in relation to ease of (strategic) access;
- Green corridors to be designed as integrating elements across neighbourhoods rather than divisive.

Landscape

- Establish clarity of 'inner' rural open space (wedges) to built fabric;
- Green corridors/wedges to embrace natural features (brooks, valleys etc.);
- Open space (Gibberd 8.5acres per 1000 pop) to be reassessed to support urban form or recreational uses;
- Address the many instances of SLOAP (space left over after planning) with well defined built form.

Circulation

- Changes to the road system to be driven by Public Transport improvements. Need for upgraded/new radial connections and highways must support the take-up and success of any new PT system;

- Strategic road access to employment areas to be improved;
- Expand the function of the rail freight station at Harlow Mill;
- Maintain clear foot & cycleways along primary routes including dual carriageway status. Restructure connections elsewhere to run along streets, avoiding alignments along backs of housing areas;
- Improve quality and frequency of crossings at local centres / schools and other amenity.
- Rethink design and provision of road network in light of massive increase in car ownership and use.

Use Distribution

- Ensure future employment is well served by public transport, road, rail (freight), and within walkable catchments of rail stations;
- Broaden the employment type and accommodation profile at existing locations;
- Secondary sectors / service industry to be located within close proximity to the central area;
- Introduce residential uses into the Town Centre, contrary to Gibberd's masterplan;
- Distribute appropriate employment uses into neighbourhood centres and develop these centres as fully functioning, mixed-use amenity cores;
- Redevelop poorly functioning local hatches for residential or other uses;
- Ensure neighbourhoods have a high quality, predominant character with a broad mix of housing types and tenures;
- Achieve minimum populations of 7,500 for neighbourhoods at density of circa 40DPA, or over, increasing closer to the Town Centre and neighbourhood centres.

Central Area

- Encourage greater connectivity of the Town Centre to adjacent housing areas;
- Allow comprehensive restructuring of the Town Centre to address service access, poor edge quality, entry, nature of street space (possibly introducing vehicular through movement);
- Address designation and design of the ring-road encircling the TC - consider downgrading to a lively, actively fronted boulevard;
- Increase the mix of use to generate longer activity periods and broaden the TC 'offer';

URBAN DESIGN ASSESSMENT OF HARLOW

CHAPTER FOUR

Over the last 10 years there has been huge progress in understanding the fundamental design principles of successful places, or what could be called the 'DNA' of good urban design. This chapter reviews the performance of Harlow against these nationally agreed principles.

4.1 Introduction

Over the last 10 years there has been huge progress in understanding the fundamental design principles of successful places, or what could be called the 'DNA' of good urban design. Such principles are, never the less, generic and require in parallel a detailed understanding of the local place and subsequent interpretation for the specific character condition (e.g. the spatial patterns and unique character of Harlow). For the purposes of this study the following seven principles are put forward as a commonly accepted benchmark to procure successful place-making and each are explored in turn across Chapter 4:

1. **Ease of movement/access:** a place that is easy to get to and move through - particularly for pedestrians, cyclists and public transport;
2. **Character:** a place with its own identity. Relates as much to comprehensive patterns for an area, as building-specific detail;
3. **Legibility:** a place that has a clear image and is easy to understand;
4. **Continuity and enclosure:** a place where public and private spaces are clearly distinguished and where spatial sequences are reinforced through visual connections between streets and spaces;
5. **Diversity and mix of uses:** a place that has variety and choice;
6. **Adaptability:** places that can change over time;
7. **Quality of the public realm:** a place with attractive and successful outdoor areas;

These seven principles are embedded in each of the most recent national design guidance documents to be prepared at national Government level, namely:

- **By Design: Urban Design in the Planning System: Towards Better Practice** (DETR/CABE, 2000) - a companion guide to PPG1;
- **By Design: Better Places to Live** (DTLR/CABE, 2001) - a companion guide PPG3;
- **Going to Town: Improving Town Centre Access** (DTLR, 2002) - a companion guide to PPG6;
- **The Councillor's Guide to Urban Design and Creating Successful Masterplans: A Guide for Clients** (CABE, 2004).

These core seven issues are augmented by more detail design criteria and would be the subject of Harlow specific design guidance at a later stage. A particular characteristic of Harlow is the lack of human scale in its road design with a similar approach taken to the design of many of the buildings in the Town Centre. Large block sizes and 1960's comprehensive style to planning add to this condition.

A second and salient condition for Harlow relates to the approach to design and definition of its urban-rural interface. This area of focus has increasing currency in the current climate of proposed settlement growth and Harlow must address this issue. The following section 4.2 presents the context for a new boundary definition for Harlow.

4.2 Settlement Growth - Defining the Edge

The definition of the boundary between rural and urban conditions is becoming an increasingly important area of investigation. As pressure for new growth presents increasing potential for impact and change on rural landscapes, the need for clarification in terms of both form and role of the urban edge is increasing. Redefinition of the 'edge character' of Harlow New Town in the context of current regional growth targets is therefore required.

Dispersed to compact forms

Good practice guidance and the sustainability agenda have, since the early 1990's, advocated a case for the intensification of suburban locations and multi-nodal patterns of activity within the metropolitan boundary. Traditional linear grading of development from the town/city centre, town centre fringe, to urban fringe, the suburbs and rural open space, has been replaced with different aspirations and support for stronger definitions of an urban edge (Fig. 4.3a, b). New models propose a network of compact and well serviced centres, separated by green amenity areas (Towards an Urban Renaissance, Urban Task Force 1999), in fact not dissimilar to Harlow's 1950's plan intentions.

European Regions that have traditionally invested heavily in public transport infrastructure, such as the Randstad, have already developed from a radial to a gridded structure. Current work by transport consultants MVA (inter-urban strategic study for Harlow Council) reflecting previous options presented in the Harlow Options Study by Atkins already begin to give increased emphasis to the incorporation of its town fringe and the wider hinterland into a more interconnected pattern of places (potential new high quality Public Transport link from Epping through Harlow and northwards). If the Draft East of England dwelling requirement is adopted then Harlow Area would need to accommodate significant numbers of new dwellings, which would result in change to the town form at the edges. There will also be a need to understand the new patterns of exchange and relationship across settlements that are likely to occur within a wider 'metropolitan boundary' definition that extends to include London-Stansted-Cambridge-Peterborough.

Settlement boundaries

The notion of settlement boundaries (both urban edge and administrative) is becoming increasingly blurred due to the realities of overlap in access to services and amenity, and landscape / topographical features. Harlow is no exception and was conceived as a new town to support the growth of London. More recently, growth in the knowledge economy developing around Cambridge and the explosion in air travel at Stansted can be expected to be key drivers for Harlow's new metropolitan role.

The role of the town edge

The town edge should aim to mark a clearly different condition between urban and rural character. Harlow has tight administrative boundaries which necessitates development beyond in order for new growth to be achieved. To promote the consolidation and intensification of that growth within and around Harlow, it may be necessary to define a

4.0 URBAN DESIGN ASSESSMENT OF HARLOW

new development envelope that straddles administrative boundaries.

Harlow's northern town edge sits along the Essex/Hertfordshire County boundary while the District boundaries of Harlow, Epping Forest and East Herts are even more closely approached. The aim of any new development north, west or south is to function as one settlement within a number of administrative areas, focused on access from the M11 Junction 7 and the WAGN rail service stations in Harlow. To link the new developments so they do not function in isolation is the challenge to be achieved through urban design solutions.

Given the poor definition of many of Harlow's 'edges' (low-rise housing backing onto open space and unsightly industry/office premises along the Stort river valley), the approach towards growth and change must seek to establish new 'edge condition(s)' for the town, recognising the landscape value of its surrounding rural setting, pattern of green corridors and need for new high quality built fabric. Chapter 5 sets out the basis of the approach towards new masterplanning principles in order to achieve these goals.



Figure 4.1: Harlow Town masterplan, 1952. Compact form, though reality of built fabric is weak with low scale housing backing onto open space

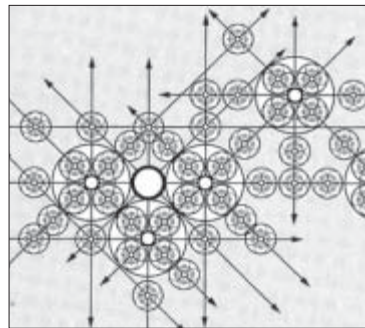
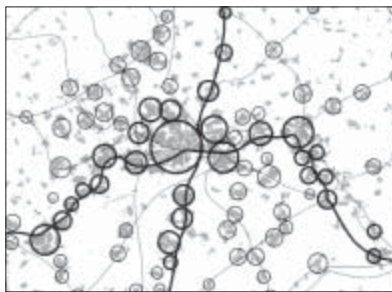


Figure 4.2a: Regional city concepts display a hierarchy of amenity cores (Designing the City, Hildebrand Frey, 1999)



b: Macro-structure of the Rhine-Main region in Germany (Designing the City, Hildebrand Frey, 1999)

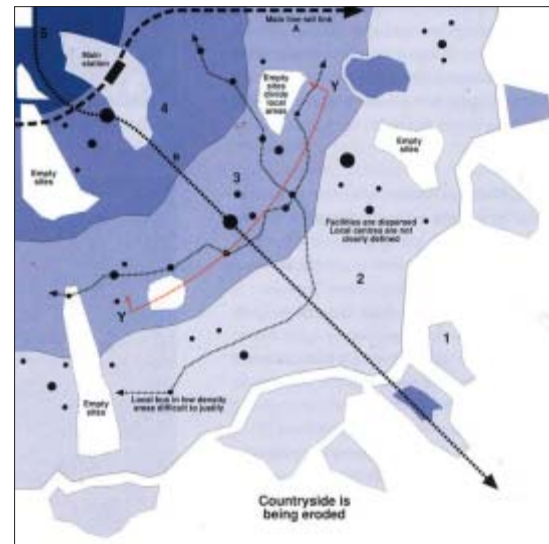
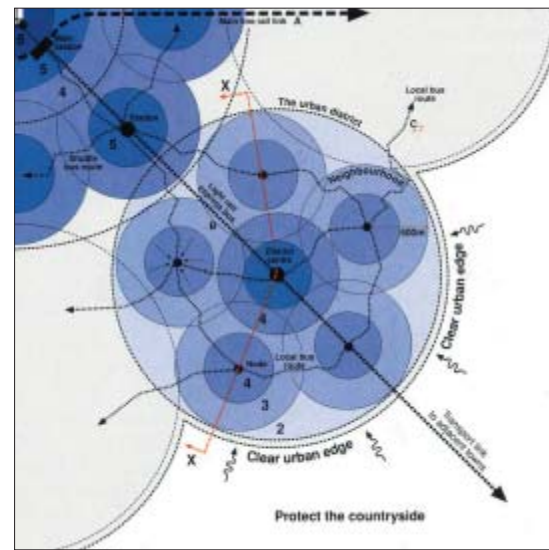


Figure 4.3a: Dispersed development pattern generates weak urban-rural boundaries. (Towards an Urban Renaissance, Urban Task Force, 1999)



b: Compact development model - clear neighbourhood boundaries. (Towards an Urban Renaissance, Urban Task Force, 1999)

4.3 Ease of Access

A separate study identifies existing transport problems, issues and opportunities in Harlow (MVA, Harlow Transportation Study, 2004).

The principle of 'Ease of Access' explored below aims to combine sufficient transport infrastructure capacity to provide for comfortable movement as well as spatial/public service provision that reduces the amount of movement people want to make.

Harlow is a town which experiences traffic congestion in the peak hours, particularly at pinch points on the road network, for example Junction 7 on the M11, and along key routes into town such as the A414. Current mode split figures for Harlow are shown below in Table 2 and Figure 6.3 (Journey to work, Census 2001). Car dependency is relatively high in Harlow (at 59%), with a low mode shares for rail (at 6%), bus (5%) and walking (10%) and cycling (3%).

Given the existing traffic congestion and the future pressures that Harlow is likely to experience – both through general traffic growth and the traffic that will be generated by new residential and employment development in and around the town – the future masterplanning of the town must seek to **facilitate the greatest possible public transport, cycling and pedestrian mode share** to and from new development sites and a regenerated town centre.

There are a number of significant transport problems and opportunities for Harlow, and these are highlighted in brief below:

- Harlow suffers from congestion due to **poor links to strategic road connections**: Junction 7 (M11) and the A414 both congested in the peak;
- The **railway station is remote** from the town centre and offers a limited connection;
- The **town centre is surrounded by a dual carriageway** – effectively a 'collar' - which severs the centre from the neighbouring residential areas and restricts pedestrian movement into the town centre;
- The residential **neighbourhood areas** themselves are well-planned in transport terms, separated from through traffic, with extensive local walking and cycling networks, though the centres' isolation from through traffic cause problems for their economic viability;
- The **generous spatial character of existing roads** and green corridors offers an opportunity to retrofit a quality public transport network into Harlow, with development oriented along new spine routes;
- **Additional traffic demand management measures** are required to help reduce future traffic growth, potentially including park and ride sites and limited parking provision; and,
- **Integrating the future transport planning and master planning** of Harlow will be critical if a car dependent future is to be avoided.

Travel patterns

Origin and destination movement patterns (Census 2001) are shown in Figure 4.5. As can be seen the largest flows from Harlow residences are to workplaces within Harlow (62%), or to London, Bishop's Stortford, Stansted, the rest of Essex and rest of Hertfordshire. The largest flows into Harlow workplaces are from residences in Bishop's Stortford, London, the rest of Essex and rest of Hertfordshire (61%). A full journey matrix is shown in Appendix 3.

Existing traffic flows and congestion 'hotspots' are shown in Figure 4.4. The M11 and A414 carry the greatest volumes of traffic; London Road, Fifth Avenue, Vilizy Avenue and Second Avenue are also well-used and close to capacity in the morning peak.

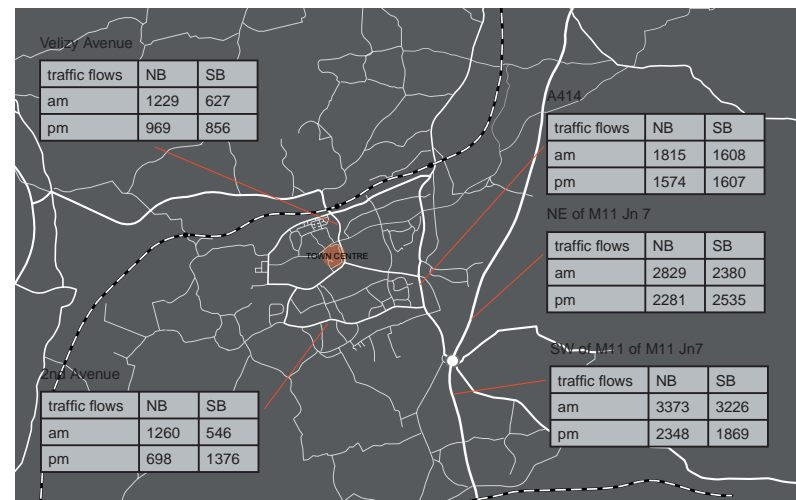


Figure 4.4: Flows and congestion hotspots in Harlow

Like most new Towns, Harlow still has relatively good levels of self-containment: just 13% of those resident in Harlow commute to London.

Traffic growth prediction (from Essex LTP, 2000) suggest that increases in traffic of between 16-29% can be expected in Essex, and between 20-35% in Harlow, covering the period 1998-2011. New developments across the sub-region will further add to traffic flows depending upon their location, quantum and mix.

4.0 URBAN DESIGN ASSESSMENT OF HARLOW

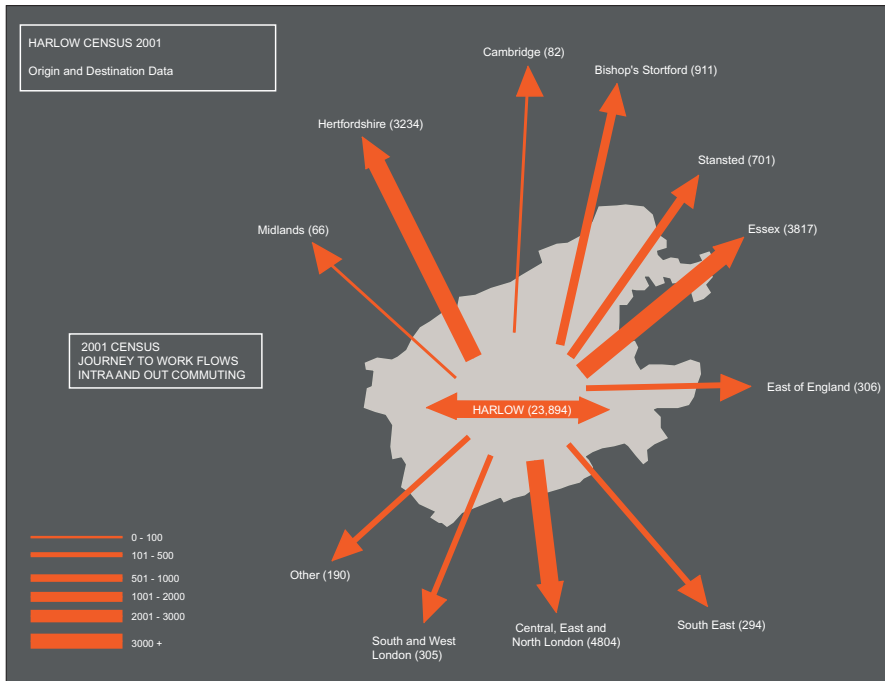


Figure 4.5a: Harlow commuting flows

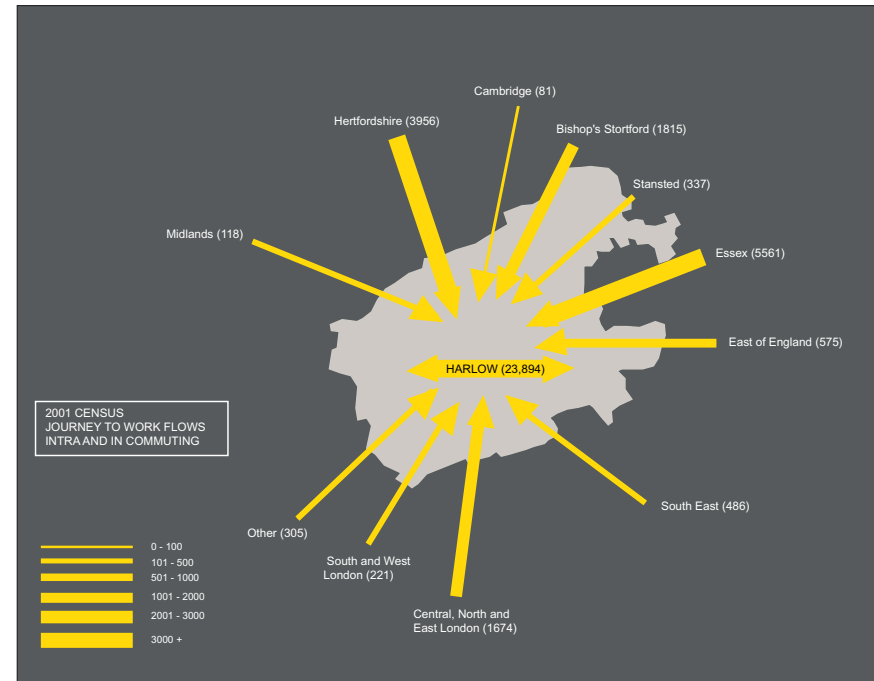


Figure 4.5b: Harlow commuting flows

Mode	Harlow	Essex
Car driver	59%	57%
Walk	10%	8%
Car passenger	8%	6%
Train/Underground	6%	12%
Work at home	6%	9%
Bus	5%	3%
Cycle	3%	3%
Motorcycle/moped	1%	1%
Taxi/minicab	1%	1%
Other	1%	0%
Total	100%	100%

Table 2: Mode share in Harlow and Essex (2001)

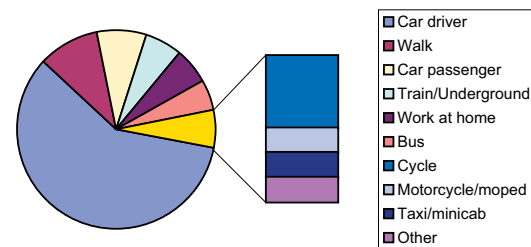


Figure 4.6: Mode share in Harlow (2001)

4.3.1 Route networks

The existing **strategic transport route** network for Harlow is shown in Figure 4.7 and 4.8. The town is located on the West Anglia mainline, with services to London (Liverpool Street), Bishop's Stortford, Stansted, Cambridge and beyond. The main Harlow railway station is located to the north of the town centre. Additional, nearby stops are at Harlow Mill, Roydon and Sawbridgeworth.

The M11 skirts the eastern fringe of the Harlow; Junction 7 being the closest access point (Junction 8 is 16km to the north serving Stansted Airport and Bishop's Stortford; and Junction 6 is 8km to the south linking into the M25). The A414 provides an important route from the north and west, linking directly to the A10.

The **internal road system** (see Figure 4.7) though loosely based on a grid pattern, exhibits an arbitrary network often going nowhere. The strongest feature of the road pattern is one that takes users around 3 sides of a rectangle to get from A to B and the majority of primary routes end in 'nowhere-place' round-a-bouts.

A description of the road system includes:

- Fifth Avenue links the A414, to the north of Harlow, north-south towards the railway station, the town's major sports facilities, and the town centre;
- Elizabeth Way and Edinburgh Way run along the 'baseline' of the town providing a connection between the Pinnacles industrial estate in the west, the railway station, and Temple Fields industrial estate to the northeast, and the northerly residential neighbourhoods (Little Parndon, Hare Street, Netteswell, Mark Hall South and Mark Hall North);
- Velizy Avenue/Third Avenue/Haydens Road/Fourth Avenue effectively 'collar' the town centre with a dual-carriageway;
- Second Avenue and Third Avenue run to the south of the town centre providing an west-east axis from 'nowhere-to-nowhere';
- Southern Way provides a southerly west-east axis, and gives access to the residential neighbourhoods to the south (Stewards, Passmores, Great Parndon, Kingsmoor, Sumners, Brays Grove, Tye Green and Latton Bush);
- Howard Way provides a north-south link between the residential and industrial areas;
- To the east, the A414 provides a north-south link, access to the residential neighbourhoods of Old Harlow and Potter Street, and a link via London Road to the M11.

The residential neighbourhoods are well served by minor access routes, with spine roads leading traffic directly to the major neighbourhood centres. Local 'Hatches' however are far less connected into the primary street network.



Figure 4.7: Existing strategic transport and internal route network

4.0 URBAN DESIGN ASSESSMENT OF HARLOW

4.3.2 Bus network

Harlow is relatively well served by buses, with services linking all the neighbourhoods to the Town Centre and station (see Fig 4.8). Major interchanges are found in the Town Centre and at Harlow Town rail station.

There is a real opportunity to review provision alongside regeneration needs and new development potential. New routes and improved frequencies are likely to become more viable as catchment potential grows, together with future demand responsive services.

Key issues to take forward:

- Regeneration of existing areas and new development may add to congestion problems within and around Harlow: sensitive location planning and design is required;
- It is critical that regenerated areas and major new developments are focused around a much-improved public transport network. A new 'spine' route and major public transport interchanges should be the focus for new development;
- There is great potential to improve the bus network and service provision in conjunction with future regeneration and new development;
- Improved road access is required to serve the existing and new major industrial areas in Harlow;
- The town centre ring road acts as a "collar" to regeneration and careful thought is needed to redesign the central road system. Greater pedestrian priority is needed at crossings and downgrading of the northern and western routes should be considered; and,
- A traffic demand management strategy should be developed for Harlow.



Figure 4.8: Existing Public Transport bus network and nodes

4.3.3 Walking and cycling

Harlow has a high quality walking and cycling network with much of the footpath and cycle network system segregated away from the main roads. It is designed as part of the landscape pattern giving walks between the built up areas and into the surrounding countryside. Routes are designed to take the shortest distances between different centres, whilst not necessarily reflecting current best practice in design of footpaths (eg. avoiding alignments along rear gardens).

The concept of pedestrian catchments is important to a town such as Harlow, designed as a series of self-contained, walkable neighbourhoods. Pedestrian catchment analysis is shown in Figures 4.10 and 4.11 overleaf. Harlow is based around four centres and the original village of Harlow (Old Harlow) which together form the five neighbourhoods of the town. Within these neighbourhoods are sub-centres, which usually focus around a school building and small-scale retail/community facilities. Industrial facilities are kept separate to the west and north east. Harlow's main railway station is also located in a small business park to the north of the Town Centre.

Gibberd envisaged each of these neighbourhood centres, and the railway station and industrial zones to be accessible by the pedestrian. Most of the original sub-centre pedestrian catchments (using a 5 minute or 400m walk) are within the boundaries of the neighbourhood centre, as envisaged in the original Harlow Masterplan. The exceptions to this rule are the Potter Street sub-centre which is somewhat isolated from Bush Fair, and Old Harlow, which is a neighbourhood in its own right, but which does not have any specific sub centres.

There have also been a number of extensions to suburbs added to Harlow in recent years - such as Potter Street West and Old Harlow West - which don't conform to the original philosophy of the Gibberd masterplan, and are located beyond the pedestrian catchments of the neighbourhoods. Gibberd himself stated that "if the town is to be a coherent unit no part must straggle too far from the centre". Similarly Sumners and Katherines are outside the catchment of existing neighbourhood centres, however both have their own sub-centre, so they work in pedestrian terms to a certain extent.

There is only one major area of overlap between neighbourhood centre catchments. This is between the Town Centre and East Netteswell. This area is also adjacent to the station, though not within a short walking distance (an approximate 15 minutes walk).

The industrial area catchments do not overlap with any residential district catchments except at the most northerly edge of Mark Hall North. The industrial areas are typically isolated by large areas of open spaces; hence are difficult to reach quickly by modes other than the private car.

Built form edges within Harlow are generally defined by highways. The classic example here is the Town Centre, where the inner dual-carriageway ring road provides a great severance difficulty for pedestrians trying to walk into town. As noted previously,



Figure 4.9: Separated footpaths and carriageways in Harlow

Gibberd did not envisage this form of 'racetrack' or 'collar' around Harlow Town Centre. There is a great opportunity to downgrade the dual carriageway in line with new masterplanning proposals for the town, particularly along Haydens Road. Pedestrian underpasses can also be removed and re-provided with at-grade crossings. The same problem of poor permeability is experienced around the station, which is isolated both in terms of users and physical accessibility. Again, masterplanning around the station should seek to greatly improve access and permeability to and from the station.

Key issues to take forward:

- Major re-investment is required in the walking and cycling network, with upgrading of facilities;
- Cycle parking facilities can be enhanced at key locations, for example, in the Town Centre, at the rail stations, at major leisure and education establishments and in the residential neighbourhoods;
- Key pedestrian access points to the town centre, for example across the ring road, should be the focus of concerted effort; and,
- Travel awareness campaigns, green travel planning initiatives and promotion of the 'soft factors' should be carried out on an area-wide basis and through major employers.

4.0 URBAN DESIGN ASSESSMENT OF HARLOW



Figure 4.10: 10 minute walkable catchments from Town and Neighbourhood Centres



Figure 4.11: 5 minute walkable catchments from local centres (Hatches)

Harlow Centres and Walking Catchments Data

1.	Harlow Town Centre	A.	Little Parndon	3.	Old Harlow	5.	Staple Tye	J.	Stewards
		B.	Hare Street	4.	Bush Fair			K.	Passmores
2.	The Stow	D.	Mark Hall North			F.	Potter Street	L.	Great Parndon
		E.	Mark Hall South			G.	Brays Grove	M.	Kingsmoor
		C.	Netteswell			I.	Tye Green		
						H.	Latton Bush	6.	Harlow Station
								7.	Temple Fields Industrial Estate
								8.	Pinnacles Industrial Estate

4.4 Character: a place with its own identity

The principle of character/local identity establishes all important feelings of sense of place and cultural distinctiveness. These most clearly conveyed through the local built fabric, spatial patterns and landscape form. The structure of the place and its distribution of activities - how one uses the town, also contribute to its identity.

Whilst many of the individual buildings and neighbourhood layouts do not exhibit locally distinct characteristics, the macro-structure of Harlow is unique. A number of conditions contribute to this:

- the urban interface with the outer rural landscape;
- the relationship of building edge to street;
- the layout and design of the road network,
- the distribution of uses and of open space;
- the location of the centre and sub-centres; and,
- the siting of the town within topographical features (southern ridge / Stort Valley).

Harlow contains a specific palette of open space types, ranging from: outer rural/agricultural to managed river valley/floodplain, to enclosed rural along the green corridors and tributary valleys to recreational parks, to urban squares, to undefined 'left over' open space. All these suggest a spatial relationship that is specific to Harlow and when combined with other key elements (road design / topography / use pattern etc.) create a strong impression of the local identity of Harlow.

The intention towards character pursued by Gibberd was explicit, though as the following section in this study shows, the gap between intended and achieved was quite considerable. This was particularly the case for the detailed design of neighbourhoods and buildings.

The principle of sense of place and local distinctiveness is one of the most important for Harlow and it will therefore be key to respect and maintain the distinctive nature of the town as it was conceived and built. However, because of changing circumstances, particular characteristics have become dysfunctional (e.g strategic road layout in relation to employment locations; disconnection between station and town centre). In such instances, changes (in some cases radical ones) are suggested to the fabric/open space pattern in order to remain true to the spirit (see Chapter 5.0).

25 or 50 years hence it should be instantly recognisable and distinctive as Harlow to a resident of 2004, even if dramatically different in some respects. We would hope that the ghost of Gibberd would recognise not only the physical place, but the way it works and the benefits it brings.



Harlow - a first generation new town.



Railway station located along the northern Stort river.



The position of the town centre reinforced on rising ground



Long distance views along green wedges

Key issues to take forward:

- Consider intensification of green corridors through other amenity functions and rationalisation of space;
- Provide greater built form definition to the edges of strategic open space;
- Improve the quality of neighbourhood centres, both in built form and range of amenity/retail;
- Restructure left-over local spaces, car parking forecourts to make clear what is the 'public realm';
- Reinforce the sense of arrival from the rail station to the TC by continuation of built form and building line;
- Restructure building form/types along primary streets, introducing ground floor and upper floor activity;
- Increase the density of residential areas, building towards higher densities at the TC and local centres;
- Identify locations for key 'signature buildings' of outstanding architectural quality (TC, station, in wedges)

4.0 URBAN DESIGN ASSESSMENT OF HARLOW

4.5 Legibility

The principle of legibility underpins the need for a place to enable its users - residents and visitors alike, to understand how they can move around. This relies on the place providing a clear and unconfusing message or image as to its structure. Legibility is both strategic (eg Town Centre to the north, hills to the south and north) and local (which streets lead to where, which is the high street, where is the main square).

Users' knowledge and sense of location within Harlow is enhanced by a number of factors. Key long distance views (for example to the southern ridgeline) and topographical features (elevation and valley structures) contribute to establishing the strategic 'legibility-giving' elements. Such strategic legibility issues are reinforced by more locally active characteristics that include:

- The orientation and alignment of streets;
- The detailed design and character of specific spaces and routes;
- Landmark buildings and structures that terminate views;
- The pattern of uses - centrality of the Town Centre and location of neighbourhood centres within their own networks;
- Areas of contiguous character / specific settings, e.g the higher density character of New Hall or the pedestrian precinct in the Town Centre;

It will be important to reinforce those elements that contribute towards an understanding of the place and how one moves around and accesses the town's activities within it.

Key issues to take forward:

- Retain the role of the higher ground to the south as a key element of the town's containment. This can be achieved as either open space or built form;
- Maintain the green corridor structure connecting urban form to rural settings;
- Reinforce the role of the town centre on higher ground through massing, design and scale of buildings;
- Support the integrity/function of the agricultural land surrounding Harlow;
- Consider better built termination and definition of selective street edges;
- Consider local differentiation across neighbourhoods - aim to set specific design guidance for respective areas; and,
- Enhance the role, design and prominence of Neighbourhood Centres, establishing better connections to primary through-routes.
- Avoid visually sensitive/exposed landscape areas for new development that would be contrary to Gibberd's approach to town setting;
- Avoid coalescence with smaller adjacent settlements - maintain a local 'gap';
- New development must not erode the Gibberd pattern of built form interlaced with linear open space.

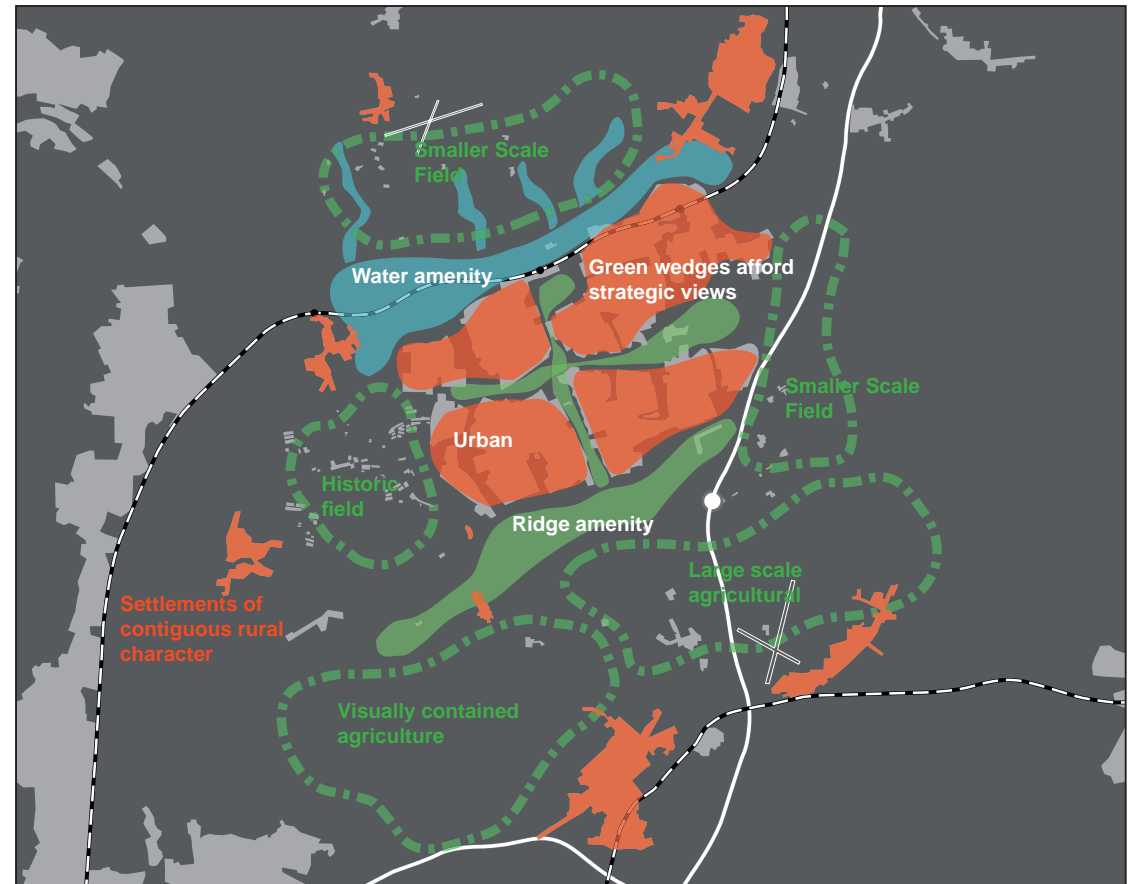


Figure 4.12: The overall organisation of the town allows residents and visitors to understand and thereby access the town's 'offer'.

4.6 Continuity and Enclosure

Successful spaces and places are defined by clearly articulated building forms and structured edges. These contribute to a sense of enclosure of public space and make explicit both what is publicly accessible and what is not (private realm).

Factors which contribute to a sense of enclosure are:

- Continuous building edges that enclose the perimeter of blocks, allowing for private internal spaces;
- Locating publicly related uses on the ground floor at the front of buildings, that open onto streets;
- Fronting residential development onto public spaces / streets to ensure overlooking of the public realm and increasing 'natural surveillance';

Many of Harlow's residential areas do not adhere to the above principles and result in residential development backing onto strategic open space e.g the green corridors. There is a remarkably low usage of cycle paths within Harlow at present, potentially influenced by a reduced perception of safety through development not overlooking routes.

Similarly the design and layout of the Town Centre organises parking/servicing around the edges. Though this creates a quiet pedestrian inner space, the dual carriageway around the Centre does not feel like a street 'fronted onto' by development but has an appearance more like a service road with 'back doors' into this most important part of Harlow.

Key issues to take forward:

- Consider the introduction of new building forms along the edges of those blocks that 'back' onto strategic open space;
- Long term restructuring of blocks fronting the TC dual carriageway and opening up of new 'fronted' connections into adjacent residential blocks;
- Building lines to be adhered to contributing to a sense of continuous streets;
- New development to ensure that any corresponding public open space is designed as useable and productive amenity space (ie. not left-over);
- Ground floors of new development at Neighbourhood Centres or at appropriate locations along primary routes to be commercially/publicly oriented;
- Ensure building heights are designed in relation to street hierarchy - massing and volume along primary routes to be greater than streets of a lower order;
- New residential development to be guided by clear principles towards street enclosure, avoiding ambiguous layouts, garage forecourts and redundant spaces;



Buildings forming poor street frontage



Residential development backs onto strategic space & routes



Town Centre - pavilion buildings create a weak public realm



Arrival at the Town Centre through the 'back door'



Undefined boundaries between public and private space with 'left-over' and 'un-owned' areas.



Inactive and poor quality buildings in the Town Centre

4.7 Diversity and Mix of Uses - a place that has variety & choice

The range of activities that a place/space/street has to offer directly influences a large number of qualitative factors: how safe a place is perceived to be relates, in part, to its level of occupation (8hr, 16hr, 24hr); how many people will go to an area and for what reason - shopping, living, working, visiting; how 'important' the location is in the wider town context (retail activities, public facilities). Clearly the mix of use influences the performance of the place.

Harlow was laid out with a very clear rationale towards the location of the town's functions. Residential areas to be located in neighbourhood communities separated by open green space; each community to have its own local centre and to be served by a neighbourhood centre. A Town Centre at the focus of a radial network, and employment areas in two defined locations to the north east and north west. Appropriate service industry type uses to be located adjacent to the Town Centre and connecting north to Harlow Town station.

The functions of the Town Centre were to be 'overlapping', though residential development was in reality banished.

The range of commercial services and community facilities within the Neighbourhood Centres and Local Centres (Hatches) were in effect limited due to their location in relation to the strategic road network and insufficient density of population within 5/10min catchments to support them.

The nature of the time frame within which Harlow was constructed also had an impact on the future human content of the place. The town was nicknamed 'pram-town' and served a specific function in relation to overspill and providing affordable living alternatives to London. This was reflected in the demographic of the town and persists today.

Key issues to take forward:

- Provide for a wider demographic through broadening the employment opportunities and widening the range of housing to attract a broader range of socio-economic groups, some of which work, but don't live in Harlow;
- Reinforce the role of Neighbourhood Centres through regeneration and consideration of their location in relation to movement / public transport network;
- Consider dispersion of appropriate employment activities to the Neighbourhood Centres, reducing the reliance on the two main industry locations;
- Maximise the accessibility of the Harlow Town station area for higher density development and provision of amenities;

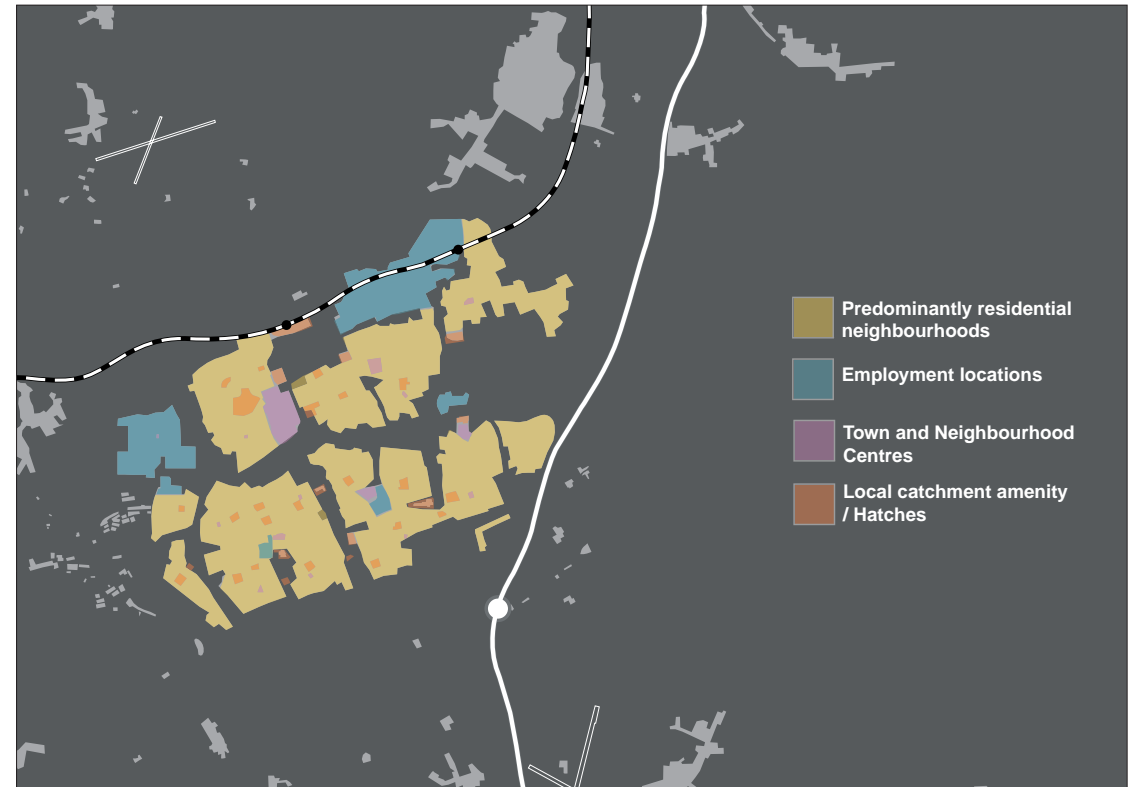


Figure 4.13: Current distribution of uses across Harlow

- Reinforce the Town Centre-station connection with mixed-use development; and,
- Provide a range of commercial accommodation types to encourage a more diverse employment profile - embryonic, start-up, own-office, HQ space.

4.8 Adaptability - a place that can change over time

The sustainability of a place is linked to the ability of its built fabric and local environment to accommodate uses other than those that were originally intended. Many of London's Georgian terraces have been converted to commercial ground floor activities or other uses (Hotel etc.) or have remained as successful residential dwellings. This is because the building type is inherently flexible (larger span single rooms, tall floor-ceiling heights) or the streets are sufficiently well connected and designed (capacity/character).

Harlow's New Town construction programme led to the particular styles, building types and building technologies of the time being implemented throughout the town all within a limited time frame. As a result the similarity in the building stock limits the potential for a broader range of activities to be accommodated within blocks or larger parts of the town. In addition, large portions of the town fabric, both residential and amenity, have reached their 'sell-by' date en-masse and the physical regeneration of the town is a major concern. Given the current context of proposed major expansion (2006-2021), there is risk of a similar result and it is therefore important that guidance on a mix of housing types and tenures be established.

The requirement for adaptability is also active at a town-wide scale, as well as at that of the individual building unit. Harlow's infrastructure needs to be able to accommodate a future employment profile and increased densities for living. In parallel the demands of increasingly sophisticated lifestyles call for different types of amenity and recreation and, for instance, the opening up of waterfront opportunities.

Such changes also require reconsideration of public transport provision. The town will need to accommodate increased quality and frequency of services, and potentially new types of services altogether.

Key issues to take forward:

- Provision of alternative types of dwellings other than those currently provided;
- Focus on provision of flexible buildings with large span spaces capable of conversion;
- Consider improvements to key infrastructure to enable more significant changes to the fabric as a whole;
- Consider how well open space is used - open up possibilities to achieve better performance of spaces through some restructuring. Potentially look at unproductive space within neighbourhoods and edges of green corridors; and,
- Consider alternative types of commercial accommodation to allow changes in office markets and working practices to be absorbed.

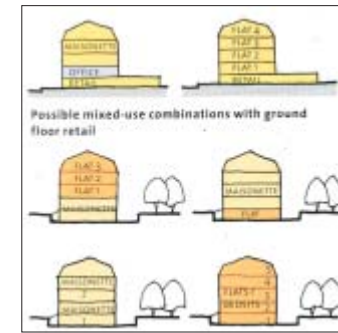
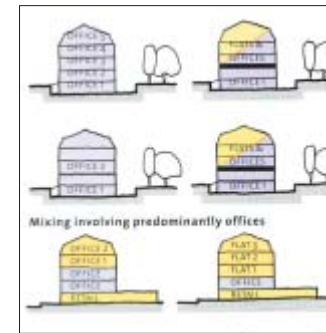
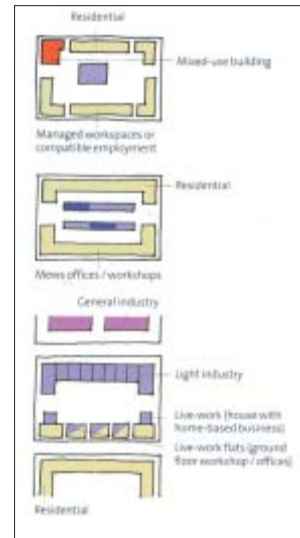


Figure 4.14: Mixing uses horizontally within blocks and vertically within buildings (Urban Design Compendium, English Partnerships & Housing Corporation, 1999)



Generous street design could allow for retrofitting on new high quality public transport systems



Figure 4.15: Supporting infrastructure for new development areas will rely on the existing road capacity, nature of trip generations, future Public Transport modal split and potential to expand the network

4.0 URBAN DESIGN ASSESSMENT OF HARLOW

4.9 Quality of the Public Realm - a place with attractive and successful outdoor areas

One of the most important qualities of any town or city is the character of its public realm. Many of the reasons behind our choice of holiday destinations, for example, are due to the quality of the streets, squares and public spaces of those places. Successful public spaces display specific characteristics, outlined in much current national policy guidance today - vibrant, user-friendly, safe and well-managed are many of terms in common parlance.

Harlow is blessed with a green space network that many other towns and cities would "die for". This network connects the outer rural hinterland to the inner urban lifestyle and provides a unique quality of experience and 'breathing space' for the town.

The green corridors, however, are in some cases poorly accessed along their edges and are therefore an underutilised resource. Existing development along their edges, as mentioned earlier, responds to these open spaces in a sub-optimal manner, presenting in some cases the backs of development onto amenity areas.

The layout of some residential areas includes various bits of left-over open space that is not productively used by the public and is not clear whether it is public or private. Such 'unloved' spaces do not receive the focus of attention/maintenance that positively designed spaces might.

The Town Centre includes large open pedestrianised areas that are fronted onto by development and are lively only during business hours. Materials are not of great quality and there are many unsafe and unattractive corners and alleys that reduce the useability and perception of the area.

Key issues to take forward:

- Need for a clear understanding of the hierarchy and system of public spaces and their respective functions;
- Focus investment in quality public realm design and material specification;
- Open up opportunities for major new types of public space - eg waterfront;
- Consider using urban space as a means of creating positive termination to specific green corridors;
- Evaluate the performance of all public spaces to understand those which perform poorly and why. Consider restructuring of those spaces;
- Ensure spaces are designed and designed well in relation to their adjacent buildings; and,
- Consider how new uses and functions can be introduced into green spaces to add life and variety. This may include options for wider plant and wildlife species.



Poor design/layout and low perception of safety. Cars placed above pedestrians



Over control of streets with unattractive street furniture - rails restrict desire lines and fail to cater for pedestrians



Back-alley connections to local centres should sometimes constitute the primary 'foot' connection from adjacent areas



A cluttered and unappealing Town Centre approach with little consideration for the pedestrian environment



Poor definition of built edge to open space



Opportunities for traffic free cycling in Harlow's open spaces

PRINCIPLES & CRITERIA FOR NEW DEVELOPMENT

CHAPTER FIVE

This section draws together the information and analysis presented in the previous Chapters. The aim is to present Harlow specific masterplanning principles, informed through an understanding of the town and in direct cross-reference to the sustainability context and goals set out in Chapters 3.0 and 4.0. Analysis tables found in Appendix 1 present a comparison of sustainability aims with Harlow's present condition.

8 overarching sustainability OBJECTIVES are put forward, drawn from Chapter 2. Of these 8 objectives, 7 are encompassed within the goals of the 3 core sustainable 'systems': Environmental; Social; and, Economic, which form the 'headlines' guiding the following sections. The 8th objective refers to the need for all 7 objectives to be considered equally and 'in the round'. The objectives include:

ENVIRONMENTAL SYSTEM

- 1 Minimise consumption of environmental resources;
- 2 Maximise environmental benefit;
- 3 Ensure high design quality;

SOCIAL SYSTEM

- 4 Ensure a high quality of life to be achieved;
- 5,6 Promote equity and social inclusion and maximise community participation

ECONOMIC SYSTEM

- 7 Ensure economic vitality and deliverability; and,

INTEGRATION

- 8 Ensure people live well with less resource consumption

Each sustainable OBJECTIVE includes a number of core THEMES around which specific sustainability CRITERIA are constructed, designed as OUTCOMES (The focus on outcomes follows more recent advice that seeks to establish measures of performance for sustainable communities). In order to 'operationalise' the criteria, masterplanning principles are established that are both specific and generic.

Our focus is at the scale of 'masterplanning' to apply the highest possible standards of sustainability in the future growth and regeneration of the town. Principles are either generic or specific to Harlow. The latter are indicated in the colour of the respective sustainability system (green, red or blue)

Much more can be achieved by applying high detailed design standards, though these are not given attention here and would be the subject of subsequent work.

5.1 Establishing the Approach

This study reviews three different types of data in order to establish the basis for a proposed set of masterplanning principles for Harlow. These are:

1. **Current and progressive Sustainability advice (Chapter 2);**
2. **Original 1950's Harlow town masterplanning intentions (Chapter 3); and,**
3. **Urban Design best practice guidance (Chapter 4).**

All of the above have been reviewed against the physical context of Harlow today.

The rationale behind this approach is illustrated in Figure 5.1 opposite. The need for a clearly articulated sustainability 'baseline' is put forward from the outset. The aim is to establish strategic, Harlow-specific, sustainability principles that will guide any overall change and growth to Harlow. Within this context the more detailed masterplanning principles are proposed to achieve these broader goals.

Sustainable Transport Principles

Special consideration needs to be given to issues of transport planning and land use patterns as many of the current characteristics and 'problems' associated with Harlow are linked to the way these two issues interrelate. This study has, from the outset, approached future development from the position of integration across transport and land use, leading to more sustainable development patterns.

Facilitating the greatest possible public transport and cycle and walk mode share will be critical to Harlow's future success. The success of the town will be dependent on how well the transport system works. Transport should not be used as an end in itself, but as a means of creating a high quality living and working environment in Harlow. This means moving away from car dependent development solutions and instead implementing best practice public transport orientated development. A number of principles¹ will be important as outlined below:

- Traffic demand management;
- High quality public transport;
- Public transport oriented development;
- Improved road access where appropriate;
- Safe, continuous and extensive walk and cycle networks;
- Speed and traffic management;
- Parking management; and,
- A 'hearts and mind' travel awareness exercise.

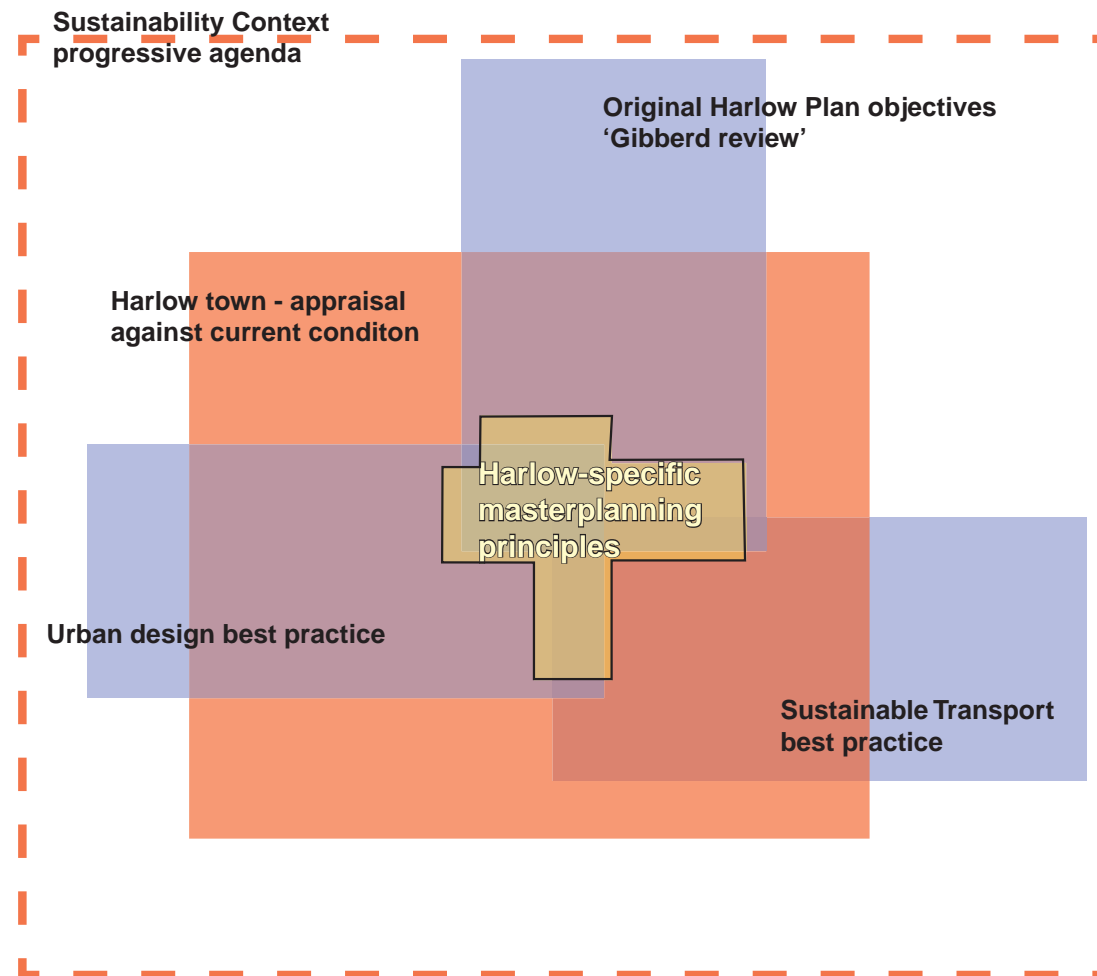


Figure 5.1: Organisational approach to defining masterplanning principles for Harlow.

5.0 PRINCIPLES AND CRITERIA FOR NEW DEVELOPMENT

Research on the integration of land use and travel planning has been stimulated by the work of Newman and Kenworthy (1989) - on density and travel behaviour - and later by the publication of the European Commission's Green Paper on the urban environment, which advocated compact cities with higher population densities (Commission of the European Communities, 1990). Breheny and Rookwood (1993) and Calthorpe (1993), in particular have produced illuminating concepts for integrating land-use and transport planning at the strategic scale, while more detailed understanding of walkable catchments is articulated by the Urban Task Force Report (1999), see Figure 5.2 overleaf. A number of those principles are relevant to the strategic planning of Harlow, including:

1. Public transport orientated, clustered and mixed new development: with relatively small-scale residential communities clustered along public transport routes, especially rail, light rail and/or guided busway. These developments can contain a mixture of different types of development. The Swedish principle of pyramids of density, used in the Stockholm satellite towns, is relevant for Harlow;

2. Development of urban nodes: systematic efforts should be made to develop new accessibility nodes by selective investment in new transport links. Major efforts should be made to improve orbital links and radial links.

3. Selective urban densification: urban compaction or intensification is desirable in order to help regeneration and renaissance, induce less use of the car and protect the open countryside.

4. No 'town cramming': densification must be compatible with good urban quality. Urban open spaces and green corridors must be retained and their performance, use and accessibility enhanced.

5. Areas of tranquillity: large areas of countryside and open space/green wedges should be protected to conserve tranquillity, with development restricted to only that which meets local needs. (This approach is at odds with the policy requirements active in Harlow to accommodate large numbers of new houses by 2021).

These objectives are useful in understanding current integrated transport/land use approaches that will feed into the sustainability criteria and specific principles for Harlow described later in this Chapter.

Masterplanning principles

The following sections (5.2 to 5.8) build the sustainable principles for growth, organised under the 8 sustainability objectives.

The masterplanning principles have been informed by, principally, the findings of the Gibberd Plan reviewed in the light of current planning orthodoxy and sustainability goals (Chapter 3 and Appendix 2) and an appraisal of the current physical condition of Harlow against urban design best practice (Chapter 4).

The masterplanning principles are categorised by those which relate to more generic design issues, eg. low-energy building forms (identified in black), and those which relate specifically to Harlow (identified in the relevant colour for the respective section).

Growth and change across Harlow will relate to a number of different types of development and to a number of different types of location (new development within the district boundary on brownfield and greenfield land; restructuring of existing development; restructuring of open space; expansion beyond the district boundary as minor appendages to existing neighbourhoods and possible complete new neighbourhoods).

It is not the aim of this report to identify those location-driven development issues, other than to be informed by those raised in the urban design assessment in Chapter 4. The subsequent stage to this study applies the masterplanning principles to the different physical settings found across Harlow and identifies the full scope for intervention.



Figure 5.2: Components of Ped-shed approach to neighbourhood design (Towards an Urban Renaissance, 1999)

¹ For further guidance see publications such as Making Cities Work (Hazel and Parry, 2004), Encouraging Transport Alternatives: Good Practice in Reducing Travel (Banister and Marshall, 2002) and/or Transport Concepts in European Cities (Pharoah, 1996).

OBJECTIVE 1

MINIMISE CONSUMPTION OF ENVIRONMENTAL RESOURCES

THEME	SUSTAINABILITY CRITERIA	MASTERPLANNING PRINCIPLE
□ GREENHOUSE EMISSIONS	<ul style="list-style-type: none"> Minimise energy use and greenhouse emissions in <i>buildings</i> 	<ul style="list-style-type: none"> New development to achieve BREEAM EcoHomes “excellent” standard and NHER score of 10; Abide by key design criteria laid down by the Association for Environment Conscious Building (AECB); Set up monitoring system to audit the sustainability of homes -say 10% of new units for a period of 12 months; Require low-energy building forms (eg. terraces, flats) with high insulation standards, aiming for zero energy developments (eg. BedZED) Wherever practical, orientate buildings within 45° of south for passive solar gain; Use planting to create a sheltered microclimate and avoid very exposed positions; Facilitate use of a Combined Heat and Power (CHP) with compact, mixed use development patterns; Encourage renewable/clean energy generation in new development (eg. wind, solar, biomas); Minimise embodied energy in the quarrying, transport and manufacture of building materials and in building construction. Minimise use of virgin aggregate, maximise reuse of buildings and recycling of materials; Encourage shared use of community facilities;
	<ul style="list-style-type: none"> Minimise energy use and greenhouse emissions in <i>transport</i> 	<ul style="list-style-type: none"> Minimise the need to travel by providing a variety of local job opportunities, building on Pinnacles, Temple Fields; Employment accommodation types to support new local business opportunities defined by Regeneration Study; Minimise car reliance / car-based commuting and encourage use of more sustainable modes of travel (walking, cycling, bus, rail); Introduce a high quality public transport system: a high level of public transport service is required - eg guided bus or light rapid transit - and at least a fully prioritised, high frequency bus route;

THEME	SUSTAINABILITY CRITERIA	MASTERPLANNING PRINCIPLE
□ GREENHOUSE EMISSIONS	<ul style="list-style-type: none"> Minimise energy use and greenhouse emissions in <i>transport</i> 	<ul style="list-style-type: none"> Public Transport route to run through Harlow, linking the rail station (with direct interchange with national rail services to London and Stansted), the Northern Gateway development site, the town centre, other existing and proposed parts of Harlow, extending to North Weald and Epping (connecting with London Underground); Development, wherever possible, should be orientated around the new public transport system providing improved catchment potential; A network of feeder bus services: providing direct links from each of the neighbourhood areas to the main public transport system, the town centre and the two main industrial areas (Pinnacles and Temple Fields); Allow for future upgrade of (fixed route) bus services to demand responsive services or potentially a personal rapid transit system (such as Ultra); Focus new development around points of high accessibility (eg rail station to the north); Improved walk and cycle networks and parking facilities: discontinuous routes should be completed and major cycle parking facilities provided in the town centre, at the station and at the Pinnacles and Temple Fields industrial areas; Behavioural change initiatives: travel plans and town car clubs should be progressed in Harlow; Implement the following traffic demand management measures: <ul style="list-style-type: none"> Travel awareness campaigns, Individual travel marketing, Public transport marketing, Venue marketing; Car sharing; Teleworking, Home delivery and internet shopping; Workplace, school and hospital travel planning; Freight delivery strategies; Parking restraints; Roadspace reallocation; Pricing measures; Controlled Parking Zones

OBJECTIVE 1

MINIMISE CONSUMPTION OF ENVIRONMENTAL RESOURCES

THEME	SUSTAINABILITY CRITERIA	MASTERPLANNING PRINCIPLE
<ul style="list-style-type: none"> □ GREENHOUSE EMISSIONS AND OTHER AIR POLLUTANTS 	<ul style="list-style-type: none"> ▪ Minimise energy use and greenhouse emissions in transport 	<p><i>Refer to CBA Harlow Area Landscape and Environment Study for Principles for Environmental Limits to Growth.</i></p> <ul style="list-style-type: none"> ▪ Improve pedestrian links from housing areas to local amenity cores and main routes connecting into the TC; ▪ In all new developments make access easier for pedestrians, cyclists, bus and rail to encourage most benign modes of transport; ▪ Prioritise the design and implementation of new movement infrastructure to support principle listed above.



Figure 5.3: An improved public transport system with higher ridership would achieve principles of reducing resource consumption in transport. Harlow's generous open space network provides the opportunity to retrofit a new high quality Public Transport system supporting higher density development along possible future alignments.

OBJECTIVE 1

MINIMISE CONSUMPTION OF ENVIRONMENTAL RESOURCES

THEME	SUSTAINABILITY CRITERIA	MASTERPLANNING PRINCIPLE
<p>□ WATER</p>	<ul style="list-style-type: none"> ▪ Minimise consumption of treated water ▪ Avoid inappropriate development in the flood plain ▪ Maximise the added value benefits of development proximity to quality water systems 	<ul style="list-style-type: none"> ▪ Apply principles of Sustainable Urban Drainage Systems (SUDS) to new development and retrofit where possible into existing; ▪ Apply Environment Agency advice on development in the flood plain and potential mitigating measures; ▪ Optimise potential amenity benefits of waterfront buildings; ▪ Provide areas of water in new developments to facilitate wildlife and to increase amenity value; ▪ Institute grey water recycling systems (eg Gramm Environmental); ▪ Institute rainwater harvesting; ▪ Set minimum target for numbers of green roof dwellings; ▪ Utilise green wedges & spacious route infrastructure to retrofit swale systems for water management; ▪ Maximise the Stort valley as recreational route connecting into a range of waterfront leisure amenity facilities; ▪ Restructure the type and layout of employment along the southern Stort river edge, opening up the northern town edge to the waterfront; ▪ Consider new recreational development along the Stort river valley northern edge;



Consider options for maximising river edge leisure amenity



Redevelop under-utilised employment sites backing onto the Stort river valley



Restructure the zone between the rail station and river valley by considering double fronting the station to open up to the river valley

THEME	SUSTAINABILITY CRITERIA	MASTERPLANNING PRINCIPLE
<ul style="list-style-type: none"> □ WATER 	<ul style="list-style-type: none"> ▪ Minimise consumption of treated water ▪ Avoid inappropriate development in the flood plain ▪ Maximise the added value benefits of development proximity to quality water systems 	<ul style="list-style-type: none"> ▪ Develop a comprehensive water management plan for Harlow to ensure that new development accommodates its own water requirements; ▪ Define the capacity thresholds for new development using natural cleansing systems (reed beds etc.);



Mulhuddart Housing Competition, Dublin (McCrossan O'Rourke Manning Architects, The New Housing, RIAI, 2002)



Housing designed around water body at Surrey Docks, Norway Gate, London (photo 2004)



Figure 5.4: Opportunities for Sustainable Urban Drainage utilising natural drainage systems

OBJECTIVE 1

MINIMISE CONSUMPTION OF ENVIRONMENTAL RESOURCES



Figure 5.5: Water courses and Environment Agency Flood Plain definition

OBJECTIVE 1

MINIMISE CONSUMPTION OF ENVIRONMENTAL RESOURCES

THEME	SUSTAINABILITY CRITERIA	MASTERPLANNING PRINCIPLE
<ul style="list-style-type: none"> □ LAND TAKE 	<ul style="list-style-type: none"> ▪ Development densities, layout and patterns that make efficient use of land 	<ul style="list-style-type: none"> ▪ Prioritise the use of brownfield land. ▪ Minimise greenfield landtake. ▪ Avoid further spread of new development outside of 5 and 10 minute local amenity catchments. ▪ Utilise undeveloped walkable catchment locations for new high density mixed-use development. ▪ Maintain Harlow's 'tradition' of high density neighbourhoods. Achieve minimum densities of 40DPH in line with Gibberd Plan; ▪ Achieve higher densities (up to 50DPH) in locations 'closer to' Neighbourhood and Town Centre(s); ▪ Sequential redevelopment of poorly performing neighbourhood blocks/housing stock to higher density high quality housing. ▪ Optimise the use of green open spaces between neighbourhoods to fulfil quality of life aims whilst avoiding profligacy. ▪ Redevelop local 'Hatches' as new higher density housing sites. ▪ Restructure Neighbourhood Centres, where possible establishing direct connections to primary through routes. Consider allowing part redevelopment for new higher density housing.

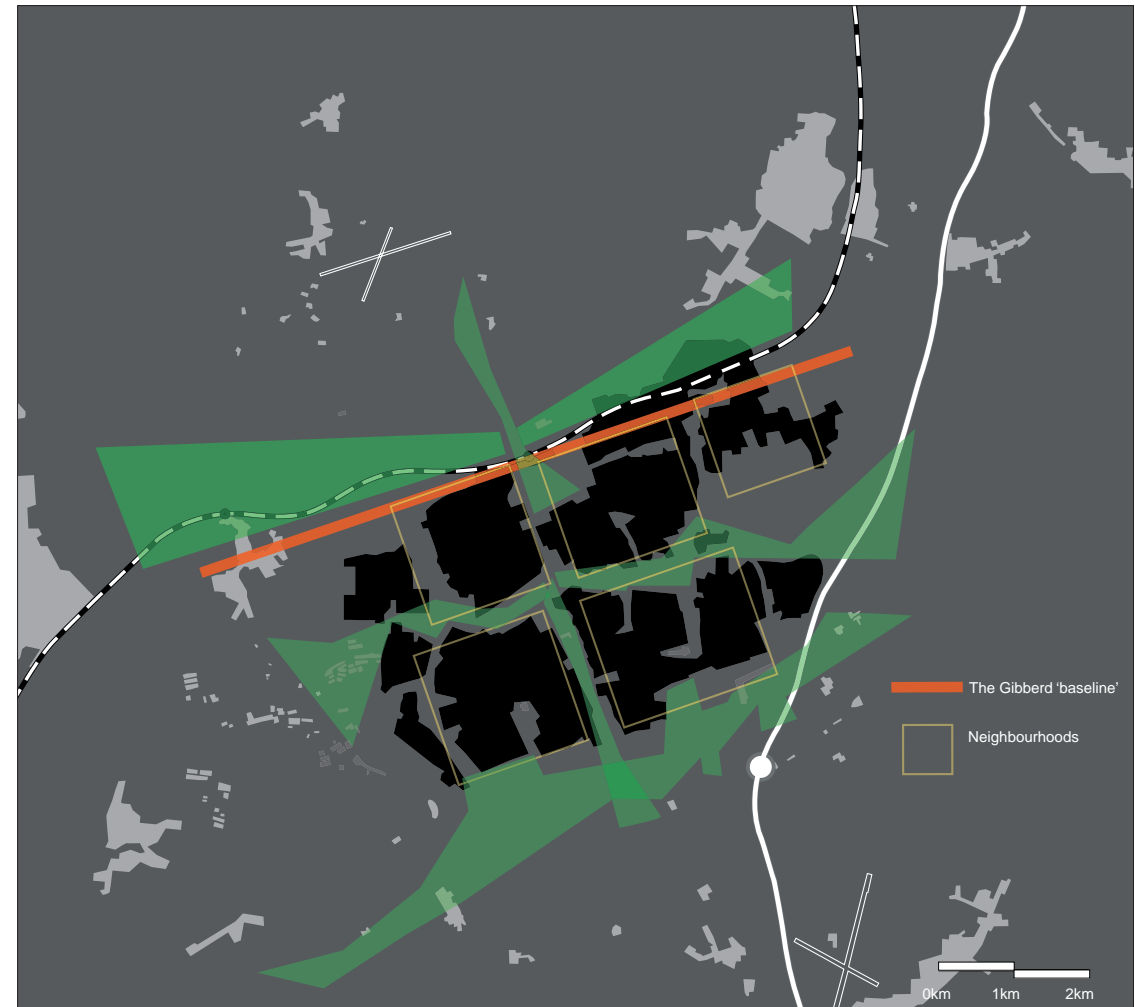


Figure 5.6: The 5 Neighbourhoods Structure in Harlow

OBJECTIVE 1

MINIMISE CONSUMPTION OF ENVIRONMENTAL RESOURCES

THEME	SUSTAINABILITY CRITERIA	MASTERPLANNING PRINCIPLE
<ul style="list-style-type: none"> □ LAND TAKE 	<ul style="list-style-type: none"> ▪ Development densities, layout and patterns that make efficient use of land 	<ul style="list-style-type: none"> ▪ Utilise the 'left over' spaces within neighbourhoods for new development. ▪ Aim to achieve a mix of compatible uses both horizontally within streets/blocks and vertically within buildings; ▪ Avoid single storey/single uses development types;

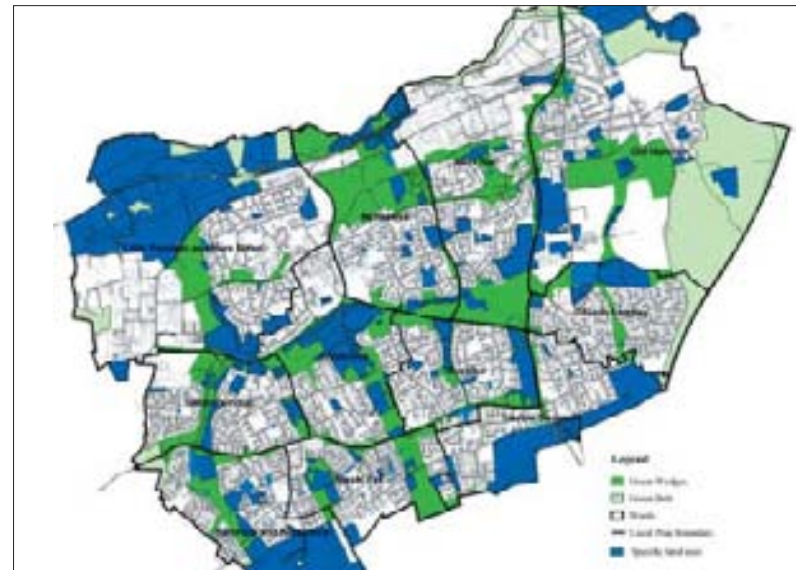


Figure 5.7: Distribution of open space across Harlow (source: Harlow Council, 2004)



Higher density housing at New Hall (Harlow)



Poor performing local 'Hatch' (Harlow)



Figure 5.8: Distribution of spaces >0.2Ha with no specific land use (source: Harlow Council, 2004)

OBJECTIVE 2

MAXIMISE ENVIRONMENTAL BENEFIT

The environmental benefits identified in the table below are not exhaustive. As the process moves forward, it is recommended that a comprehensive approach to the assessment of environmental benefits be undertaken. This will embrace the range of environmental benefits and link these to other wider benefits such as 'urban character' or 'local employment opportunities'. It will seek to answer two key questions:

- Has the development **avoided or substituted for any loss** of quantity or quality of important environmental benefits and services provided by the site?
- Has the development **increased or enhanced** any important environmental benefits and services already provided by the site, or secured new ones?

We suggest that this should form the basis for future community engagement in order to:

- Identify those benefits / services that are considered important in the locality and disbenefits to be avoided / overcome;
- Develop a comparative matrix structured around the benefits identified for each area;
- Complete the comparative matrix for each potential site / sub-area; and,
- Identify which site could deliver the maximum benefits with least environmental damage.

The answers will not only guide the choice of site but also set clear parameters for the conditions under which each of the sites can be developed.

THEME	SUSTAINABILITY CRITERIA	MASTERPLANNING PRINCIPLE
<input type="checkbox"/> BIODIVERSITY	<ul style="list-style-type: none"> ▪ Conserve and enhance extent and variety of habitats ▪ Protect rare / vulnerable species ▪ Create new habitats 	<p><i>Refer to CBA Harlow Area Landscape and Environment Study for Principles for principles of wildlife and habitat in the landscape.</i></p> <ul style="list-style-type: none"> ▪ Conserve, enhance and manage existing SSI's, Wildlife sites and features of ecological interest identified by ecological survey, including important hedgerows, mature trees and water habitats. ▪ Incorporate and extend green corridors and 'stepping stones' of indigenous vegetation and wildlife, integrating with the existing 'green wedges'; ▪ Avoid woods, common land and areas of nature conservation significance being isolated by new developments; ▪ Encourage 'green buildings'; ▪ Preserve habitats associated with rare / vulnerable species.



Figure 5.9: Environmental assessment of the Harlow's eastern fringe (CBA, 2004).

Chris Blandford Associates have carried out a Harlow Area Landscape and Environment Study. Their work should be read in parallel with this study.



Stort valley habitats



Flood plain meadow lands

OBJECTIVE 2

MAXIMISE ENVIRONMENTAL BENEFIT

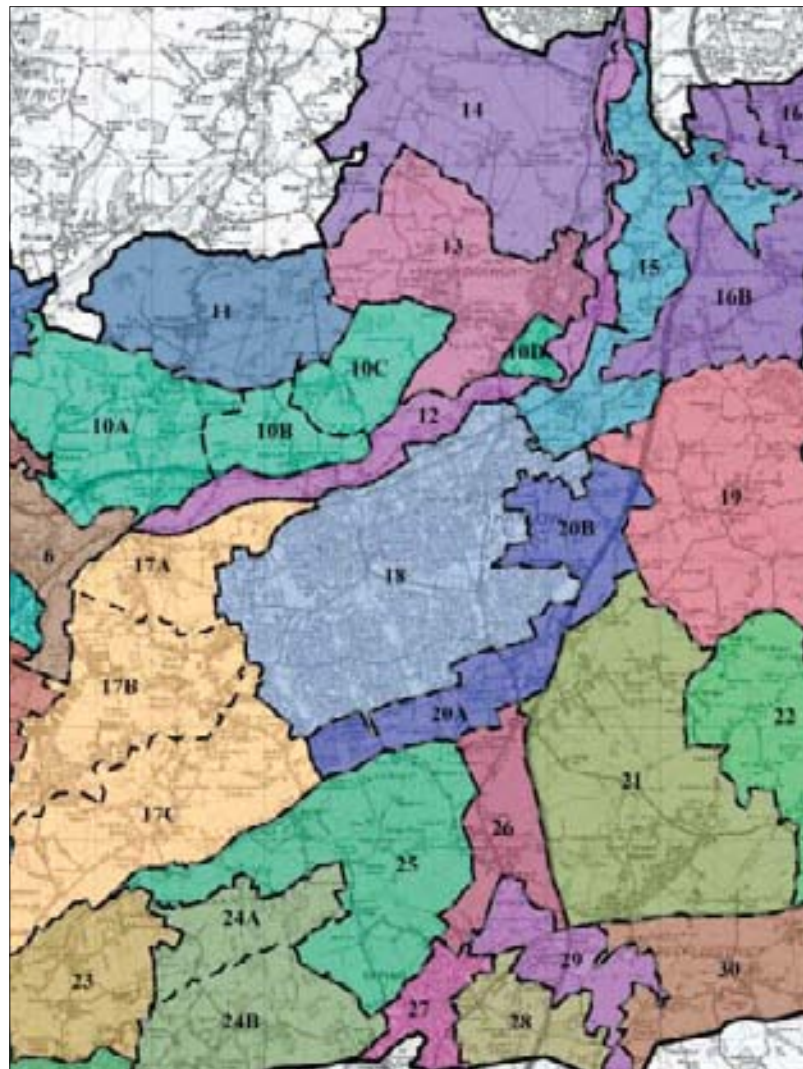


Figure 5.13: Character Areas Assessment (CBA, 2004).



Figure 5.14: Interpreting the landscape character



OBJECTIVE 3

ENSURE HIGH DESIGN QUALITY

THEME	SUSTAINABILITY CRITERIA	MASTERPLANNING PRINCIPLE
□ CHARACTER	<ul style="list-style-type: none"> ▪ Help shape and reinforce a sense of place ▪ Respect historical / cultural associations 	<p><i>Refer to CBA Harlow Area Landscape and Environment Study for the Principles for management of historic sites and features in the landscape.</i></p> <ul style="list-style-type: none"> ▪ Establish what Gibberd referred to as “roots with the past” by preserving the landscape setting (topographical and ecological features) and buildings of any worth and integrating them with new development; ▪ Respect the integrity of existing settlements and avoid coalescence by providing a ‘local gap’ around key places such as Roydon, Churchgate Street, Jacks Hatch and others for new development at these locations; ▪ Respect important views, vistas and landmarks as identified in the CBA Harlow Area Landscape and Environment Study for principles; ▪ Apply the Harlow ‘tradition’ of organising neighbourhoods according to compact Housing Groups to foster neighbourliness, cohesion and visual variety; ▪ Use local materials, building methods and details to enhance local distinctiveness; ▪ Improve the quality of neighbourhood centres and local urban spaces; ▪ Establish continuous built form edge between the Town Centre and rail station, helping to define the urban character of the town and reinforce the sense of arrival at the centre.

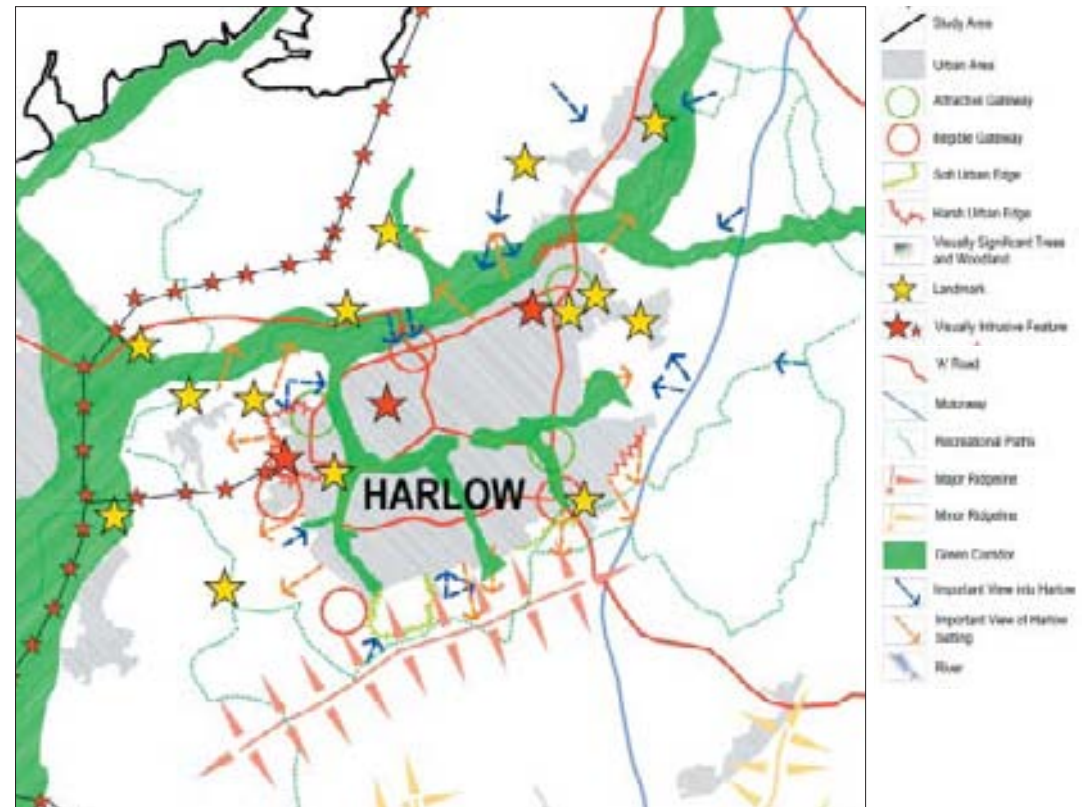


Figure 5.15: Key Features of town-countryside relationship

THEME	SUSTAINABILITY CRITERIA	MASTERPLANNING PRINCIPLE
□ CHARACTER		<ul style="list-style-type: none"> ▪ Consider increasing the 'multiple-use' of Green corridors/wedges in order to increase their attractiveness for recreational users, safety and maintenance; ▪ Enhance the presence of Green corridors/wedges through increased accessibility - possibly introduce a new public transport system utilising these spacious corridors; ▪ Long-term restructuring of the Town Centre, including: <ul style="list-style-type: none"> - Reinforcing its prominent position on high ground; - Redeveloping poor building fabric in a phased programme; - Introducing residential uses; - Redeveloping the blocks onto the dual carriageway from carparking use to commercial activity; - Introducing traditional streets (with car access) through the centre; ▪ Set clear retail strategy in line with the overall aims of the Regeneration Study. Encourage non-car based retail activity and limit the impact of large format stores on the Town Centre; ▪ Increase the density of development and the amenity 'offer' of Neighbourhood Centres in order to reinforce a sense of activity and place at these nodes.



Figure 5.16: The self-containment of existing rural settlements that exhibit contiguous character of high quality should be respected by any new growth. The nature of the separation should be determined by locally specific landscape conditions and visual assessment.

THEME	SUSTAINABILITY CRITERIA	MASTERPLANNING PRINCIPLE
<p>□ CHARACTER</p>		<ul style="list-style-type: none"> ▪ Ensure the type and form of new employment is appropriate for the future character of the area; ▪ Ensure any local character of high quality is not undermined by new development; ▪ Ensure any significant new building design is adequately tested (eg. CABE design review); ▪ Generally promote active frontages; ▪ Set high aspirations for the design quality of future building proposals; ▪ Identify key locations where 'signature buildings' would be appropriate. These must reinforce wider urban design objectives; ▪ Encourage contemporary design and building form that appeals to potential new clientele;



Avoid the 'everywhere-nowhere' place of out of town big box retail (Sainsbury, Harlow)



Large scale modern office space affects the overall character of local places. Tendency for human scale in design to be overlooked (Pinnacles, Harlow)



Encourage high quality building design



Reinforce existing local street and building character of quality (Harlow)

OBJECTIVE 3

ENSURE HIGH DESIGN QUALITY

THEME	SUSTAINABILITY CRITERIA	MASTERPLANNING PRINCIPLE
<p>□ CONTINUITY + ENCLOSURE</p>	<ul style="list-style-type: none"> Clearly distinguish between public and private spaces 	<ul style="list-style-type: none"> What Gibberd described as “Civic Design” – “the relationship of the buildings to each other” arranged in such a way so that “the spaces between them [are designed] as volumes”. Arrange buildings in groups – with continuity between the buildings themselves and the spaces they enclose, with each enclosed space varying in shape and size; Buildings that relate to a common building line reinforce and define the street; Orientate building fronts so that they face public spaces – whether the street or parkland; Clearly define and enclose private space at the back of buildings for privacy and security; Clearly distinguish between public and private space; Introduce new higher density building forms along edges of strategic open space / wedges; Create new building fronts around Town Centre and continuous built forms connecting across to adjacent blocks beyond the centre; New development to ensure that any corresponding public open space is designed as useable and productive amenity space (not ‘left-over’);



Tower buildings distanced from street edge (Harlow)



Well defined enclosure to public realm



Parking forecourts on local streets erode definition of public realm (Harlow)

OBJECTIVE 3

ENSURE HIGH DESIGN QUALITY

THEME	SUSTAINABILITY CRITERIA	MASTERPLANNING PRINCIPLE
<ul style="list-style-type: none"> □ CONTINUITY + ENCLOSURE 	<ul style="list-style-type: none"> ▪ Clearly distinguish between public and private spaces 	<ul style="list-style-type: none"> ▪ Ensure building heights are designed in relation to street hierarchy; ▪ Provide enclosure to public space / routes through both building edge and landscaping; ▪ Utilise key buildings to emphasise important locations such as gateways, key civic spaces and termination of linear views (streets/canals, green wedges);



Strasbourg - Linear open space lined with development and strong tree line



Freiburg - Residential development providing a clear articulation of street edge



Freiburg - Development designed to maximise proximity to public transport system



Clear definition to edge of strategic open space - Mulhuddart Housing Competition, Dublin (McCrossan O'Rourke Manning Architects, The New Housing, RIAI, 2002)

OBJECTIVE 3

ENSURE HIGH DESIGN QUALITY

THEME	SUSTAINABILITY CRITERIA	MASTERPLANNING PRINCIPLE
<ul style="list-style-type: none"> □ QUALITY OF THE PUBLIC REALM 	<ul style="list-style-type: none"> ▪ A place with attractive and successful outdoor areas ▪ Maintain quality of and accessibility to existing green open spaces and provide range of recreational spaces for new development 	<ul style="list-style-type: none"> ▪ Maintain links to the countryside in new development that respects the Harlow 'tradition' with green spaces "projected into the area as wedges" (1952 Masterplan); ▪ Optimise quality, use and accessibility of current 'green wedges'; ▪ Apply current NPFA standards for open space provision in new development; ▪ Refer to Green Spaces Strategy for designation and provision of NEAPs, LEAPs, LAPs; ▪ Ensure streets and spaces are overlooked to allow natural surveillance; ▪ Use natural, high quality, low maintenance materials in public spaces, streets and those buildings fronting them; ▪ Define a hierarchy of routes and public spaces across Harlow, with the Town Centre as the primary civic space; ▪ Create opportunities for new types of public space - eg waterfront spaces that connect into wider leisure routes; ▪ New development and urban spaces could be used as a means of creating positive termination to specific green corridors, as defining points to new development and in linking to existing areas; ▪ Prioritise those spaces in poorest condition as 'early wins';



Unsafe, concealed corners combined with a limited mix of uses generates a poor perception of safety to evening users (Harlow)



Poor quality entry points into the Town Centre (Harlow)



Dublin, Mountjoy - Matrix Partnership proposals for public space refurbishment.



Figure 5.17: Access to open space (source: Harlow Council, 2004)

OBJECTIVE 3

ENSURE HIGH DESIGN QUALITY

THEME	SUSTAINABILITY CRITERIA	MASTERPLANNING PRINCIPLE
<ul style="list-style-type: none"> EASE OF MOVEMENT 	<ul style="list-style-type: none"> Ensure the quality, location, frequency, convenience and image of walking, cycling and public transport facilities make these modes attractive alternatives to the car A network of convenient and comfortable routes within each site that links with the surrounding context and favours pedestrians, cyclists, public transport whilst facilitating efficient ease of movement for other vehicles Ensure buildings and public spaces are accessible to, and usable by, people with disabilities 	<ul style="list-style-type: none"> Create a permeable urban structure with a fine-grained network of routes for pedestrians, cyclists and other vehicles that integrates with the existing circulation network. Consider the need to retrofit the existing network as well as creating a new one in the expansion areas; Consider the need to improve accessibility between the town and the surrounding strategic highway network (particularly the two main industrial areas) to overcome deficiencies in the gap between highway access as intended and as built; Ensure the design of streets reflects a range of urban qualities, not just traffic engineering considerations; Arrange buildings and street design to encourage low traffic speeds; Where primary routes run through/ adjacent to Neighbourhood centres ensure the street design allows for generation of active high street qualities; Integrate new development with the existing strategic cycle track and footpath network – ensuring that routes provide direct connections between residential neighbourhoods, employment areas and other destinations; Specific connections between Temple Fields, the Pinnacles and Town Centre and residential neighbourhoods are to be reinforced/improved;



Guided bus system (Nancy)



High quality interchange locations (Strasbourg)

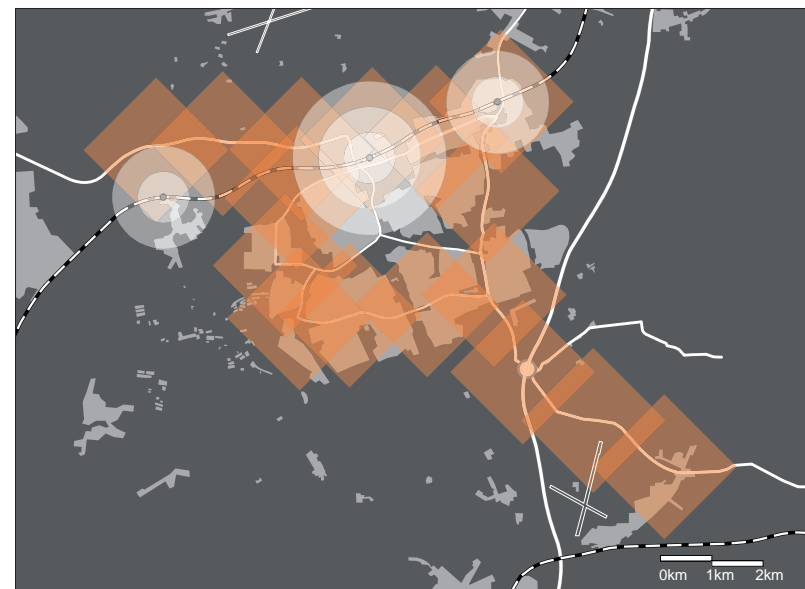


Figure 5.19: Broad development potential in relation to infrastructure and amenity access

OBJECTIVE 3

ENSURE HIGH DESIGN QUALITY

THEME	SUSTAINABILITY CRITERIA	MASTERPLANNING PRINCIPLE
<ul style="list-style-type: none"> □ EASE OF MOVEMENT 		<ul style="list-style-type: none"> ▪ Arrange the layout and density of development based on walkable catchment areas to help increase accessibility to bus stops and the railway stations; ▪ Integrate Harlow Town station with its adjacent blocks and with the Town Centre through continuous built development; ▪ Develop higher density building forms, able to accommodate a mix of uses at amenity core locations (Neighbourhood Centres, Town Centre); ▪ Promote transport interchanges that enhance the appeal of public transport and provide for seamless movement between all modes of travel; ▪ Develop Harlow Town station as the primary interchange location, with secondary locations along a new Public Transport system (refer to Objective 1); ▪ Ensure bus routes serve the widest possible catchments and link into amenity cores; ▪ Consider potential Light Rapid Transit to retrofit along roads and green corridors, connecting the station to the north with Town Centre and southern neighbourhoods; ▪ Consider park and ride sites for inward commuting to the north and south, linking up with high quality Public Transport systems;



Poor connectivity between residential areas: non-through routes with garages can be opened up for access (Harlow)



Grassed tracks for public transport system run through linear open space (Strasbourg)



Cycle provision integral to residential development (Freiburg)



Freiburg - Development designed to maximise proximity to public transport system (grassed tracks for LRT, Freiburg)

OBJECTIVE 3

ENSURE HIGH DESIGN QUALITY

THEME	SUSTAINABILITY CRITERIA	MASTERPLANNING PRINCIPLE
<p>□ LEGIBILITY</p>	<ul style="list-style-type: none"> Urban design that is distinctive, easily understood and 'navigable' 	<ul style="list-style-type: none"> Ensure that routes relate to views and vistas, integrating with Harlow's distinctively planned urban pattern; Concentrate most active uses on main routes and around focal points to contribute to the vitality of each place; Reinforce the role of the Town Centre as the major retail and amenity service core for the town; Ensure Town Centre buildings are of high a quality, civic scale and with publicly oriented use-focus; Ensure secondary Neighbourhood Centres are developed as lively viable amenity nodes; Locate civic and community buildings around public spaces, providing symbols of community identity and focal points of civic life; Ensure the higher ground to the south visually contains the town Retain the natural character of the northern, western and southern boundaries as far as possible when considering new development; Identify important agricultural land as rural containment of the town; Define termination points of primary routes with built form rather than ending in round-a-bouts; Set clear design guidance to distinguish respective neighbourhoods;



Highly visible Town Centre located on high ground (Harlow)



Confused pattern of buildings and uses within the Town Centre (Harlow)



Figure 5.20: The four town boundaries contains the settlement footprint

OBJECTIVE 3

ENSURE HIGH DESIGN QUALITY



Figure 5.21: Harlow's Plan reveals a clear underlying and legible structure

OBJECTIVE 3

ENSURE HIGH DESIGN QUALITY

THEME	SUSTAINABILITY CRITERIA	MASTERPLANNING PRINCIPLE
<ul style="list-style-type: none"> ADAPTABILITY 	<ul style="list-style-type: none"> Flexible buildings and open spaces that can accommodate shifts in user requirements arising from changes in demography, technology, affluence & lifestyle fashion with the minimum resource cost Enabling occupants to express their personal tastes and preferences in the way they inhabit and modify their environment 	<ul style="list-style-type: none"> Ensure future development adheres to robust building forms that enable changes of use to happen over time without structural rebuilding. Public spaces should be designed to allow for a range of uses and overlapping functions. A fine-grained scale of development is easier to adapt than megastructures - avoid large scale big box retail and offices. New large office space should allow for sub-letting division within floors and vertical division. Ensure new employment space caters for changing accommodation needs in the life-cycle of a business's development. Provide alternative types of dwellings other than those already provided for, focusing on larger span spaces capable for conversion. Ensure infrastructure servicing the employment areas is flexible to facilitate changes in business types and to enable future business types to locate in Harlow. Consider how new infrastructure for employment areas can allow for a range of different access types and range of different environments to support varying business sectors.

THEME	SUSTAINABILITY CRITERIA	MASTERPLANNING PRINCIPLE
<ul style="list-style-type: none"> DIVERSITY 	<ul style="list-style-type: none"> Creating a mix of uses that can help people to live, work and play in the same area – enhancing urban vitality and minimising the need to travel 	<ul style="list-style-type: none"> Encourage a diverse mix of compatible uses (both horizontally and vertically) achieved by subdividing large sites into smaller development plots. Ensure that the masterplanning process for new developments is three dimensional and illustrates the future character of proposals. Encourage a greater overlap of functions within the Town Centre, including residential uses. Enable a wider range of businesses by improving the quality of environment within Pinnacles and Temple Fields. Avoid large-scale single use zoning. As the 1952 Masterplan puts it "How is the urban quality captured? Certainly not by regarding town planning as the preparation of a map showing different coloured areas for different purposes and for different circulations". Strengthen the employment base through encouraging a wider range of businesses to support greater clustering and business services provision (refer to PACEC study). Increase the range of services at Neighbourhood Centres along with higher building densities. As well as local jobs, support use of Public Transport for commuting through maximising interchange locations and providing a high quality seamless Public Transport network.

OBJECTIVE 4

ENABLE A HIGH QUALITY OF LIFE TO BE ACHIEVED

THEME	SUSTAINABILITY CRITERIA	MASTERPLANNING PRINCIPLE
<ul style="list-style-type: none"> □ LOCAL SERVICES AND AMENITIES 	<ul style="list-style-type: none"> ▪ Ensuring high quality local services and amenities are accessible to all residents 	<ul style="list-style-type: none"> ▪ Cluster together a range of viable local services (schools, health centres, community centres, training/job centres, faith centres, shops, recreational facilities etc.) and position new centres on principal routes, at the heart of neighbourhoods. Ensure these are well-served by public transport. Use critical thresholds table as a 'rule of thumb' for ascertaining the quantum of facilities needed and associated land-take requirements; ▪ Utilise walkable catchment areas from local centres (see earlier) and use this as the basis for grading development density, with the levels of intensity radiating out from the most highly serviced locations; ▪ Ensure local facilities are provided early in the development programme to support local residents as they arrive in new neighbourhoods (<i>rather than retrofitted later once behavioural patterns in support of facilities located elsewhere are entrenched and potential problems arise</i>); ▪ Critically re-evaluate the viability of the existing threefold hierarchy of centres comprising the Town Centre, Major Neighbourhood Centre and Local Sub-Centres (sometimes called 'Hatches'). The scale of local facilities envisaged in 1952 for Major Neighbourhood Centre and Local Sub-Centres never transpired as a result of massive changes in retail spending, personal mobility and other lifestyle patterns. Use new development to help underpin the viability of existing facilities where these are to be retained.

The Urban Task Force Report suggests that approximately 7,500 people would be needed as a minimum to support a viable local hub of facilities if built at a gross development density of 50 persons per hectare. However, the report advises that at a gross development density of 100 persons per hectare good public transport becomes viable, such as an efficient bus service, and that when this is increased to 150 persons per hectare then 87% of the community is within close walking distance (500m) of local services.

Illustrative Catchment Populations Required to Sustain Community Facilities

Community facility	Population required to support	No. Dwellings at assumed avg 2.2 persons /per dwelling	Accessibility standards at min. gross density of 60 people per hectare ¹
Nursery/first school*	2,000	909	Within 600m
Primary school*	2,500 – 4,000 (4,000*)	1136 – 1,818	
Secondary school*	8,000	3,636	Within 1,500m
Secondary school (large)+	16,000	7,273	
Health centre (4 doctors)*	10,000	4,545	Within 1,000m
Local shop and bus stop*	2,000 – 5,000 (1,500*)	1136 – 2,273	Within 400m
Public house*	5,000 – 7,000 (6,000*)	2,273 – 3,182	Within 800m
Group of shops*	5,000 – 10,000 (5,000*)	2,273 – 4,545	
Post office*	5,000 – 10,000 (5,000*)	2,273 – 4,545	
Community centre*	4,000*	1,818	
Local centre*	6,000*	2,727	Within 2,000m
District centre / superstore*	24,000*	10,909	
Leisure centre*	24,000*	10,909	
2.4 ha of open space (6 acres)	1,000		

Table 3: Amenity provision thresholds for Harlow

Data Source:

* Urban Task Force Report *Towards an Urban Renaissance* (1999), based on *Sustainable Settlements: A Guide for Planners, designers and Developers* (University of the West of England for The Local Govt. Management Board, 1995).

+ Barton, H et al (2003) *Shaping Neighbourhoods: A Guide for Health, Sustainability and Vitality*

¹ These standards are provided in Barton, H et al (2003) *Shaping Neighbourhoods: A Guide for Health, Sustainability and Vitality* and imply average net densities will be at least 90 ppha or 40 dwellings per hectare assuming an interconnected street network.

OBJECTIVE 4

ENABLE A HIGH QUALITY OF LIFE TO BE ACHIEVED

THEME	SUSTAINABILITY CRITERIA	MASTERPLANNING PRINCIPLE
<ul style="list-style-type: none"> □ LOCAL EMPLOYMENT OPPORTUNITIES 	<ul style="list-style-type: none"> ▪ Creating a range of opportunities for local employment, skills development and training 	<ul style="list-style-type: none"> ▪ Ensure that any new employment supports the wider strategic employment goals for Harlow; ▪ Consider the strategic dispersal of select small-scale industrial and training facilities throughout the town, reinforcing the viability of Neighbourhood centres and diversifying the employment offer beyond the two existing large concentrated industrial / distribution estates; ▪ Focus on development of services road infrastructure to support existing businesses; ▪ Identify potential 'spin-off' business activities eg. potential for outsourcing from the key large employers (eg. GSK); ▪ Build on the economic and employment profile to shift the economic position of the town;
<ul style="list-style-type: none"> □ SAFETY AND SECURITY 	<ul style="list-style-type: none"> ▪ Design development to help reduce crime and fear of crime 	<ul style="list-style-type: none"> ▪ Apply 'secure by design' principles in: <ul style="list-style-type: none"> - neighbourhood planning - alignment of foot/cycle paths - block layout - building design - landscape treatment - enclosure of street space



Figure 5.22: Focus on employment development at centres that are well served by primary road and Public Transport networks. (Black square denotes existing amenity core location less well served by infrastructure)

OBJECTIVE 4

ENABLE A HIGH QUALITY OF LIFE TO BE ACHIEVED

THEME	SUSTAINABILITY CRITERIA	MASTERPLANNING PRINCIPLE
<p>□ NOISE</p>	<p>▪ Reduce the amount of noise that would serve to undermine the quality of life in residential environments</p>	<ul style="list-style-type: none"> ▪ Adopt current noise zone regulation (see Appendix 4); ▪ P54dBA (and in line with East Herts guidance) noise contours relating to Stansted Airport flight paths will determine where new residential environments can be located within the zones of greatest existing and proposed noise intensity; ▪ Adopt PPG24 advice on requisite buffer zones to noise relating to the M11 and the railway; ▪ If development is required to be located close to noise contours, focus uses on employment rather than residential; ▪ Assess effects of future possibility of the DfT second runway allocation at Stansted; ▪ Use higher noise insulation specification for dwellings and other uses located near to or within air noise contours;
<p>□ SAFETY</p>		<p><i>(Confirm advice below in relation to East Herts Local Plan policy objectives):</i></p> <ul style="list-style-type: none"> → Inner zone: No further development will be allowed (existing developments to remain); → Outer zone: Regulated level of development is 'permitted' for: Residential use to a maximum of 120 pers per ha. ca 20 units per acre; → Retail leisure facilities to a maximum of 170 pers p.ha Working premises to a maximum of 220 pers per ha;



Figure 5.23: CAA noise contour mapping for second runway expansion at Stansted airport

OBJECTIVES 5 & 6

PROMOTE EQUITY AND SOCIAL INCLUSION & MAXIMISE COMMUNITY PARTICIPATION

THEME	SUSTAINABILITY CRITERIA	MASTERPLANNING PRINCIPLE
<ul style="list-style-type: none"> □ SOCIAL MIX 	<ul style="list-style-type: none"> ▪ A diverse social mix 	<ul style="list-style-type: none"> ▪ One of the central aims for Harlow was to create a balanced, diverse community. But it needs to be established whether the town's rapid construction resulted in an unbalanced demography. Therefore: Consider measures to rebalance the community by encouraging demographic categories under-represented; ▪ The health of the community depends on provision of the full range of amenity, facilities and quality of environment. Access to schools, health care and other community and social services. High quality open spaces, opportunities for play and recreation. A wide range of the retail offer with hierarchy of provision across the Town, Neighbourhood and Local Centres. ▪ Incorporate a proportion of social housing that addresses local need, 'pepper-potted' throughout new residential neighbourhoods so that tenure is indiscernible from form.
<ul style="list-style-type: none"> □ EQUAL OPPORTUNITIES 	<ul style="list-style-type: none"> ▪ Promote equity and equal opportunities in the masterplanning and development process and once the development is occupied 	<ul style="list-style-type: none"> ▪ Ensure community engagement in masterplanning process incorporates sound equal opportunities measures.

THEME	SUSTAINABILITY CRITERIA	MASTERPLANNING PRINCIPLE
<ul style="list-style-type: none"> □ COMMUNITY PARTICIPATION 	<ul style="list-style-type: none"> ▪ Promote community participation in decisions on the nature of the settlement, how it is developed and implemented ▪ How it is run and managed once constructed 	<ul style="list-style-type: none"> ▪ Ensure community participation measures are incorporated into masterplanning, development and future management processes; ▪ Redevelopment of existing neighbourhoods must incorporate local communities in the early stages of their re-design process; ▪ Consultation must take place 'in principle' to ascertain those aspects of place which residents value and those which are problematic, before any design takes place; ▪ Follow the example of New Towns in leading Community Development activities for any major new urban areas;

OBJECTIVE 7

ENSURE ECONOMIC VITALITY AND DELIVERABILITY

THEME	SUSTAINABILITY CRITERIA	MASTERPLANNING PRINCIPLE
<p>□ ECONOMIC VIABILITY</p>	<ul style="list-style-type: none"> ▪ Development is economically viable with limited extra / special public funding needed to keep the settlement functioning once constructed; ▪ Development is achievable given current political conditions. 	<ul style="list-style-type: none"> ▪ Ensure decisions regarding the quantum, type and location of development are tested by cost/value exercises of economic viability; ▪ Learn from the processes of implementation of the 1952 Gibberd masterplan, principally: Ensure that any design criteria are implementable given current market conditions; ▪ Ensure strategic infrastructure projects (eg new Public Transport system) are supported by Central Government funding and/or identified as deliverable within the responsibility of respective developers; ▪ Ensure the principles for new development are embedded as planning policy objectives; ▪ Ensure proposals are assessed within the context of administrative and land ownership boundary issues. The overall political 'acceptability' of proposals must be clearly defined.

OBJECTIVE 8

The overall goals of sustainable development - to allow people to live well while not compromising environmental systems or the capacity of future populations to function and live equally well - is dependent upon the integration across all objectives 1 to 7 previously outlined. No single issue must be pursued to the detriment of another, therefore appraisal of proposals for new development must take place 'in-the-round' and through 'multi-layered' discussions across the different sustainability objectives.

Each development appraisal process must be tested by asking whether or not it promotes the principle under consideration, and then all principles comprehensively, through comparative evaluation.

To assist this, the following Chapter aims to draw together the preceding principles and criteria into a simplified set of 10 overarching principles for a sustainable future for Harlow. These are the 'moves' Harlow must make in any event in order for any future growth and change to promote sustainable development patterns.

In order to achieve these goals, a physical spatial framework for the town of Harlow needs to be developed, informed by the more detailed masterplanning principles set out earlier in this Chapter. That Framework will evolve from testing the development capacity of the existing town, both within the District boundary and beyond, against the masterplanning principles. At the same time it must be recognised that a number of bold moves will need to be made to shift Harlow from its current condition (ageing housing stock, narrow employment base, congested road network and underperforming spatial network) to a new fundamentally sustainable high quality living and working environment.

A needs based evaluation, combined with a long term strategic view on Harlow's future must inform the physical 'supply' driven approach. Matching physical opportunity with an awareness of regeneration needs will allow an informed, robust Framework to evolve that reflects the specific conditions of Harlow and the surrounding area.

Clearly there will need to be a testing of options, and it is likely, given the complexities of the place, that no one ideal option will emerge. Rather, scenarios of change that reflect varying levels of growth will need to be traded-off against various components and layers of the wider value system across Harlow and its unique cultural landscape.

The sustainability goals and masterplanning principles will be used to set out a forward looking spatial framework for the next 50 years, at which time it is highly likely that a similar re-evaluation will take place against a completely different set of parameters, unknown to us.

LIVING WELL WITH LESS RESOURCE CONSUMPTION

The 10 overarching principles include:

- (1) *Provide a new high quality sustainable transport system*
- (2) *Revitalise current neighbourhoods;*
- (3) *Town centre revitalisation;*
- (4) *Broaden the employment base;*
- (5) *Foster quality spaces and streets;*
- (6) *Intensify use of green corridors;*
- (7) *Resource management and emission control;*
- (8) *New neighbourhoods along the new public transport system;*
- (9) *Creating best practice urban settings; and,*
- (10) *Retaining an enduring Harlow spirit and character.*

CHAPTER SIX KEY PRINCIPLES FOR A SUSTAINABLE FUTURE

This chapter puts forward a set of overarching SUSTAINABILITY PRINCIPLES for the specific conditions found in across Harlow. 10 key sustainability principles are suggested as the underlying 'moves' that Harlow needs to sign-up to in order to promote itself as a sustainable settlement.

6.1 Introduction

Gibberd's vision, and the inevitable accidents and circumstances of its implementation over half a century, leave Harlow with a unique mix of some characteristics which support the latest sustainability good practice and others which are inconsistent with it. The predominant characteristics are:

6.1.1 Generous green spaces, especially green corridors that other cities would "die for", but which are often underused and under-perform as safe, accessible open space. These were to balance the relatively higher densities (50pp acre) and the limited private open space provide with houses.

6.1.2 High density housing within neighbourhoods, often in environmentally efficient terraced forms. But with much of the potential benefit of proximity currently lost as a result of:

- neighbourhood centres designed around 1950s lifestyles failing to meet current needs;
- long distances between neighbourhoods and town centre.

6.1.3 Faltering town centre and employment areas.

6.1.4 A road pattern which provides the worst of all possible worlds:

- encourages car use and dependency;
- makes driving out of Harlow easy and attractive relative to going to the town centre;
- leaves the railway station and employment areas out on a limb;
- makes many journeys involve needless distance, eg meandering through a neighbourhood to get out onto a main road first, then going round three sides of a rectangle;
- main roads reduce the amenity of many of the green corridors;
- through roads go round rather than through neighbourhoods, adding to the isolation and stagnation of neighbourhood centres;
- ... but despite all this, still has inadequate capacity for current needs, leading to increased problems of congestion.

6.2 A design led, sustainability oriented approach

The key concept behind the principles set out overleaf is that, in order to be sustainable, new development in and around Harlow must be led by planning and design principles based on sustainability aims. More sustainable approaches to



living, working and travelling must be actively supported, while unsustainable approaches should not be provided for. A sustainability-led approach would argue that new roads should not be built since they would undermine core sustainable principles, while the regeneration of Harlow's employment profile may be linked to better provision of strategic road access. Careful consideration will need to be given to future employment types and their supporting infrastructure in the context of sustainability goals.

We propose 10 strategic principles to handle major expansion sustainably. These are described according to two classes:

- 1) 'Harlow-wide' regeneration principles; and,**
- 2) New large scale development that supports Harlow-wide regeneration.**

These two classes describe the two principle types of intervention and change likely to occur in and around Harlow. The first sets principles that Harlow should aim to achieve 'in any event', necessary to address the current shortcomings of the town and that would be required to enable the second class. The arguments for large scale new development are largely 'top-down' policy driven and require their own specific principles to ensure that any new growth does support sustainable aims.

1) HARLOW-WIDE REGENERATION PRINCIPLES

6.2.1 A new high quality sustainable transport network

This is arguably the single most important precondition for truly sustainable growth of Harlow. With it, the Town Centre can be revitalised, large amounts of new housing could be accommodated in a range of locations in ways that could help regenerate and enhance the town rather than undermine it, and the need for expensive and environmentally damaging road capacity increases can be avoided.

Harlow's current circumstances provide both the need, and an unusually easy opportunity, to provide this. The green corridors provide space to retrofit a high quality public transport system linking neighbourhood centres to Town Centre, employment areas and station far more directly than the convoluted road pattern, and therefore able to offer significantly better journey times than driving for many trips. The core should be a high quality tram or guided busway linking Harlow Town station, the Town Centre and (with both spurs and road running) the centres of the existing and potential future neighbourhoods.

6.2.2 Revitalise current neighbourhoods

The principle of high density cohesive neighbourhoods with amenities and services provided within walking distance is totally in tune with current sustainability thinking. A top priority for Harlow should be to revitalise and re-engineer the existing neighbourhoods so they can again function as originally intended. Methods could include:

- increasing housing capacity within existing neighbourhoods, eg through higher density refurbishment / replacement of obsolete housing and new high density development at edges;
- closing 'hatches' (local shopping centres) which are no longer viable, even with more housing, and redeveloping their sites;
- providing facilities and support for new live/work patterns within neighbourhoods - potential for reconstructed local Hatches.

6.2.3 Town Centre revitalisation

Other current Town Centre studies (Town Centre North, DLA) are looking to address issues associated with a poor quality and underperforming Town Centre. This principle recognises the fundamental need for a vibrant, successful Town Centre to offer a range of amenity, quality of environment and 'heart' to a town.

Harlow's current needs and those of a potential future expanded population will require an attractive, safe and active central amenity core. Key elements of such a centre for Harlow will need to consider:

- An overall upgraded level of retail provision;
- A broader overall mix of uses, including residential;
- A higher quality public realm;
- A consideration of street character and vehicular access;
- A broader positioning of the Town Centre as a regional shopping location;
- A restructuring of the accessibility network;
- A restructuring of the design of built form and use along the ringroad;

6.2.4 Intensify use of green corridors

As already noted, Harlow's green corridors are a valuable and distinctive feature of the town, but underused. We propose that they could provide more benefits to more people without loss of their current qualities if bordered with new high density development that actively exploited the boundary between built and open space instead of turning its back on the greenspace as at present.

Such development could also enhance neighbourhood identity and cohesion, increase the customer base for local services thus contributing to principle 6.2.2, and increase the overall density of the town while maintaining, indeed further accentuating, the contrast between built and open areas.

New green corridors must also be provided in new development areas.

6.0 KEY PRINCIPLES FOR A SUSTAINABLE FUTURE

6.2.5 Broaden the employment base

Harlow must seek to completely and comprehensively fulfil its sub-regional role. This includes a successful, growing and attractive employment base, serving both local and regional economies.

To achieve this it must encourage a wider range of businesses, a greater number of smaller firms and avoid the dominance of a few large employers. It will be important to reinforce the 'clustering' of businesses within existing locations in order to expand a supporting business services amenity base and therefore improve the attractiveness of the location to new businesses generally.

This will require upgrading of the local environment to better provide for an expanded range of business sectors and accommodation types. The structure of the access will need to cater for the different requirements of servicing (eg logistics vs. office).

6.2.6 Foster quality spaces and streets

Harlow has a unique typology of street and space types. Often, however, these do not provide positive, safe and lively environments for users. Different movement modes are segregated and the car tends to be dominant with pedestrian routes often reduced to underpasses.

A clear classification and audit of the quality and purpose of existing spaces and streets is required. A good start would be to 'name them!'

Within a comprehensive typology of streets and spaces, the different opportunities for intervention can be identified and linked to other drivers such as a wider movement framework. Key design briefs for public spaces / green wedges/corridors can be determined.

A strategy needs to be developed towards a common palette of local/ natural materials and street furniture.

6.2.7 Minimise environmental resource use and waste

Sustainability requires a step change reduction in environmental resource impacts compared to current norms. Key areas for new development in Harlow include:

- Reducing the energy used in buildings through high levels of insulation and draught prevention, orientation to catch solar heat, and built forms that minimise external area, for example terraces and flats instead of detached houses (where much of Harlow already sets a good precedent);
- Using renewable energy sources wherever possible. Harlow's generous open spaces could provide biomass energy from parks waste, and the potential for energy forestry and energy crops should be explored. Trees planted for summer shade – increasingly required as a result of climate change – could also provide coppice timber as a fuel;
- Reducing the energy used in transport: this will be a further benefit of the sustainable transport network advocated in 6.2.1 and the revitalisation of neighbourhood facilities in 6.2.2;
- Minimising demand for piped water, through water efficiency measures in housing;
- Capture of rainwater as a resource, and regeneration / re-use of 'grey water' (a potential extra benefit of Harlow's generous open spaces);
- Maximising reuse of building components and materials, and sourcing all materials as locally as possible;
- Building in facilities for waste minimisation and reuse, such as composting space, neighbourhood level waste biomass plants, and space for recycling storage.

2) NEW LARGE SCALE DEVELOPMENT

6.2.8 *New neighbourhoods on the new public transport system*

The new public transport system (see 6.2.1) could be extended to service new developments with shorter journey times to the Town Centre than are experienced from many neighbourhoods at present. The link could also be extended to North Weald and Epping, improving public transport connectivity and resilience throughout the sub-region.

The proposed new public transport system would open up the prospect of major expansion of Harlow, driven by non car-reliance approaches and therefore potentially avoiding the need for new high capacity road infrastructure. A fundamental re-thinking of accessibility that begins with sustainable 'first principles' rather than traditional traffic modelling based on defining 'outputs by data input.'

6.2.9 *Creating best practice urban settings*

Applying best practice approaches to the design and layout of new urban form should be approached with caution given the same intentions of Gibberd and his collaborators at the time. We can now draw on a greater wealth of information with regard to 'what works and what doesn't' though this must be informed by the specifics of Harlow's landscape, urban form, social goals and history of evolution.

New development must be informed by a sensitivity and understanding of local cultural patterns and layers, of topography, ecology and historicism of the land.

The new 'New Town Urbanism' has the potential to be driven by sustainable goals while achieving places that are fundamentally urban, of civic scale and quality, and desirable places of differentiation.

6.2.10 *Retaining an enduring Harlow spirit & character*

Harlow New Town was first and foremost a new TYPE of place. It was characterised by:

- New spatial relationships of built form to open rural landscape;
- New approaches to designing WITH the landscape and revealing layers of historic meaning;
- New locational characteristics (relied on strategic accessibility);
- New models of lifestyle and work patterns/commuting and travel;
- New typologies in housing; and,
- New social and cultural mixes.

The essence and 'spirit' of this New Town must be carried through into any new development and translated into an appropriate language for today's development, lifestyle and political context.

CHAPTER SEVEN **NEXT STEPS**

This chapter sets out the steps necessary to take forward this report within the planning policy review process and suggests a number of immediate actions to focus resource and effort.

7.0 NEXT STEPS

This study has explored the design development principles, founded on sustainability criteria, by which Harlow could accommodate future change. The proposition that change and managing that change is necessary has come about through pressure from recent Draft East of England Plan housing proposals and recognition across the project steering group that Harlow must address the regeneration and renewal of its existing fabric.

In 2003 ODPM identified various funding initiatives to support growth within the London-Stansted-Cambridge-Peterborough corridor (£164m). A further £10.8m has been dedicated to the Harlow Gateway project and £1.4m towards the various technical studies required to establish the basis for new development across Harlow.

Over the course of 2004 this study has established Harlow-wide development principles, informed by technical reports (landscape, transport, regeneration) that identify the core 'moves' Harlow needs to make to become a more sustainable settlement whilst accommodating new development. Specific types and locations for regeneration or new development are to be identified subsequently. The need for a comprehensive regeneration strategy that informs both the nature (accommodation type) of new development and overall strategic goals of Harlow's future role within the sub-region is critical to developing both supply and demand-led arguments in parallel. This work is underway (PACEC/Halcrow) and emerging results will inform site-location design exercises.

Although there is much to be developed in terms of detail, considerable encouragement and in-principle support for the 'Principles and Criteria' has been provided by various Council Officers from the five Planning Authorities and others who have been involved in this document's preparation and the associated meetings and workshops. Building on these positive foundations, the Consultants recommend the following 10 steps:

1. Complete pilot testing of design principles to identify likely locations for early win projects (both regeneration and greenfield). Generate development briefs for these locations and use as basis for developer testing.
2. Initiate a programme of community and stakeholder engagement and consultation to widen awareness, build support and develop the programme of actions. This could be initiated with the preparation of a leaflet and exhibition summarising design principles and requesting feedback.
3. Embed design principles in the Local Development Framework and Local Transport Plan review process.
4. Formally adopt the Masterplanning principles Study. A two-stage process is advocated:
 - i. That the respective District and County Councils adopt the document as an Interim Planning Statement in the short term to confirm its status as a "material consideration" in the determination of planning applications.
 - ii. To adopt the document in the medium term as a Supplementary Planning Document following the introduction of changes to the planning system.
5. Use the urban design principles and strategy elements as the basis for design review and development control of planning applications. This will require training and capacity building for Development Control officers. Areas to focus on include:
 - Briefing;
 - Design Codes;
 - Streetscape manuals;
 - Design review;
6. Take direct action by taking forward early win projects – particularly in Neighbourhoods of greatest need of renewal or on specific Estates that have a high degree of public ownership.
7. Take direct action by taking forward projects on public owned vacant land.
8. Incentivise and celebrate best practice by, for instance, investing in an award for high quality new development or regeneration projects.
9. Identify the infrastructure requirements to achieve sustainable development both within and outside the town boundary and the phasing of development related to the infrastructure provision.
10. Identify project partners and funding mechanisms to help ensure the delivery of the master planning principles that may require further exploration, as individual projects, before implementation.

APPENDICES

Appendix 1: Sustainability Reference and Review

Appendix 2: Harlow c.f current planning orthodoxy

Appendix 3: Journey Matrix

Appendix 4: Airport Noise Review

Appendix 5: Planning Policy Review

APPENDIX 1A : SUSTAINABILITY

'key requirements of sustainable communities' (ODPM (2003) Sustainable Communities: building for the future)	Applicability to Harlow at masterplanning level	Implications / recommendations
A flourishing local economy to provide jobs and wealth.	Are current industrial areas suitable for maintaining and attracting employment? (Will the results of this study be followed through?)	Masterplanning must maintain attractiveness for business
Strong leadership to respond positively to change.		
Effective engagement and participation by local people, groups and businesses, especially in the planning, design and long-term stewardship of their community, and an active voluntary and community sector.		Confirms need for the stakeholder engagement built in to this study
A safe and healthy local environment with well-designed public and green space.	High provision of open space, especially Green Wedges, provide good quantity of open space. Does its design and management meet current needs? Do the pedestrian / cycle routes really work?	Must maintain functional green wedges and extend in any significant new development
Sufficient size, scale and density, and the right layout to support basic amenities in the neighbourhood and minimise use of resources (including land).	Hierarchy of neighbourhoods with neighbourhood centres and 'hatches' [term in the Local Plan, not in Masterplan] was carefully designed to achieve this. Neighbourhood audit needs to be carried out to assess performance.	Need to revitalise / reconfigure neighbourhood centres and 'hatches' to meet current and future needs. Does this mean denser neighbourhoods, more recreational provision in them?
Good public transport and other transport infrastructure both within the community and linking it to urban, rural and regional centres.	Fragmented structure militates against this.	Need to consider densification / 'ring of pearls' / car restraint to create critical mass for better public transport.
Buildings – both individually and collectively – that can meet different needs over time, and that minimise the use of resources.	Local Plan suggests a lot of buildings are no longer suitable. 50s style is currently out of fashion with desire now to replace rather than re-use buildings.	A coordinated approach to revitalisation / renewal of dated buildings is appropriate to allow decanting / demolition / new build on a rolling programme.
A well-integrated mix of decent homes of different types and tenures to support a range of household sizes, ages and incomes.	What are demands. Possibility that needs not met by current stock. Draw from the HDC Housing Needs Survey. Lack of houses for higher income households.	New types of housing environment need to be created - perhaps along the lines of New Hall.
Good quality local public services, including education and training opportunities, health care and community facilities, especially for leisure.	Need to assess quality of provision across Harlow in relation to adjacent administrative areas.	Make sure provision is coordinated with housing (as in Gibberd's plan.) New schools offer an opportunity for improvement.
A diverse, vibrant and creative local culture, encouraging pride in the community and cohesion within it.	Requires comprehensive regeneration-led masterplanning, considering local characteristics with wider regen issues.	Requires programmes beyond physical regeneration / environmental improvements. Social, economic and educational programmes to be included.
A "sense of place".	To an outsider this may seem lacking, because of the understated style of building, lack of historical accretion and dilution by greenspace. But is this how locals see it?	Radical change required to create a town-wide character across the various neighbourhoods. New integrated neighbourhood character.
The right links with the wider regional, national and international community.	Harlow is close to London, Cambridge and Stansted.	Harlow's local economy must be structured to support the wider sub-regional/ regional economic strategy and changing business patterns.

APPENDIX 1 B : SUSTAINABILITY

MILLENIUM VILLAGES OBJECTIVES & QUESTIONS (Millenium Villages and Sustainable Communities (1999))	ISSUES FOR HARLOW	HARLOW MASTER PLAN IMPLICATIONS / RESPONSE	RELATIONSHIP TO GIBBERD MASTERPLAN / PRINCIPLES
1. <i>Environmental resources</i>			
1.1 How much greenhouse emissions does a resident produce through energy use in the home?	Mostly for building regs / development control. Masterplanning can influence through built form and fit of residents to dwellings, and by setting assessment standards.	Encourage terraced / tenemental built forms. Ensure dwelling sizes match needs / demands. Set standards to be achieved.	Consistent with Gibberd principle of density within neighbourhoods. Consistent with Gibberd principle of matching dwellings to needs - but have demographic mix and space expectations changed?
1.2 How much treated water does a resident consume living in the home?	Mostly for building regs / development control. Masterplan can influence through neighbourhood level water management	Encourage water management features (wetlands, reedbeds, balancing ponds) as part of neighbourhood planning Build rain / grey water use into new development	Functional water features weren't considered in 50s but philosophy of communal planned amenities is entirely consistent with G approach to community facilities Consistent with neighbourhood level planning approach
1.3 How much greenhouse emissions does a resident produce in daily travel (especially by car?)	Car intense commuting (in-, out- and within the town)	Balance jobs in the town better to residents' needs. Revitalise industrial estates? Revitalise cycle and pedestrian network; traffic restraint	Industrial estates were intended to provide residents / jobs balance - but do they still? Car dependence was seen as an advance, not a problem. Cycle network was intended to provide alternative - is it working; does it require car restraint?
1.4 How much greenhouse emissions does a resident incur in buildings / infrastructure?	Harlow building stock needs to improve and lifestyle patterns rely on single car journeys to access services.	Encourage shared use of eg schools, colleges	Purpose built / single purpose approach to amenities likely to be wasteful.
1.5 How much aggregate is used in the construction? How much of this is virgin?	Mostly for building control / development control.	Maximise reuse / adaptation of existing buildings. Recycle materials if buildings must be replaced.	Wasn't an issue.
1.6 Land take per resident	High density within neighbourhoods	Maintain 'tradition' of density within neighbourhoods	Gibberd sought high density within neighbourhoods
	Profligate with land between neighbourhoods - though is this justified by use? Affects walking catchments and access to range of neighbourhood facilities.	Cherish the openness and natural space but get more intensive multiple use out of it - and possibly reduce area?	Gibberd gloried in space between neighbourhoods. It serves important quality of life aims - but could they be achieved with less area?

APPENDIX 1 B : SUSTAINABILITY

2 Environmental benefit			
2.1 Has the development avoided or substituted for any loss of quantity or quality of important environmental benefits and services provided by the site?	Big ones likely to be water, green space, jobs, urban character - all dealt with under other headings	Ensure that any new green space is 'productive' well accessed, managed and used by residents/visitors.	Gibberd intended the rural-urban interface to be clearly articulated and interwoven. Quantity of green space succeeded over quality in the Gibberd plan.
2.2 Has the development increased or enhanced any important environmental benefits and services already provided by the site, or secure new ones?		Ensure Harlow-unique issues of character are reinforced and not lost.	
3 Design Quality			
3.1 LOCAL IDENTITY Is this a place of character and distinction that strengthens the existing community or creates a new identifiable community neighbourhood?		[[Is the current 'character' characterlessness? If so is this good or bad? In whose eyes?]]	Gibberd sought a strong local character and identity for Harlow - but did the rest of the 'recipe' undermine it?
3.2 BEAUTY Are the designs considered attractive?	Currently seeming tired and mediocre?	see above	see above
3.3 PROVISION OF OPEN SPACE Is there sufficient suitable open space to provide for all the residents' needs and wishes (including informal/'untidy' recreation)?	Maintain current quality and accessibility for existing residents and for new development - but while developing more land.	Keep / expand wedges and accessibility standards - but can the land provide multiple benefits more intensively?	This was a key aim and achievement of the Gibberd Masterplan.
3.4 ACCESSIBILITY & INTEGRATION Do the quality, location, frequency, convenience and image of walking, cycling and public transport facilities make them attractive alternatives to the car? Is there a network of convenient and comfortable routes within the site that link with the surrounding context favouring pedestrians, cyclists, public transport and other vehicles – and in that order?	Routes exist - better than most places - but are they attractive / well used?	Maintain and revitalise the network	Full walking / cycling network was intended to provide alternative. Does it provide for current journey patterns?
	How good are buses?	Re-engineer neighbourhoods to ensure nodes can be served effectively by public transport providing for current journey patterns.	Gibberd was complacent about public transport. Needs to be more responsive / attractive.

APPENDIX 1 B : SUSTAINABILITY

3.5 SECURITY AND SAFETY [Cross-reference- quality of life] Does the configuration of built form help safety and feelings of security?	Micro design of new neighbourhoods for safety and security.	Apply secure -by-design principles in new layouts	New issues for Harlow.
3.6 LEGIBILITY Does the design make it easy to find your way around and make the function and ownership of spaces clear?	Harlow has a distinctive overall pattern	Develop consistently with the previous pattern	Gibberd defined a number of 'strategic' elements that gave the town a very clear and legible structure - the Baseline to the north, employment locations, northern and southern landscape 'edges', green wedge structure etc.
3.7 PRIVACY Do gradations of public to private space fit with the cultural and lifestyle preferences and promote local community cohesion? Are the boundaries 'legible' to users? Are private spaces free from overlooking, noise and light pollution?	detailed design of built form-to-open space. Articulation of boundaries	Apply current urban design best practice to definition of the public/private realm	Gibberd's plan was compromised by Highways regulations and developer requirements on layout and design. Thinking on rural-urban interface also changed.
3.8 PERSONALISATION Can occupants express their personal tastes and preferences in the way they inhabit and modify their environment?	Neighbourhoods of limited building design options. Front gardens can be used creatively	tension between individualisation and collective style. Masterplan to set conditions.	Gibberd deliberately involved different architects to design housing blocks with neighbourhoods, in order to achieve both variation and consistency.
3.9 DISABLED PROVISION Are buildings accessible to, and usable by, people with disabilities?	for detailed design	Apply mobility requirements to percentage of new build	
3.10 ADAPTABILITY Can buildings and open spaces accommodate shifts in user requirements arising from changes in demography, technology, affluence and lifestyle fashion with the minimum resource costs?	buildings all of one generation, purpose designed - now tired and unfashionable	Selective reconfiguring (ideally refurbishment, but demolition where necessary) of existing fabric.	Gibberd anticipated problem and attempted to meet it by encouraging diversity of detail within the MP. But unified conception intrinsically higher risk of falling out of step with fashion / user demands than a 'messier' town. Desirable to have more diversity in planning as well as architecture in future?
3.11 INTERIOR SPACE Do homes have sufficient space to meet user requirements?	See 1.1 (second line) and 3.10		
3.12 CONSTRUCTION QUALITY Freedom from defects	Not a masterplanning issue		

APPENDIX 1 B : SUSTAINABILITY

4. Quality of life / choice			
4.1 Are high quality public services accessible to all residents? Does the development improve access to services for other local people?	Catchment design of neighbourhoods intended this. Some areas outside of walk-able distances.	Must develop public services (accessible, good quality) in step with housing. Update the catchment rules of thumb for current preferences and expectations. Ensure Town Centre provision is sufficient.	Neighbourhood services hierarchy gave strong emphasis to balancing provision to demand. But does it still provide what people now want / need?
4.2 Does the development help reduce crime and residents' fears of crime?	For detailed design		
4.3 Does the settlement make secure and fulfilling work opportunities available to all who want them?	See 1.3 (first line)	Needs to be informed by Regeneration-led issues.	Gibberd intended a high level of local employment.
4.4 Will the settlement make it easier or harder for other people in the area to get and keep jobs?	See 1.3. Need to consider knock-on effects of employment change across the area.	Consider effects of new housing and jobs on people already in Harlow.	
4.5 Can everyone in the settlement get appropriate training when they need it?		4.1 should include colleges	
5 Equity / inclusion			
5.1 What opportunities /initiatives are there for the intermediate labour market, LETS etc in the area? How is the voluntary sector being integrated to improve equity?		4.1 should include community facilities	
5.2 Does the settlement have a diverse social mix, and how is this achieved?	narrow demographic through post-war plan	Actively plan to rebalance community - which categories are underrepresented?	Aim was always for balanced diverse community. But did the creation of a town from scratch result in unbalanced demography?
5.3 How are equity and equal opportunities promoted in the development process and when the development is occupied?	Masterplan review process should provide for max stakeholder / community engagement.		
How much say do the people who live or work in and near the settlement, or are otherwise affected by it have over: 6.1 the nature of the settlement (including whether there should be one at all); 6.2 how it is developed and implemented; 6.3 how it is run and managed once it exists?			
6.4 How lively is the community sector?			
7.1 How much public funding was required to make the development happen?	should balance books from development gain?		
7.2 Is any extra / special public funding needed to keep the settlement functioning?		Mechanism for planning gain?	

APPENDIX 2 : HARLOW COMPARED TO CURRENT PLANNING ORTHODOXY

The following table compares the Harlow masterplanning principles of the 1940s and 50s with current (2004) planning orthodoxy and with what Harlow is now like on the ground, and draws implications for possible masterplanning principles for the future.

There is no one convenient list of 'masterplanning principles' for Harlow. The following list has been drawn from:

- Gibberd F (1952) Harlow New Town Master Plan August 1952, Harlow Development Corporation, Harlow - labelled 'MP';
- Quotes ascribed to Frederick Gibberd as quoted in Gibberd F et al (1980) Harlow: the Story of a New Town, Publications for Companies, Stevenage, 1980 (page 36 unless otherwise stated) - labelled 'FG'

Harlow principle	Relation to 2004 planning orthodoxy	Harlow on the ground now	Implications for 2004 masterplanning principles
'... prefers segregation of home and work' (FG); 'distinct Areas for work, home and play' (MP, 7)	Mixed use actively promoted to reduce need for travel, keep vitality, avoid different parts of town being dead at different times of day	Zoning was already slightly compromised by allowing some commercial / light industry within neighbourhoods. How do the industrial areas function now?	Allow live/work and small scale commerce within neighbourhoods.
'... zones ... connected ... by main roads largely free of building frontage' (FG); 'connect these Areas by a road pattern in which traffic can flow easily' (MP, 7)	Within urban areas, avoid dead roads with no relationship to buildings. Avoid increasing road capacity because it always fills up	Looks as if the roads are dead, unpleasant, anti-urban	Stitch the distributor roads back into the urban fabric by making them boulevards? [building for life example??]
Industry concentrated on two estates near edges of the 'baseline'	Only 'bad neighbour' employers should be segregated	What kinds of business are on the two estates. Are they thriving? Are they attractive to modern employers; is there a reason for segregating them?	Growth of employment areas needs to provide for wider economic base and ensure that accommodation types encourage the full life-cycle of a business's needs
'Most families no longer like living in town centres, preferring a suburban environment of two-storey houses with private gardens' (FG)	Ambivalent: acknowledge this is still what people like, but trying to promote higher density, more urban milieu	Relatively high built density within neighbourhoods - is this reconciling the two aims, or falling between stools?	Are any neighbourhoods so low density they need to be redeveloped? Comprehensively or piecemeal by letting people extend housing?

'... way of life ... which is largely dependent on motorised transport, with the private care as the ideal' (FG)	We now aim to reduce traffic and car dependence. Development patterns and lifestyles predicated on car use should be avoided.	How do traffic levels and car dependency compare with other places? How does road capacity relate to demand?	The neighbourhood / district / town centre clustering, with ample space for pedestrian / cycle routes, could be good for low-car-use lifestyles - provided car capacity is restricted.
'... we regarded cycle tracks as complementary to roads and made them a component of the plan'	safe attractive cycle provision is now a high priority - but often constrained by lack of space	How well has Harlow's network survived?	Maintain cycle network. Does it need upgrading? (eg road crossings). Extend it in any new areas
'... distinct areas for living in the form of neighbourhoods [with primary school and local shops]...' (FG) 'Neighbourhood units of from 6,000 to 15,000 people' (MP, seven)	Neighbourhood / pedshed idea promoted	How far do 'neighbourhoods' still function as intended - do people generally use their neighbourhood school or shops?	Maintain and strengthen role of neighbourhoods - encourage people to meet more needs within them.
'neighbourhoods ... grouped ... as balanced districts ... [each with] a shopping and social centre' (FG)	Amenities with local catchments supported	Do the districts function as 'balanced communities' - do the district level amenities match what people want; do people within districts generally use them?	Revitalise the idea of meeting needs at district level - but do they need to be different facilities now?
'contained by ... Green Belt of agricultural land' (FG) 'Instead of perching out into its surroundings, the town stops and the countryside begins.	Green Belt still orthodoxy (though questioned!) Current policy seeks to maintain clear boundary between town and country	How well has Green Belt been maintained?	
'Links to the countryside are formed by green wedges designed to embrace natural features such as valleys, woods, brooks ... kept as natural as possible, in no way turned into the character of a Town Park... Green areas separating zones of buildings are to be kept as broad as possible, to avoid bricks and mortar merging into one vast area, and with this in view, the Secondary School sites and recreation areas are placed within them to expand the wedges. (MP)	Wedge concept now very fashionable! Idea of preserving wild natural character also now orthodox. However the anxiety to keep urban areas separated now seems overstated.	How well used are the wedges, for what purposes? How important for their uses are (1) their position, (2) their linear character linking centre to edge, (3) their land area	Keep the wedges; continue them through any extension. Can a smaller area of open space work harder for public goods - could they still achieve their purpose with (eg) medium-rise housing blocks down their sides articulating the boundaries of current housing?
green space network	'Green grid' is a strong aspiration	Harlow already HAS a green grid of a kind others would die for	Keep it and extend it - connections with the wider Essex Green Grid

Capture urbanity; urban quality, through good relation of buildings to each other, variety in shape and size of buildings and spaces between them (MP paraphrased)	This aim is absolutely mainstream Urban Task Force / Urban White Paper / CUBE thinking. But Gibberd's means - tastefully designed clusters of single purpose buildings segregated by ample greenspace - is the opposite of the densely packed / mixed-up / clamorous / 'in your face' school of modern urbanism	Impression from photos is that the actual urban design implemented achieved an aching absence of the urbanity Gibberd claimed to be seeking. Did he just simply get it wrong? Or did he succeed brilliantly in giving people a mild and tranquil suburbanism which they actually wanted? What do the residents think?	If what's there is what people want, should we aim to give them more of it? - additional district clusters like the ones already there? If it's not what they want, can we retrospectively densify and urbanise them - build more housing at higher densities in some of the luxurious gaps, maybe even demolish and rebuild some housing?
'development on the edge of the town is as dense as that near the centre' (FG, p dense as in centre)	We now actively promote higher density near centres for transport reasons. However, keeping housing density up even at edges of settlement is in line with PPG3.	What are the actual net and gross densities in different parts of Harlow?	Raise density near transport nodes?
Shape - a semicircle south of a 'baseline' given by the E-W railway and road corridor. Puts the 'centre' near the 'edge'	Centre should be in the middle.	Less a semicircle than a series of clumps. But the 'baseline' has held - no development north of the line.	Consider developing north of the 'baseline'

Provisional conclusions

Some aspects of the original Harlow masterplan line up very well with current planning orthodoxies and should be maintained - though may need to be revitalised to fit changed circumstances:

- tiering of neighbourhoods, districts and whole town each with appropriate amenities - but are the amenities still the right ones?
- separate cycle / pedestrian ways - are they up to modern standards, do they go to the right places, is car restraint needed to get people to use them?
- recreational land access
- green wedges
- green grid
- housing of no lower density at edges.

Other aspects seem at odds with current orthodoxy. We need to look with all due humility at how they have actually panned out in practice, but may need to rethink:

- zoning, especially separation of functions
- industrial estates
- dead roads with no frontage
- assumption of car dependence
- quantity of green space, and consequences for travel distances and overall density
- design style (which seems inimical to Gibberd's own urbanist aspirations)

APPENDIX 3 : JOURNEY MATRIX

WORKPLACE IN: Harlow												
RESIDENCE IN:	ALL			Train	Bus	Taxi	Car-Driver	Car-Pass			On Foot	Other
Harlow	23894	2485	91	139	1542	417	11897	2260	238	1088	3666	71
Bishop's Stortford	1815	0	0	107	37	0	1520	97	27	18	9	0
Cambridge	81	0	0	9	0	0	63	9	0	0	0	0
Chingford	93	0	3	0	3	0	84	3	0	0	0	0
Hatfield	71	0	0	0	3	0	65	3	0	0	0	0
Romford	164	0	3	6	3	3	137	6	6	0	0	0
St.Albans	111	0	0	3	3	0	96	6	0	0	3	0
Stansted	337	0	0	21	0	0	301	6	9	0	0	0
Waltham Cross	111	0	0	6	0	0	102	3	0	0	0	0
Welwyn Garden City	140	0	0	0	3	0	131	6	0	0	0	0
Central London	222	0	45	51	0	0	117	6	0	3	0	0
East London	736	0	18	59	55	0	556	33	6	3	3	3
North London	716	0	12	36	21	0	593	39	6	6	3	0
South London	91	0	0	6	3	0	73	6	0	0	3	0
West London	130	0	13	0	9	3	99	3	3	0	0	0
Cambridgeshire	292	0	0	6	0	0	280	3	0	0	0	3
Essex	5053	0	18	48	150	12	4373	269	63	30	90	0
Hertfordshire	3774	0	3	60	49	9	3369	176	40	54	11	3
East of England	575	0	0	6	12	3	487	30	9	0	25	3
East Midlands	72	0	0	3	3	0	57	3	0	0	6	0
West Midlands	46	0	0	0	3	0	36	0	3	0	4	0
South East	486	0	3	21	3	0	423	18	0	3	12	3
OTHER	305	0	5	9	7	0	226	21	0	3	30	3

RESIDENCE IN:												
Harlow												
WORKPLACE IN:	ALL			Train	Bus	Taxi	Car-Driver	Car-Pass			On Foot	Other
Harlow	23894	2485	91	139	1542	417	11897	2260	238	1088	3666	71
Bishop's Stortford	911	0	3	70	27	0	708	73	18	3	3	6
Cambridge	82	0	0	18	0	0	58	0	0	0	6	0
Chingford	94	0	0	3	0	0	82	9	0	0	0	0
Hatfield	64	0	0	3	3	0	55	0	3	0	0	0
Romford	131	0	0	3	3	0	122	3	0	0	0	0
St.Albans	47	0	0	0	0	0	41	3	3	0	0	0
Stansted	701	0	6	35	38	0	589	27	6	0	0	0
Waltham Cross	204	0	0	9	0	0	170	19	3	0	0	3
Welwyn Garden City	195	0	0	12	3	0	174	6	0	0	0	0
Central London	2088	0	479	1021	60	9	390	75	45	3	3	3
East London	1330	0	82	134	15	0	991	84	18	0	3	3
North London	1386	0	15	63	30	0	1191	51	18	6	9	3
South London	57	0	12	6	3	0	33	0	0	3	0	0
West London	248	0	21	15	3	0	170	27	6	0	6	0
Cambridgeshire	60	0	0	6	0	0	42	12	0	0	0	0
Essex	3193	0	9	33	117	9	2554	269	42	76	81	3
Hertfordshire	3123	0	18	48	93	12	2622	221	36	18	49	6
East of England	306	0	0	6	6	3	240	15	0	12	18	6
East Midlands	36	0	0	0	3	0	27	6	0	0	0	0
West Midlands	30	0	6	0	3	0	21	0	0	0	0	0
South East	294	0	6	15	3	0	240	18	0	6	6	0
OTHER	190	0	12	9	9	0	103	12	3	0	21	21

Stansted airport, one of London's 5 international and domestic airports is under consideration for major expansion to meet projected airport traffic growth. The Government's 2003 Airports White Paper envisages a 2nd runway being constructed by 2011/2012.

Existing condition

Currently there are two aviation related policies in place dealing with safety and noise.

Noise zones - reflecting additional environmental noise caused by airplane traffic - are delineated by a noise contour line - but without correlating land use policies other than those supplied in respective Planning Authority Local and Structure Plans. East Herts Local Plan (adopted 1999) refers to Government Circular 39/81 which stipulates a zone around Stansted airport subject to a 'Department of the Environment Safeguarding Directive' and PPG24 "Planning and Noise" introduces Noise Exposure Categories (NEC's), which define an upper limit of 57Db, reduced in East Herts by 3Db to 54Db (policy BE11), for any new residential development to be permitted within the noise zone.

New proposals

The Government is looking to introduce a new layer of safety controls - **Public Safety Zones (PSZ)**, these relate to indices of risk - a societal measure of acceptable levels of potential aircraft accident/ fatality and are a widely used in Europe.

Draft proposals for PSZ were undertaken by ERM Consultants commissioned by the Department of Public Enterprise and the Department of Environment. The ERM report recommends the introduction of Public Safety Zones including zoning for a new runway and corresponding development constraints. Two zones types are proposed a higher risk inner zone and an outer zone.

Development Constraints within PSZ zones

The potential PSZ delineation and recommended development constraint policies are used to inform this study and the constraints are set out below:

- Within the **inner zone**: No further development will be allowed (existing developments to remain)
- Within the **outer zone**: Regulated level of development is 'permitted' for:
 - **Residential use** to a max of 120 pers p.ha
 - **Retail leisure** facilities to a maximum of 170 pers p.ha
 - **Working premises** to a maximum of 220 pers p.ha.

Noise Zone contours for Stansted do not yet correlate to the more recent 'Inner' and 'Outer' definitions and it is recommended that such an analysis be undertaken.

Further airport development issues

Noise zoning

The **noise zone** contour for Stansted has been generated by the CAA. There are no universally accepted measures for relating the acceptably of specific noise level zones to specific land uses and approaches to balancing environmental quality with development demands vary across Europe.

As airports are often located at economic hubs - in areas of high accessibility and amenity value - they are desirable locations for living and working and in practice tolerance is exercised to accommodate growth.

Whilst EU research is currently in progress to unify standards - progress is being hampered due to the lack of 'scientific norms' to define airport and environmental noise pollution, and approaches and interpretations vary across countries and airports. Some experts consider decisions regarding noise zone/ land use policy may ultimately be made by creating a balance between economic development and environmental conditions.

Noise Mitigation

Policy across Europe is moving towards controlling noise emissions and noise impact rather than focussing on regulating the impact of noise through zoning.

These noise mitigation policies include:

- improvements in aircraft noise emission levels;
- controls on flying times, aircraft type and volume; and,
- 'polluter pays' policies - where grants are available for developments to mitigate adverse environmental conditions.

Manchester Airport and the Local Planning Authority have developed noise zone land use policies restricting development by type and density in correlation with noise level contours - limiting development at the higher Db levels i.e up to 72Db - to permitting (residential development included) at the lower 44 - 66db range. Here a 'polluter pays' policy is enforced - where development is permitted the airport authority/ airlines pay for e.g. double glazing for residential properties.

Many high volume airports like **Heathrow and Gatwick** - which have substantial residential settlements in noise impact areas - have implemented noise control methods to reduce noise impact through requiring improvements in aircraft noise emissions and the type of aircraft they accommodate. The level of noise emissions at these airports is falling and is projected to reduce considerably over the next 10-15 years.

Schiphol airport also employs a wide range of policies to help balance the need for growth at this hub location through - noise zone land use controls, controls on aircraft noise emissions and type and noise mitigation policies.

Harlow - Development opportunities

Public Safety Zones

Parts of the northern fringe of Harlow and areas north of the Stort Valley could fall within the PSZ's and existing parts of northeastern edge of Harlow are bisected by the noise zone.

Noise Zones

- Parts of the Harlow northeastern fringe lie within the noise zone - but outside the East Herts 54Db range;
- The PSZ outer zone policy permits residential use at specific densities - indicating that these lands are clearly developable from a noise standpoint;
- A balanced approach to enable growth and controlled environmental pollution is required. The northeastern fringe is a growth area and potentially a desirable living location (proximity to employment / station / Stort valley);
- There are many examples of comparable airport edge residential and mixed use settlements across Europe airport locations (eg Hoofddorp a new residential and mixed use development at the edge of Schiphol airport); and,
- Policies are moving towards controlling noise emission and impact.

Conclusions

The implications of these zoning conditions have been taken into consideration in the study - delineating areas of reduced development potential as well as giving more certainty to areas where development growth can be accommodated - in an area earmarked to absorb sub regional growth.

Within the northeastern Harlow fringe these development constraints will 'permit' residential development at densities to be confirmed, and help satisfy local and strategic policy objectives for area intensification.

Planning Policy Context and Other Studies

Harlow has been the focus of much planning analysis and review since Regional Planning Guidance for the South East (RPG9 – published 2001) identified the growth potential of the **London-Stansted-Cambridge** corridor focused on Stansted Airport.

This review summarises the key planning and transport studies which have been undertaken, describes some of the wider sub-regional issues which provide the context for growth at Harlow, and identifies the local implications which must be addressed in creating masterplanning principles and sustainability criteria.

The EERA and GO East policy climate at the moment, is one of accommodating high levels of housing and employment growth, and using this growth for regeneration.

Sustainable Communities Plan (Feb 2003)

This Plan announced the Government’s policy for four Sustainable Community growth areas – of which the London-Stansted-Cambridge corridor is one. Harlow and Cambridge are identified as early delivery locations in the growth area. Growth is seen as necessary at Harlow in order to modernise the town (particularly the town centre) and to fully exploit its prime location in the prosperous M11 corridor. The sub-region has experienced substantial economic growth in the last decade, underpinned by clusters of some of the UK’s most successful businesses in biotechnology, life sciences and ICT/software and a rapid increase in the use of Stansted airport. The Plan recognises the negative effects of high and rapidly rising house prices and their impact on the recruitment and retention of staff, particularly close to London and around Cambridge but spreading deeper into the region. The Government has now committed to providing £10.85 million support for the Harlow Gateway project, which will create 450 homes, leisure and community facilities on a brownfield site, whilst making better use of an existing transport hub. Government has also funded a series of studies in and around Harlow.

Regional Spatial Strategy (December 2004)

The Draft Regional Spatial Strategy (formerly Regional Planning Guidance) for the East of England provides a long term strategy for the sustainable development of the region, supporting urban renaissance, economic growth and the housing needs of all sectors of the community, while protecting the environment.

The East of England is a relatively new region, previously covered by two regions - East Anglia and the South East - each having their own Regional Spatial Strategy. Both were published as Regional Planning Guidance prior to the commencement of the Planning and Compulsory Purchase Act 2004. Regional Planning Guidance for East Anglia (RPG6), covering the counties of Cambridgeshire (including Peterborough), Norfolk and Suffolk, and was published in November 2000. Regional Planning Guidance for the South East (RPG9), covering Bedfordshire (including Luton), Essex (including Southend-on-Sea and Thurrock) and Hertfordshire, was published in March 2001.

The new Draft Regional Spatial Strategy for the East of England (RSS) hence covers Cambridgeshire, Essex, Norfolk, Hertfordshire, Bedfordshire and Suffolk, consistent with the current Government Region boundaries. Adopted RPG6 for the region however remains the Regional Spatial Strategy (RSS) until such time as it is replaced by the East of England Plan.

The proposed timetable for the East of England Plan (RSS 14) is outlined below:

Review Stage	Date
Final approved by Secretary of State	Expected to be late 2006
Public Examination	Expected to be Sept 2005
Draft RSS Consultation	December 2004 for a period of at least 12 weeks
Draft RSS The East of England Plan	Launch December 2004
Extraordinary EERA Meeting	5th November 2004
RPG 14 'banked' awaiting results of additional studies	27th February 2004
Extraordinary EERA Meeting	5th February 2004
Options Consultation Launch	September 2002

The East of England Plan has a key role in contributing to the sustainable development of the region. It sets out policies which address the needs of the region and key sub-regions. These policies provide a development framework for the next 15 to 20 years that will influence the quality of life, the character of places and how they function, and informs other strategies and plans. A major feature of RSS is that it identifies the significant investment that will be needed in terms of social, environmental, economic and transport infrastructure if it is to achieve its desired results. That investment will come from a variety of sources, including central and local government funding and private developer funding

Key objectives of the Plan seek to:

- Increase prosperity and employment growth;
- Improve social inclusion;
- Maintain and enhance cultural diversity;
- Regenerate and renew disadvantaged areas;
- Deliver integrated patterns of land use and movement; and,
- Sustain vitality and viability of town centres.
- Make more use of previously developed land;

- Meet the region's identified housing needs;
- Protect and enhance the built and historic environment;
- Protect and enhance the natural environment;
- Minimise the demand for use of resources;
- Minimise the environmental impact of travel;
- Minimise the risk of flooding;

Harlow itself is envisaged as an employment and housing growth area and as a strong sub-regional centre. The town has potential as a regional higher education centre, as a base for new economic growth and as a sub-regional retail centre. 20,700 new dwellings are proposed for Harlow from 2001-2021. The Draft East of England Plan proposes that growth is to be within and around Harlow, including the area to the north of Harlow. Regeneration-led growth is to follow a 'transport and regeneration' corridor – based on new public transport infrastructure – running from Stansted, through Harlow, to North Weald and beyond. A strategic green wedge is to be defined west of Harlow.

Discussions with the Minister of State for Regeneration and Regional Development in January 2004 made clear that the housing provision identified for the draft RPG14 (23,900 dwellings a year) is not sufficient to meet the Government's aspirations for the Sustainable Communities Plan. Government has suggested that the shortfall is of the order of 900 dwellings per year. EERA thus agreed to 'bank' the draft RPG14 as it stood and to investigate the potential of a new wider London-Stansted-Cambridge-Peterborough Growth Area to accommodate the additional growth envisaged.

After considering all the studies, EERA eventually decided to confirm the previous housing total of 478,000 – ie to decline Ministers' request for a further 18,000. The Draft East of England Plan was published for consultation and will be considered at a public examination in September 2005. However in a further twist, EERA later withdrew its endorsement of the draft plan because it did not believe the level of infrastructure funding subsequently announced by Government would be adequate.

For more details see www.eera.gov.uk

London-Stansted-Cambridge Sub Regional Study (July 2002)

The first sub-regional study was undertaken to investigate the RPG9 requirement. It identified four possible spatial scenarios, and three possible levels of growth. It indicated the potential for significant growth, but did not give conclusive guidance.

London – South Midlands Multi Modal Study (LSMMMS, February 2003)

The LSMMMS identifies the unique position of the area as a corridor for national and international traffic, as well as regional, sub regional and local movements. The main movement corridor is from SE to NW, and the impact of the M25 is clearly seen through increasing numbers of short trips on and off the orbital route. The study identified a capacity constraint at junction 7 on the M11.

Harlow Options Study (September 2003)

The Harlow Options Report looks at four scenarios for growth up to 2021. It concludes that a preferred strategy should contain a combination of focusing on developing the centre of Harlow as a sub-regional centre, and placing new high density development on hubs of public transport infrastructure. This would provide capacity for between 29 and 38,000 homes until 2026, 10,000 of which are already committed. This would be complimented by up to 181 ha of employment land, 95ha of which were already committed. The study also recommended that a special delivery vehicle be developed to deliver this spatial development framework.

Stansted/M11 Corridor Development Options Study (September 2003)

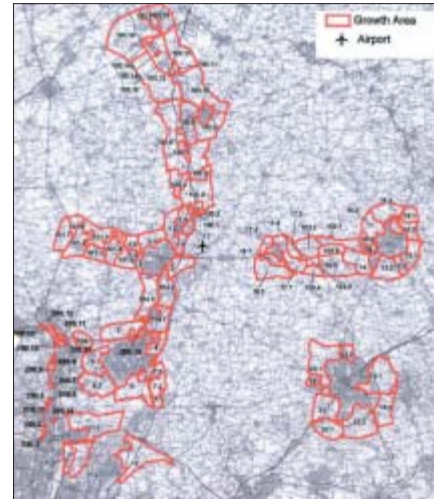
This study was commissioned to examine the potential urbanisation implications that might arise from proposals to increase airport capacity at Stansted as set out in the SERAS report. The Study examined three spatial themes to accommodate forecast growth in jobs and housing and recommended a preferred development strategy which sought to balance environmental, regeneration and transport objectives. This provided for between 14,600 – 24,800 dwellings and 14,200 to 23,200 jobs at Harlow to 2036, depending on the scale of airport growth. The Airports White Paper (the Future of Air Transport, December 2003) has subsequently clarified government policy that a second runway should be built at Stansted by 2011/12.

Harlow Local Plan (2nd Deposit draft, January 2004)

The Plan is designed to replace the Local Plan adopted in 1995 and sets out land use and development proposals to 2011. Allocations are made for approximately 2000 housing units (including 650 commitments) and 2ha of employment land (there are approximately 26ha of undeveloped employment land and a significant stock of vacant and underused employment land and buildings).

The Plan focuses on delivering a wide variety of dwelling types (cost, location, size, tenure, type) on sites released through a sequential approach. Specific principles relating to dwelling density are included; developments must be 30 to 50 dph net (or more) and a need is identified for a greater proportion of smaller properties to cope with demographic changes in the local population. On sites of 15 or more dwellings (or >0.5 ha) provision must include 30% affordable housing. Policies BE2 and BE3 indicate requirements for scale, layout, access and landscaping for new development, and the masterplanning principles to be used at a more micro scale level for public spaces, groups and individual buildings. The Plan uses the current Essex Design Guide and the Harlow Common Guidelines to provide small scale design advice.

A Study of the Relationship Between Transport and Development in the London Stansted, Cambridge, Peterborough Growth Area (August 2004) provides a strategic view of alternative development options for delivering the objectives of growth in the London-Stansted-Cambridge-Peterborough area to 2021 and considers their implications for transport and other infrastructure.



Stansted/M11 Corridor Study - Buchanan



Harlow Options & Buchanan search areas

	<p>Development Form 1: Development of Surplus Land</p> <ul style="list-style-type: none"> • 18 terraced dwellings • 36 dwellings per hectare (gross) <p>Standards</p> <ul style="list-style-type: none"> • parking relaxed considerably to 1:1 • shared parking with local centre • overlooking standards maintained • gardens meet standard
	<p>Development Form 2: Redevelopment</p> <ul style="list-style-type: none"> • 33 dwellings • 66 dwellings per hectare (gross) • local centre facilities retained and improved and include meeting hall and shops <p>Standards</p> <ul style="list-style-type: none"> • parking relaxed considerably to 1:1 • shared parking with local centre • overlooking standards maintained • gardens relaxed to minimum

Harlow Council Urban Capacity Study

Transport Policy Context

The Transport White Paper (DETR, 1998) establishes the national policy framework for integrating land use and transport planning. In addition, guidance issued in the form of PPG13 (DETR 2001) offers a number of broad principles to influence the planning of new development. These include:

- Locating the majority of new development adjacent to, or within, larger urban areas;
- Locating major generators of travel demand in existing centres; and,
- Siting development where it is accessible to means of travel other than the private car.

Places, Streets and Movement (DETR, 1998) provides good practice guidance on the application of these principles in development proposals. It emphasises the need to provide networks of routes and spaces to shape development, rather than sites and layouts designed solely for car access. *Going to Town: Improving Town Centre Access* (ODPM, 2002, Companion Guide to PPG6) is useful in developing best practice guidance for improving accessibility in town centres; including advice on overcoming traffic severance and improving permeability to and through centres. All of these documents are good reference points for the future transport planning and master planning of Harlow.

The East of England Regional Transport Strategy (East of England Local Government Conference, 2003) provides the regional strategy for transport, including the route hierarchy, public transport accessibility criteria and approach to parking standards. At the local level, the Essex Local Transport Plan (Essex County Council, 2000) provides the transport policy strategy and investment programme for the next five years. Key objectives are to:

- Protect and enhance the built and natural environment;
- Improve safety for all travellers;
- Contribute to an efficient economy and to support sustainable economic growth in appropriate locations;
- Promote accessibility to everyday facilities for all, especially those without a car;
- Promote the integration of all forms of transport and land use planning, leading to a better, more efficient transport system; and,
- See and encourage investment in transport and make efficient use of the resources available.

Sustainable Development Policy Context

The UK's national sustainable development strategy 'A Better Quality of Life', launched in 1999, is under review: the new strategy is due to be published on 7 March.

Current indications are that it will replace the four very broad objectives of the current strategy (environmental protection, prudent resource use, social progress for all, and economic growth) with four more focussed themes which were proposed in the 2004 consultation on the strategy and very largely supported by consultees. These four would have clear implications for Harlow expansion:

- The climate change theme would underline the importance of minimising fossil energy use (as discussed at 6.2.7) and water demand, and designing for more extreme weather (especially storms and summer heat);
- The sustainable consumption and production theme would imply a need to reduce use of environmental resources (including building materials) and wastes, and maximise reuse and recycling. It also implies prospects for green industries as an employment opportunity;
- The environmental and social justice theme would call for more equitable access to amenities and services, providing a further justification for providing good services within local neighbourhoods and with good public transport access;
- The final theme, helping communities help themselves, implies support for cohesive and active local communities and for effective participation and democracy.

The Government's report on the consultation reports several other points that had strong support and would have implications for Harlow. These are representative of strong strands in sustainability thinking outside Government and include:

- The need to reduce the need to travel, and reduce and restrain car traffic, as distinct from 'widening transport choice'. This vindicates the approach to traffic and transport proposed in this document;
- Desire for broader measures, and objectives, for economic progress than growth of traded activity as measured by GDP. This implies a need to design economic development initiatives as means to improve the quality of life, not as ends in themselves. This would imply a need to foster a secure economy in Harlow able to meet residents' needs and aspirations. This is not necessarily the same as increasing 'competitiveness', 'productivity' or 'value added'.
- Belief that stronger government commitment and willingness to intervene in markets will be essential. This supports the ambitious and proactive approach to settlement planning advocated in this report.

Sequential approach - PPG3 (2000)

A new sequential approach to the identification of housing land is set out with priority to be given to previously developed land, followed by urban extensions and finally other sites well served by public transport. A national target of 60% is set for development on previously developed urban land. In preparing development plans, authorities are required to identify a five year supply of housing land in their area and how the development of that land will be phased.