Transition Town Letchworth

# Sustainable New Neighbourhoods for Letchworth Garden City


***A report by Transition Town Letchworth***
***10 June 2015***

## Transition Town Letchworth

Transition Town Letchworth (TTL) is a local charity whose members share an interest in building a more sustainable society. It is the local expression of the worldwide Transition Network, whose aim is to promote the transition from oil dependency to local resilience in the face of climate change; moving to a low carbon and therefore energy efficient economy.

Fossil fuels are becoming increasingly expensive to exploit and their use is changing the world's climate in harmful ways. Temperature rise needs to be limited to 2°C, which means that the burning of fossil fuels needs to be contained at no more than a further 500 gigatonne.[1] It is not simply a matter of moving to renewable energy, since wind turbines and solar panels do have an energy cost. Rather, energy usage needs to be reduced drastically in every aspect of our lives world-wide. If a strong international climate deal is achieved in Paris in December 2015, and if governments implement effective policies to deliver this, then as early as next year we may see a very different energy regime in operation.

It is against this background that TTL has developed its principles for new housing in Letchworth. Some of the proposals in this report may seem radical now, but as the world faces up to the challenges of climate change and resource depletion, we believe they will soon become accepted as the norm. All of the proposals in this report are achievable with existing knowledge and technology.

**Sustainability and the Garden City**

The Town and Country Planning Association (TCPA) have argued that *"Over the last century the garden city ideals have proven to be outstandingly durable. Today, we still face the primary challenges confronted by Howard and his followers: meeting our housing shortage, generating jobs and creating beautiful and inclusive places. However, we have also the new challenges of globalised markets and the urgent need to adapt to and mitigate the impacts of climate change".*

The TCPA state that the core underpinnings of the Garden City concept include:

- Mixed-tenure homes and housing types that are affordable for ordinary people;
- Beautifully and imaginatively designed homes with gardens, combining the very best of town and country living to create healthy homes in vibrant communities;
- Generous green space linked to the wider natural environment, including a surrounding belt of countryside to prevent sprawl, well connected and biodiversity rich public parks, and a mix of public and private networks of well-managed, high-quality gardens, tree-lined streets and open spaces;
- Opportunities for residents to grow their own food, including generous allotments;
- Strong local cultural, recreational and shopping facilities in walkable neighbourhoods;
- Integrated and accessible transport systems – with a series of settlements linked by rapid transport providing a full range of employment opportunities.

# Executive Summary

Recent proposals for new housing development in Letchworth provide both an opportunity and a responsibility to develop the First Garden City to be a town fit for future generations. Transition Town Letchworth (TTL) believe that any new housing developments must:

- Meet the needs of the existing and future population of Letchworth with a low environmental impact
- Contribute to the transition towards a sustainable economy and society
- Promote resilience and adaptation in the face of climate change and resource depletion

To meet these objectives TTL have identified six principles that should be met by any new housing development. The principles, summarised below, are expanded upon in the main body of this report.

## The Transition Town Letchworth Principles for New Housing

1. Housing developments should include a mix of tenure types and promote integration of people from across the socio-economic spectrum

2. Housing developments should be planned and built so that carbon emissions during construction are minimised and the housing meets excellent standards for energy efficiency and environmental performance

3. Housing developments should promote sustainable transport including safe walking and cycling

4. Housing should be designed to promote social interaction, with communal and social spaces

5. Brownfield sites and sites with low ecological value within walking or cycling distance of the town centre should be prioritised for new developments, whose design should promote biodiversity

6. Varied and flexible housing should be designed for all types of tenure, that will provide adequate space and facilities for each stage of life

# Introduction

Transition Town Letchworth (TTL) believe that the pioneering ethos of Ebenezer Howard should continue to guide development in our garden city, and that there is now both an opportunity and a responsibility to develop the First Garden City to be a town fit for future generations.

Proposals exist for new housing in Letchworth. TTL want to ensure that any housing built in Letchworth improves the residents' wellbeing, promotes environmental sustainability and enhances the town's unique heritage. TTL believe that any new housing developments must:

- Meet the needs of the existing and future population of Letchworth with a low environmental impact
- Contribute to the transition towards a sustainable economy and society
- Promote resilience and adaptation in the face of climate change and resource depletion

Letchworth should be an exemplar of a sustainable garden city for the 21st Century. At the centre of TTL's vision for new housing is a set of principles which should be applied to all new housing developments in Letchworth. The same principles can be applied when enhancing existing housing in the town. These principles reflect the original ethos of the Garden City and will enable future developments to be socially and environmentally sustainable, while maintaining Letchworth's unique heritage.

These principles will also help to achieve the commitments and goals set out in key local plans. The North Hertfordshire Housing and Homelessness Strategy states that one of the District Council's Priorities for 2013/14 onwards is '*Protecting our environment for our communities*'.[2] This involves ensuring that the Council will address climate change through $CO_2$ reduction and energy efficiency and encourage waste reduction and recycling.

Similarly, the forthcoming Local Plan for North Hertfordshire[3] will aim to '*minimise the impacts of growth and development on the environment, climate emissions and natural resources, and use the opportunities provided to seek to enhance the wider environment'*, alongside its social and economic objectives.

TTL's principles also complement the goals of the Herts. County Council Community Strategy and Sustainable Community Strategy; the Herts. County Council Local Transport Plan; and Herts. County Council Climate Change Strategic Framework.

TTL members with a range of skills and experience have come together to produce this vision that is rooted in the priorities of the local community. It takes account of expert opinions, though the specialists we consulted cannot be held accountable for the contents of this document. This report is intended for planning authorities, urban designers, architects, landlords, housing associations, consultants, media, community groups and residents. It is intended to open up debate and inspire discussions about our town's future across a wide range of interested parties.

# The Transition Town Letchworth Design Principles for Housing

## 1. Housing developments should include a mix of tenure types and promote integration of people from across the socio-economic spectrum

A core underpinning of the Garden City concept is mixed-tenure housing and homes that are affordable for ordinary people. However, Letchworth currently has a large number of people waiting for social housing. Some of the causes of this are the "Right to Buy" policy reducing social housing stock, high private sector rents, difficulties in getting a mortgage, low levels of house building and the increasing gap between incomes and house prices. Many people in work cannot afford to buy a home or pay private sector rents so demand increases for social housing. Letchworth is not unique; the rest of the East of England region is experiencing similar pressures.

There are financial incentives for building new affordable housing. However, existing affordable housing can be made available by people moving up the housing ladder and by older people down-sizing. Any housing development should be aimed at achieving a suitably balanced population from across the socio-economic spectrum in each Letchworth district. Given that Letchworth has a higher than average proportion of social housing, building a proportion of homes for professionals and for older people to down-size into (for rent or purchase) may well provide a good outcome for Letchworth.

A thriving and resilient town requires people with a variety of knowledge and skills, and the available housing should match people's expectations and aspirations.

TTL propose that:

- The type and amount of housing provided should be determined by local need (as assessed by the Strategic Housing Market Assessment[4]).
- Developments should include mixed tenure types to avoid segregation and should ensure that there is affordable housing (including shared ownership).
- Development should include adequate provision of housing (to rent or purchase) of varied sizes so that people can move to appropriate sized properties for each stage of life while remaining within their local community, including appropriately sized housing for older people.
- Consideration should be given to allocating space or serviced plots for self-build properties that are built to high standards of environmental performance.
- Consideration should be given to co-operative building projects.

## 2. Housing developments should be planned and built so that carbon emissions during construction are minimised and the housing meets excellent standards for energy efficiency and environmental performance

Homes have environmental impacts not just when they are occupied, but also during their construction; for instance the manufacture of bricks uses a lot of energy for firing and transport. The Centre for Alternative Technology states that building a house from low-carbon materials such as straw bales or timber frames can actually be cheaper than building with bricks and concrete (i.e. conventional cavity wall), and can achieve a higher standard of energy performance.

However, building any house to a very high level of energy conservation (for example building to the 'Passivhaus' or similar standards that are much stricter than current building regulations) will tend to be more expensive than a lower standard of building (whether with straw/timber or with brick/concrete). This is partly due to the cost of some of the materials and equipment, but also due to higher labour costs associated with achieving high quality performance, for example air-tightness. A builder or building company experienced in these methods and materials is vital to construct such housing.

The energy performance of homes is not just an environmental issue; cold and inefficient homes are a major cause of illness and excess winter deaths.[5] Over the period 2007-10, there were an average 99 excess winter deaths per annum in North Hertfordshire district (over double the average for Hertfordshire as a whole), as recognised in the North Hertfordshire Housing and Homelessness Strategy 2013-2018[2]. The Strategy sets out priorities for housing and homelessness in the District, and one of these is "Warmer, safer, healthier homes".

Meanwhile, a European Directive[6] requires that '*by 31 December 2020 all new buildings are nearly zero-energy buildings'*. A nearly zero-energy building is '*a building that has a very high energy performance. The nearly zero or very low amount of energy required should be covered to a very significant extent by energy from renewable sources, including energy from renewable sources produced on-site or nearby…'*

To promote warmer, healthier homes, cut households bills and reduce carbon emissions, TTL propose the following:

- All new developments should aim to minimise carbon emissions in the design and construction phase.
- Whole life energy consumption should be explicit in the plans for properties. This includes designing in low running costs over the lifetime of the building (e.g. 100 years) even at the expense of a higher build cost.
- All future developments of housing in Letchworth should be designed and built to achieve the nearly-zero energy standard.
- Part of the development could be built using innovative materials and methods.
- Long-lasting energy performance improvements which are prohibitively

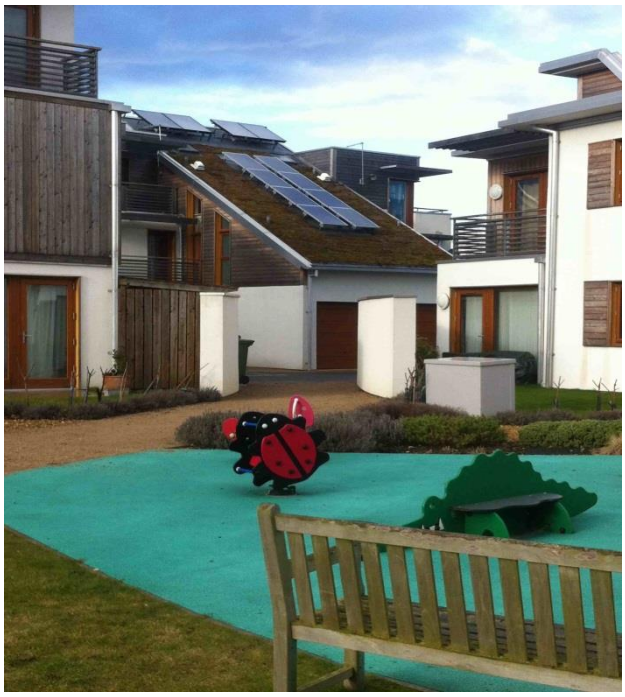
expensive to retrofit should be incorporated into the fabric of a dwelling when it is built. In particular all dwellings must have a highly insulated building fabric, combined with excellent airtightness. Insulation, heating and ventilation systems should be designed to work together to maximise cost-effectiveness in construction, and minimise fuel costs to occupants.

- Householders should be provided with clear and simple operating and maintenance instructions for both fixed building services and the dwelling as a whole, to help ensure the energy efficient running of the property.

***Straw bale houses in Lincolnshire***

*Kesteven council in Lincolnshire built straw-bale houses for about £20,000 less than the same design and scale of project would have cost with brick construction.*

***Hartington Place, Letchworth***



*Social and private affordable eco-housing surrounds a communal garden and play area.*

## Specifications for the environmental performance of buildings

The Energy Saving Trust in their report, Energy Efficiency and the Code for Sustainable Homes Levels 5 and 6 (CE292), identified minimum performance criteria that would be associated with zero carbon dwellings. The information from this document, current building regulations and passive house ideas have been brought together here to give house purchasers, planning authorities and housing associations a list of performance characteristics to use as a benchmark to help judge the quality of any proposed housing developments.

**Insulation**

Heat loss parameters (U-values) from each building element must achieve or be lower than:

- Roof: 0.13 $W/m^2K$
- Walls: 0.15 $W/m^2K$
- Ground and exposed floors: 0.13 $W/m^2K$
- Windows: 0.7 $W/m^2K$ and a BFRC (British Fenestration Rating Council) rating in band A or better
- Doors: ideally 0.8 $W/m^2K$ but must be better than 1.5 if glazed, or 1.0 if solid.

**Ventilation**

Maximum permissible air permeability is 3 $m^3/(hr.m^2)$ @ 50Pa which should be confirmed after construction and before completion. Passive ventilation systems with heat recovery should be considered as a design option, but if mechanical ventilation is used then:

- A Mechanical Extract Ventilation (MEV) system shall have a specific fan power (SFP) of 0.6 Watts per litre per second or less; or
- Whole-house mechanical ventilation with heat recovery (MVHR) must have a specific fan power of 1 Watt per litre per second or less and heat recovery efficiency must be 85% or better.

A ventilated space for drying clothes shall be provided which is either an unheated space with good ventilation, or a heated space with adequate, controlled ventilation.

**Heating**

A well-insulated, air-tight property with heat recovery should have minimal heat requirements and ideally this requirement should be met using renewable energy technology with sufficient controls to ensure that heat is not wasted. Houses should have a hot water tank of at least 160 litres, and flats 140 litres, which can be linked to appropriate renewable energy technology.

For relatively dense housing (e.g. low or high rise blocks), where pipe runs and thermal losses can be minimised, consideration should be given to installing a community heating scheme, delivering heat from a centralised source to multiple dwellings via a network of heating mains.

**Lighting**
100% of all fixed internal lighting must be dedicated for low energy consumption (i.e. fittings will only accept low energy lamps with luminous efficacy of greater than 40 lumens per circuit Watt). If tubular fluorescent lamps are used, T5 (16mm diameter) lamps shall be specified.

For external lighting, maximum lamp capacity shall be 150 Watts per fitting with controls that automatically switch off when there is enough daylight and when it is not required at night; or energy efficient light fittings greater than 40 lumens per circuit Watt with compatible photocell or timer.

**White Goods**
All major electrical appliances (i.e. refrigerators, freezers, washing machines, tumble dryers, washer-dryers and dishwashers) supplied with the dwelling must be Energy Saving Trust Recommended.

**Renewable Energy Technologies**
Dwellings shall be designed and constructed to facilitate the installation of renewable energy technologies at the time of build or some point in the future. This requirement will depend on the renewable energy technologies appropriate to the particular dwelling, but could include:

- Roof structure with suitable fixing locations for PV and solar hot water panels ($4m^2$ solar water panels and 5.3 KWp photovoltaic panels for detached houses, 5.25 KWp for semi-detached houses and flats and 4.75 KWp for terraced houses.)
- Space for enlarged hot water cylinder (e.g. for solar hot water).
- Roof orientated to face between south-east and south-west with minimal over-shading, to maximise PV and solar hot water panel efficiency and passive solar gain.
- Provision of identified and accessible electrical cable ductwork between the electrical consumer unit and proposed location of generating equipment (e.g. solar PV).

**Water use, drainage and waste**
- Consideration shall be given to rainwater harvesting.
- Developments should ensure sustainable drainage (SuDS).

## 3. Housing developments should promote sustainable transport, including safe walking and cycling

Reducing reliance on fossil fuelled transport will tackle climate change and reduce air pollution. Good public transport makes it easier for residents to become socially integrated and reduces isolation. Hertfordshire's Local Transport Plan has a goal of *'Promoting and supporting sustainable travel to reduce growth in car traffic and contribute to improved health and quality of life for residents with a positive impact on the environment and on the wider challenge of reducing transport's contribution to climate change'.*[7]

Residents should be consulted about their needs in terms of transport, and this should guide the design of housing and local infrastructure. In addition, and especially where a new development is being planned, where its future residents are not known, groups representing transport users should be consulted; for example, groups representing cyclists and pedestrians.

**Promoting safe walking and cycling:**

- There should be a walking route from new housing to the town centre of 2km or less.
- Local amenities and services such as schools, doctors and shops should be sited to maximise the number of residents who can access them by foot or cycle.
- Safe routes should be provided for families to walk and cycle to their nearest local authority primary and secondary schools.

***Baldock Road, Letchworth***

*High hedges give privacy but can overgrow paths and hide driveways, restricting visibility for (and of) cars reversing from driveways across pathways (a safety issue for pedestrians and cyclists).*

- Safe walking and cycling routes from housing areas to industrial and work areas should be provided.
- Every residential building should be accessible from a pavement or pedestrianised area.
- Open plan front gardens should be enforced where driveways cross pavements or cycle-ways, to ensure good visibility for drivers, pedestrians and cyclists.
- On roads containing a marked or frequented cycle route, parking should be inset or prohibited to ensure good visibility for cyclists and to prevent them moving out into potentially oncoming traffic.
- Cycle tracks should be separate from both pavement and road on all roads with high traffic rates and speeds.[8]

- Controlled crossings should be provided for crossing busy roads near to local amenities or for walking routes to the town centre.
- Dropped kerbs should be used to give access for pushchairs and wheelchair users to walking routes.
- Secure covered cycle storage should be provided on residential properties and local amenities.

**Car parking:**

- Designated parking for one car per dwelling should be provided with a property which is within 1.5 km of the centre of town and for up to two cars otherwise. Parking should be provided specifically for car-sharing schemes.
- Design of developments should minimise car-parking on roadsides (e.g. through parking restrictions and provision of car parks).
- Car parks should have motion-sensing lights for safety, and be well overlooked, with secure entrances and no more than five contiguous car parking spaces should be provided without being separated by planting.
- Developments should make the best use of parking space using flexible design; for example, a school car park could be used by other car users in the evening
- Homes should, where possible, have a front area which is not accessed by cars, with car access at the back of the homes instead. A streetscape dominated by parking means that dwellings lose their relationship with the street and gardens are replaced with hard standing.

***Phoenix Park, Letchworth***

*Parking is inset and there are pathways through to the industrial estate.*

***Stevenage***

*Blue lines on this map of Stevenage represent a network of cycle paths. They connect to each other (rather than stopping and starting) and extend widely across the town.*

**Other proposals:**

- Electric car charging points should be provided.
- Bus routes should be designed into housing schemes to ensure all dwellings are within a 400m walk of a bus route.[9]
- Opportunities should be taken to divert existing public transport routes and / or provide new stops.
- 20 mph zones should be created in residential areas, and road design here should discourage or slow down the traffic; e.g. using chicanes and cul-de-sacs.
- There should be good public transport links to the station from any new developments, making it an easy option for commuters to do without cars.

***Tavistock Square, London***

*The cycle path is separate from both the road and the pavement and allows for two-way traffic.*

***Milton Keynes***

*Winding lanes and cul-de-sacs minimise the impacts of traffic on residential areas.*

***Ridge Road, Letchworth***

*This road is busy, particularly at the start and end of the school day. With no driveways, the roadside is parked up and traffic is reduced to one lane (a safety issue for cyclists).*

***Manor Park estate, Letchworth***

*The estate contains a network of separate paths and cycle tracks providing efficient routes through to the local amenities (school and shops) and to central Letchworth. Roads are arranged in cul-de-sacs with turning circles.*

## 4. Housing should be designed to promote social interaction, with communal and social spaces

***Howard Park and Gardens, Letchworth***

*The water feature, playground and park are very popular, especially with young families. However, vandalism is an issue.*

Letchworth was designed to be the thriving community that is in evidence today.

Residents must be consulted about the design of local communal and social spaces. For new developments which are yet to be occupied, relevant existing groups of local users should be consulted; for example, youth groups or parents of young children. In addition, a fund should be provided by the developer to be spent on communal spaces by the residents once properties are occupied.

New developments should include:

- Parks and green communal spaces close to homes.
- Community buildings that have potential for flexible use (e.g. schools with a modular design that can easily be used for evening classes and groups and can be scaled up or down to meet community needs, allowing parts of the building to be repurposed in times of low class sizes).
- Attractive and safe communal spaces that encourage a sense of belonging, pride in a neighbourhood and social interaction. Not all the open space has to be grass, or even soft landscaping, but its primary purpose must be to provide amenity and it must be open to the wider community. 'Pocket parks', smaller open spaces dispersed across large sites, offer play opportunities for younger children in mini neighbourhoods.
- Communal sports pitches, exercise equipment and play areas for adults, teenagers and younger children.
- Streets which are public open spaces, not dominated by parked cars or by waste bins and are pleasant for pedestrians to walk along.
- Allotments, provided close to housing wherever possible to give residents opportunities for growing their own food. Larger allotment sites could include compost toilets.

***Phoenix Park, Letchworth***

*The front gardens are tiny and ball games are not allowed in the small communal spaces.*

***Oak Tree Close, Letchworth***

*This pocket park provides a safe and quiet environment for toddlers' play.*

***Jackman's Estate, Letchworth***

*The parade of shops and community centre provides a focal point for local residents to socialise.*

***Runnalow allotments, Letchworth***


*These popular allotments are close to homes and separated from roadways. Many gardens back onto them, so that residents can have a gate onto the allotments. But allotment sites like this have waiting lists.*

***Grange Estate, Letchworth***

*The playing field on the edge of the estate is big enough for 6 football pitches and has exercise and play equipment for all age groups including a skateboard park.*

***Hammarby Sjöstad, Stockholm***

*Source: http://www.futurecommunities.net*

*Social facilities include units for shops, cafes and restaurants on the ground floors of many of the apartment blocks. This design feature was initially met with scepticism by many developers, but to date each unit has been rented by local businesses.*

## 5. Brownfield sites and sites with low ecological value within walking or cycling distance of the town centre should be prioritised for new developments, whose design should promote biodiversity

Letchworth is renowned for its attractive green spaces. Green space is vital to mental and physical health, and planting can reduce pollution, absorb sound, screen unattractive features and provide shelter and seasonal sun-shading to buildings or spaces.

TTL propose the following:

- Homes, including flats, should have access to high quality gardens (which may be communal).
- Healthy, well-established existing trees, hedgerows or other significant planting can give a new development a head start and should be retained and supplemented where possible.
- Any driveway parking spaces should use grass or other planting in a hard-wearing water permeable matrix.
- Planting should encourage biodiversity; for example, wildflower meadows and hedges.

***Letchworth Gate, Letchworth***

*The planting, especially wildflower "meadows" and path create a pleasant environment for pedestrians and an attractive entry to the town.*

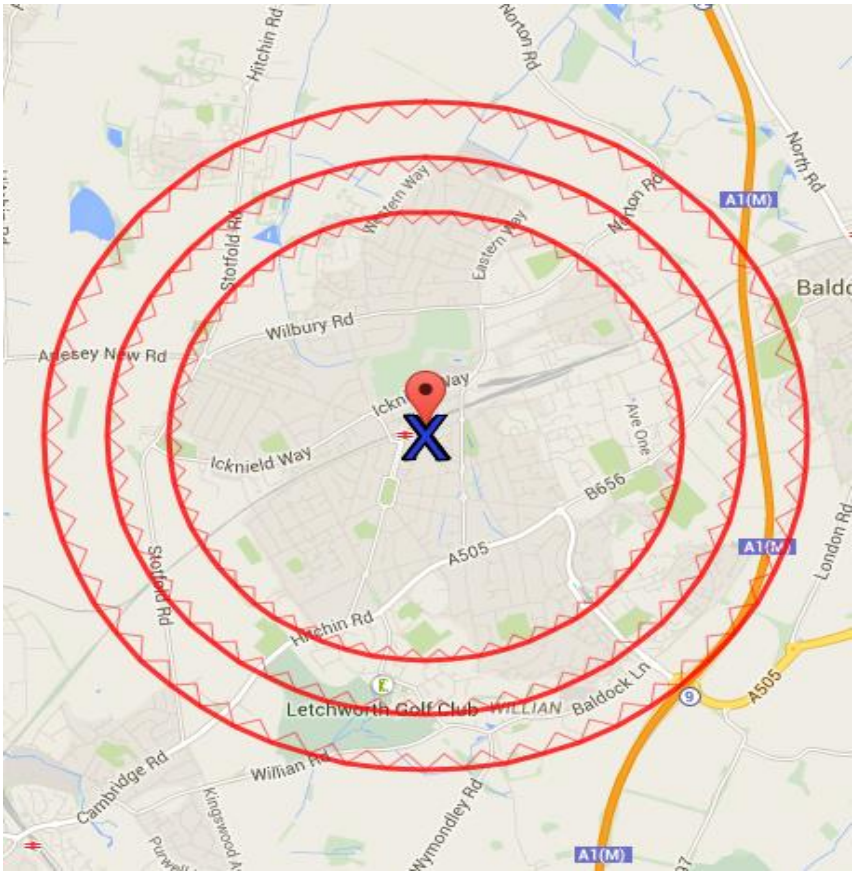
The siting of any new developments will impact on the local landscape, services and infrastructure. The position of houses can have a big impact on people's energy use and quality of life. For example, if housing is far from the town's secondary school, children are more likely to be driven to school, adding pressure to family lives and increasing road congestion which will affect the wider population.

It is widely acknowledged that people can easily walk for distances of 2 km or less. The circles on the map (overleaf) show a radius of 1 mile (1.6 km), 1.2 miles (2 km) and 1.5 miles from the railway station in the town centre.

To ensure that Letchworth remains a compact town surrounded by countryside TTL propose that:

- New housing in Letchworth should be within 2 km of the centre of the town.
- Where there are existing buildings with poor environmental performance, consideration should be given to replacing these with new energy efficient buildings.
- Where there is an oversupply of retail, commercial or industrial space, consideration should be given to the land and buildings being redeveloped or refurbished for housing.

***Map showing distances from Letchworth centre***




*Map source: www.acscdg.com; circles added*

***Hammarby Sjöstad, Stockholm***

*Source: http://www.futurecommunities.net*

*In this "eco-suburb", linear green spaces thread through the area, connecting the housing with a nature reserve nearby and providing a habitat for wildlife.*

## 6. Varied and flexible housing should be designed, for all types of tenure, which will provide adequate space and facilities for each stage of life

The average human lifespan here has been slowly increasing. This impacts on housing in a number of ways. Firstly, larger homes can be occupied by one or two people for a significant number of years which reduces the stock of homes available for younger families. In addition, homes are needing to be adapted as people get older to allow for disabilities associated with living longer.

Occupancy rates are also being influenced by rising house prices. Children are remaining in their parents' homes for longer. Manifestations of this are building extensions and larger numbers of vehicles associated with properties.

With high land prices, developers are building properties with small rooms, but is this what people want? For example, having fewer bedrooms or forgoing an en-suite bathroom may be desirable if room sizes could be increased instead.

TTL propose the following:

- Dwellings should be designed as lifetime homes, with flexibility in design e.g. ease of converting two rooms to one; ease of adding stair lifts.
- As a minimum, all new homes (not only socially rented homes) should meet the Internal Environment Core Performance Standard set out in the Design and Quality Standards of the Homes and Communities Agency.[10]
- Every dwelling should be designed to benefit from sunlight each day.
- For flats, terraced and semidetached properties, high quality sound proofing should be standard.
- Good internet connections should be designed into developments.

The following proposals are aimed at meeting the needs of older people:

- Some developments should be tailored to the needs of older people, in order to encourage them to vacate family-sized housing (including social housing) and move instead to high-quality smaller-sized properties.
- Properties for older people should be built as infill developments so that people can move home without leaving their local community.
- Developments should apply HAPPI (Housing our Ageing Population: Panel for Innovation) standards[11] to homes for older people.
- For housing designed for those needing care, residents should be able to choose between a range of external care providers, and change their care according to their needs.

In an area with high land prices, co-housing developments could provide an effective housing option for meeting some of Letchworth's housing needs. Some areas of land due for redevelopment in the town centre, for example, the St Michael's House site overlooking Howard Park, are ideal for co-housing developments with easy access to the town centre, station and industrial area.

Objectives for a co-housing development could be:

- to provide affordable housing to rent or purchase for those on lower incomes or wanting to save a deposit for a family-sized property;
- to offer a high-quality development which is designed to encourage a sense of community, with shared areas and facilities helping to reduce the cost of living for all residents;
- to provide a low maintenance, supportive and social environment for older people.

TTL propose the following:

**Management and tenure**

- The development could provide a variety of tenures.
- A management scheme should be in place, with a succession plan and a degree of democratic control.
- A standard tenancy agreement should exist on shared services (e.g. boiler, laundry and garden maintenance) with services provided at the same cost to all residents by an agreed service provider.
- The development should provide high quality private dwellings with their own kitchens, bathrooms and living areas, but keep the costs of living to a minimum through appropriate shared space and equipment (e.g. laundry, garden, heating, car club, solar panels).
- Sheds or other storage space should be available to rent.

**Structure and building quality**

- An appropriate mix of one, two or three bedroom dwellings should be included in a development.
- Dwellings should have both a front and back facade.
- Every dwelling should have a balcony or patio for seating and container planting.
- Housing should have excellent energy performance as specified in our principle no. 2 but should also include communal heating and hot water (metered).
- The shared living area in each dwelling should be big enough for a dining area and some lounge seating.
- Some bathrooms should be designed for people with reduced mobility (e.g. a wet room with a shower).

**Social space and green space**

- All dwellings should have easy access to communal areas.
- A social space for communal events should be included in the development, for example a social room with doors opening into the garden area.
- There should be vegetable plots for residents to cultivate, which could be roof-top gardens, and appropriate composting facilities.

**Transport**

- There should be allocated space for cars from a car share scheme so that residents could choose to opt into this scheme.
- Sheds should be big enough to store bicycles or sheltered, secure cycle racks should be provided.

## Glossary of terms

| | |
|---|---|
| Co-housing | "Co-housing communities are intentional communities. They are created and run by their residents. Each household has a self-contained, personal and private home but residents come together to manage their community and share activities. Co-housing is a way of combating the alienation and isolation many experience today, recreating the neighbourly support of a village or city quarter in the past."[12] |
| Nearly zero-energy building | A nearly zero-energy building is "a building that has a very high energy performance. The nearly zero or very low amount of energy required should be covered to a very significant extent by energy from renewable sources, including energy from renewable sources produced on-site or nearby…"[6] |
| Self-build | "Self-build" is the practice of creating an individual home for yourself through a variety of different methods. The self-builder's input to this process varies from undertaking the actual building work to contracting out all the work to an architect or building package company. |
| Sustainable drainage | Approaches to manage surface water that take account of water quantity (flooding), water quality (pollution) and amenity issues are collectively referred to as Sustainable Drainage Systems (SuDS). |
| U-value | The overall heat transfer coefficient that describes how well a building element conducts heat or the rate of transfer of heat (in watts) through one square metre of a structure, divided by the difference in temperature across the structure. A low value is good. |

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