



Cranbrook Masterplan Movement Strategy

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Cover images (clockwise from top right): 1. Ecocity, Malmö; 2. Middleton Grove, Barking Riverside; 3. Galleons Drive, Barking Riverside; 4. Rear of Galleons Drive, Barking Riverside; and, 5. Galleons Drive, Barking Riverside.

1 Introduction

1.1 Background

1.2 Existing travel patterns

The expansion of Cranbrook has increased rapidly over the last five years, with approximately 1500 residential dwellings built to date, occupied by roughly 4000 residents. It is envisaged that, upon completion of the masterplan, Cranbrook will be self-sufficient and sustainable, reducing the need for people to travel between work and home by car. Cranbrook also benefits from its proximity to Exeter City Centre (which is located approximately 9km to the west), with good public transport links for easy access to the City centre without relying on the private car.

Cranbrook Railway Station, located along the northern boundary of the masterplan area, opened in December 2015. The station is situated on the Exeter to London Waterloo railway line, providing services roughly once an hour to/from Exeter St Davids.

Notwithstanding the proximity of the site to Exeter City Centre and the availability of public transport services, car ownership levels remain high, and private car remains the most significant mode choice. [Table 1](#) below outlines car ownership statistics from the 2011 Census (KS404EW) for Cranbrook and the surrounding areas (which includes Broadclyst, Cranbrook, Dog Village, Rockbeare and Whimble), East Devon and England as a whole.

2011 Census data for the method of travel to work has been extracted from dataset QS701EW, for the same output area, East Devon and England as a whole. The data is summarised in [Table 1](#) below.

Table 1 Car or van availability (2011 Census)

Car or van availability	Output area	East Devon	England
No cars or vans in household	6.9%	15.9%	25.8%
1 car or van in household	39.2%	45.1%	42.2%
2 cars or vans in household	42.2%	29.4%	24.7%
3 cars or vans in household	7.8%	6.9%	5.5%
4 or more cars or vans in household	3.9%	2.7%	1.9%
Total	100.0%	100.0%	100.0%

It can be seen from Table 1 that car ownership levels are, on average, higher for the output area (including Cranbrook) compared to East Devon and England (as a whole). This reflects the relatively rural nature of the area, and will be similar to towns such as Whimble and Rockbeare, which are included in the car ownership data.

It is recommended, however, that the next Community Questionnaire includes a question on car ownership, so that more up to date information is available.

[Table 2](#) below summarises the method of travel to work for the same output area (which includes Broadclyst, Cranbrook, Dog Village, Rockbeare and Whimble), East Devon and England (as a whole). This has been extracted from the 'Method of Travel to Work' dataset (QS701EW) from the 2011 Census.

The Table also includes method of travel to work from the most recent Community Questionnaire.

Table 2 Method of travel to work (2016 Community Questionnaire)

Method of travel to work	Output area	Cranbrook ¹	East Devon	England
Underground, metro, light, rail, tram	0%	0%	0.2%	4.3%
Train	3%	0%	2.8%	5.6%
Bus	5.3%	12%	2.9%	7.9%
Taxi	0.8%	0%	0.3%	0.6%
Motorcycle	3%	0%	1.2%	0.9%
Driving a car or van	76.7%	61%	69.2%	60.2%
Passenger in a car or van	3%	12%	5.3%	5.3%
Bicycle	2.3%	8%	2.4%	3.1%
On foot	6%	7%	14.5%	11.3%
Other method of travel to work	0%	0%	1.2%	0.7%
Total	100%	100%	100%	100%

¹ The results of the Community Questionnaire should be viewed with caution, as the base data added up to more than 100%, and has been adjusted to sum to 100%.

It can be seen from the table above that Cranbrook and surrounding settlements, has a higher percentage of car drivers compared with both East Devon, and all of England combined. This reflects the relatively rural nature of the existing settlements, and the level of connectivity. However, the 2011 Census pre-dates much of what exists at Cranbrook currently.

It should also be noted that the masterplan is in the very early stages of construction, with:

- only 1,500 out of a total of 7,500 dwellings;
- a limited amount of ancillary development - the town centre has not been completed;
- limited employment floorspace; and,
- a developing walking, cycling and public transport network.

It is therefore considered that as the development progresses (particularly the complimentary uses) and the walking, cycling and public transport networks expand, the need to travel longer distances should reduce, and the need to travel by car should reduce significantly.

1.3 Strategy objectives

This Cranbrook Movement Strategy has been prepared in response to the existing and future transport challenges facing the town. The objectives of the Masterplan have been identified to support the delivery of the Economic Development Strategy, Cultural Development Strategy, the proposed objectives contained in the Issues and Options report, the aims and guidance of the Health New Town program, and the requirements of the brief for the Masterplan.

These aims and objectives have been made specific to Transport and Movement:

- Promote and improve sustainable travel;
- Reduce traffic congestion and delays, and improve air quality on key routes into and out of major employment, education and commercial centres, from the masterplan area, through a reduction in vehicle trip generation by encouraging a modal shift from the private car;
- Integrate new development sites with established communities to increase travel choice, based on comprehensive networks and linked facilities;
- Create the required conditions to support local employment opportunities that can be accessed by sustainable modes; and,
- Improve accessibility throughout the area to encourage walking and cycling and improve health and wellbeing.

2 Policy context and background review

2.1 Introduction

This section of the report sets out the current national, regional and local transport planning policies relevant to the proposed development.

Current transport policies at the national, regional and local level are built around the central themes of long-term sustainable development, sustained investment in transport and improved accessibility at all levels. These policies promote continued economic growth through the provision of an efficient and reliable transport system, a reduction in traffic congestion, improvements in highway safety, and enhancements to the accessibility of sustainable modes of travel.

This section of the report therefore reviews the following policy documents;

- National Planning Policy Framework (NPPF) (2012);
- Manual for Streets (MfS) (March 2007) and Manual for Streets 2 – Wider application of the principles (September 2010);
- East Devon Local Plan (2013-2031); and,
- Cranbrook Plan Development Plan Document (DPD).

In addition to the above documents, this section of the report also reviews the following:

- Assessment of Options for delivery of RSS Growth in the Exeter Sub Region – prepared in 2010 on behalf of Devon County Council; and,
- Future of Transport In Exeter, Consultation and Discussion Report – produced in 2010 by Devon County Council.

2.2 National policy

National Planning Policy Framework (NPPF) (2012)

The NPPF was published in March 2012 in a bid to simplify the planning system and allow a local agenda to be delivered. The document replaces the Planning Policy Guidance and Planning Policies with a *'clear, tightly focused document setting out national priorities and rules'*. This document provides information as to how the Government expects planning policies across England to be applied.

The NPPF defines sustainable development as *'meeting the needs of the present without compromising the ability of future generations to meet their own needs [Introduction, page 2].'*

The NPPF also defines the delivery of sustainable development through three roles:

- Planning for prosperity (an economic role);
- Planning for people (a social role); and,
- Planning for places (an environmental role).

The NPPF recognises that transport policies have an important role in wider sustainability and health objectives as well as their direct influence on development. It seeks to ensure that the transport system is balanced in favour of sustainable transport modes giving people a real choice about how they travel.

The NPPF states that *'plans should protect and exploit opportunities for the use of sustainable transport modes for the movement of goods or people' [Para 35, page 10]*. Therefore, developments should be located and designed where practical to, amongst other things:

- Accommodate the efficient delivery of goods and supplies;

- Give priority to pedestrian and cycle movements, and have access to high quality public transport facilities; and,
- Create safe and secure layouts which minimise conflicts between traffic and cyclists or pedestrians.

At the heart of the NPPF is a presumption in favour of sustainable development which *'should be seen as a golden thread running through both plan making and decision-taking.'* [Para 14, page 4]. It is also stated that *'Policies in Local Plans should follow the approach of the presumption in favour of sustainable development so that it is clear that development which is sustainable can be approved without delay'* [Para 15, page 4].

For large scale residential development, planning policies should promote a mix of uses in order to provide opportunities to undertake day-to-day activities. Where practical, particularly with large developments, key facilities such as primary school and local shops should be within walking distances of most properties.

It states that all developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment also explaining that plans and decisions should take account of whether:

- The opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure;
 - Safe and suitable access to the site can be achieved by all people; and,
 - Improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development.
- Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.

Manual for Streets (MfS) (March 2007)

Manual for Streets was published in 2007 by the Department of Communities and Local Government and Department of Transport, superseding advice in

Design Bulletin 32 and People, Places, Streets and Movement. The aim of MfS is to encourage the creation of streets for all highway users, and discourage design aimed solely at meeting the needs of the motorist. The key recommendation is that increased consideration should be given to the 'place' function of streets and this should be balanced with the 'movement' function. MfS provides guidance on how to balance the needs of motorists with those of cyclists, pedestrians and residents.

Good design is fundamental to achieving high-quality, attractive places that are socially, economically and environmentally sustainable. It can strengthen communities and make it easier and more appealing to choose sustainable modes of transport.



Terrace of houses, Galleons Drive, Barking Riverside

Manual for Streets 2: Wider Application of the Principles (MfS2) (September 2010)

MfS2 forms a companion guide to, and builds on the guidance contained in MfS. It explores in greater detail how and where its key principles can be applied to busier streets and non-trunk roads (MfS focussed on lightly trafficked residential streets).

MfS provides advice and does not set out any new policy or legal requirements, and is endorsed by a number of organisations, including; the Department for Transport (DfT), Commission for Architecture and the Built Environment (CABE) and English Heritage.

This document does not supersede MfS, but explains how the principles of MfS can be applied more widely.

2.3 Local policy

East Devon Local Plan (2013-2031)

The East Devon Local Plan, adopted on 28th January 2016, contains planning policy through to 2031, ensuring that East Devon ‘remains an outstanding place to live, work and play’ [Preface, page 1]. The Plan sets out where development in East Devon will occur and how natural assets will be conserved.

The Local Plan document sets out strategic policies for development across East Devon and the full suite of policies for the seven main towns of the district, the West End and countryside areas.

The Local Plan is based on evidence and local insight. Evidence from national and local statistics and independent studies, including welcome contributions from other statutory organisations and reference specialists.

The Local Plan is the primary material consideration in determining planning applications in East Devon.

Chapter 4 of the Local Plan summarised issues that are of the greatest importance and relevance for East Devon and the objectives to address these in the plan. This includes the need to develop 17,100 homes in locations which reflect local needs, with particular focus on Cranbrook.

A number of strategic policies have been set out within the Local Plan, setting out the strategy for the rest of the plan and are of key relevance in the determination of planning applications.

Strategy 12 (Development at Cranbrook) indicates that land is allocated for development and will be developed as a modern market town. The Plan states that by 2031 Cranbrook will accommodate:

- New Homes – Around 6,300 new homes on allocated land, which will be required to be of the highest standards in terms of energy and resource efficiency, quality of design and access to services and facilities. At peak build rates, 500 new homes a year could be built at Cranbrook;
- Gypsy and Traveller Provision – provision will be made for new gypsy and traveller sites to accommodate up to 30 pitches on land allocated for Cranbrook development. Provision will be required concurrently with the ‘bricks and mortar’ housing development of the allocated land;
- Jobs – provision of up to 18.4 hectares of employment land shall be made throughout the town to provide a range of business spaces suitable for the needs of businesses as they develop and grow and to accommodate a range of employment opportunities for residents of Cranbrook and surrounding areas. Serviced or otherwise available land should be available for occupation by employment uses on a phased basis that is directly proportionate to house building;

- Town Centre – The town centre of Cranbrook will provide a focal point for retail, business and leisure activities and will be designed to create a vibrant day and night-time economy and this will be complemented by a series of smaller neighbourhood centres;
- Social and Community and Education Facilities – Cranbrook will accommodate a full range of social, leisure, health, community and education facilities (including new schools) to meet the needs of all age groups that will live at the new town; and,

Infrastructure – The existing district heating system will provide for the combined heat and power needs of the town. The Council will produce an Infrastructure Delivery Plan that will set out key requirements recognising the need for improved transport links and road improvements as Cranbrook grows as well as improved education provision, high speed broadband and other services and facilities to ensure sustainable development is delivered at Cranbrook.

Cranbrook Plan Development Plan Document (DPD)

The Cranbrook Plan DPD is in the process of being produced which will help shape and direct the future development of Cranbrook. East Devon are seeking views from members of the public to assist with developing plans and policies to guide the future expansion of Cranbrook new community by:

- Preparing a Cranbrook DPD – a formal planning policy document to explicitly guide and regulate development; and,
- Feeding into wider work being undertaken by specialist consultants to provide a framework for the future expansion of the new town.
- Refining policy, based on more detailed evidence, in order to deliver the aims of the East Devon Local Plan.

The District Council anticipates that the following topics may be covered by the Cranbrook DPD:

- Allocating specific sites and land areas for new development;

- Designating land for ‘protection’ or safeguarding which will prevent or limit development;
- Including policies, cross-referencing where appropriate to specific land area;
- Establishing the supporting infrastructure and means for its delivery;
- Establishing forms and principles of development and materials and design standards to promote the highest quality outcomes;
- Defining mitigation required to off-set potential adverse impacts that might otherwise arise as a consequence of development;
- Determining mechanisms for monitoring the success and quality of what is happening and being built;
- Determine whether planning applications submitted to the Council should be granted planning permission and what conditions might apply.

The Cranbrook Plan will form the overarching evidence base for the DPD and its conclusions and associated outputs will form the basis of, or feed directly into, the publication draft of the Cranbrook DPD. It is the publication draft that is made publicly available for formal comment and any comments received will be submitted, along with the DPD, and supporting evidence to the planning inspectorate for formal examination.

2.4 Background review

Assessment of Options for Delivery of the RSS Growth in the Exeter sub Region (2010)

This report summarised the findings of a study that was undertaken to identify and evaluate the transportation impacts of strategic growth options, which included 7,500 homes at Cranbrook. The study also looked at the impact of a further 4,000 homes at Cranbrook.

It should be noted that the South West Regional Spatial Strategy (RSS) was formally scrapped by the then Coalition Government in 2013. However, this

is the most recent data, within the public domain, that assesses the impact of further development at Cranbrook.

In relation to 7,500 homes at Cranbrook, the Assessment of Options report concluded that:

- [Para 5.1.2, page 27] Given that Cranbrook sits at one end of the emerging High Quality Public Transport (HQPT) scheme - Project Exe-press Routes - its generation of car borne traffic should be significantly reduced given the opportunity for travellers to opt for a fast, reliable public transport alternative;
- [Para 5.1.2, page 27] Car borne generation would also be further mitigated given Cranbrook's access to the rail network through construction of a new rail station within the development on the Exeter to Waterloo line;
- [Para 5.1.3, page 27] Cranbrook will also have high quality pedestrian and cycle facilities. This will be true within the development and for connections with neighbouring developments such as Skypark, Exeter Airport, the Inter-modal freight terminal (IMFT) and the Science Park;
- [Para 5.1.4, page 27] Despite the good public transport, pedestrian and cycle provision, there will be a significant increase in private vehicle traffic to and from the new community;
- [Para 5.1.6, page 27] Some level of additional capacity is recommended between the Younghayes Road roundabout and the Clyst Honiton Bypass. In addition, routes to the west of the Clyst Honiton Bypass are predicted to operate close to capacity, which could pose journey time reliability issues for public transport services using London Road to access Exeter;
- The M5 junction 29 has capacity for 3,500 dwellings [para 5.1.9, page 28], and therefore additional capacity is required to accommodate the demand generated by 7,500 dwellings.

Future of Transport In Exeter, Consultation and Discussion Report (2010)

This report outlines the consultation response to the emerging transport strategy required to support the significant developments within and around the City, including (but not limited to):

- 7,500 dwellings at Cranbrook;
- Up to 2,500 jobs at the Science Park (west of Cranbrook); and,
- Up to 7,000 jobs at the SkyPark.

The key elements of the strategy are:

- **Walking** – primary focus to ensure good connectivity and easy access on routes in to the City Centre, and to make short distance walking trips easy, safe and well signposted;
- **Cycling** – develop cycle routes for journeys to education, to work, and for leisure and retail trips. This will be achieved by developing a network of primary, secondary and tertiary routes throughout the City Centre;
- **Public transport (bus)** – one of the fundamental measures proposed for providing good access to businesses, retail and leisure facilities and for tackling congestion and improving air quality is the development of a high quality public transport system for Exeter (Project Exe-press), which would include the following elements:
 - New state of the art buses
 - Running on two vital new cross city routes (one of which serves Cranbrook)
 - Modernisation of all the other services into a brand new public transport network
 - Traffic management measures in the City.
- **Public transport (rail)** – the County Council submitted an expression of interest to the government for funding towards the Devon Metro

scheme, to enhance rail services in and around Exeter and provide more stops (related to new development or existing employment sites).

2.5 Summary

In accordance with the relevant national, regional and local policies, the expansion areas incorporate a range of facilities, employment opportunities, and a range of cultural, educational and community facilities. It also includes public transport (bus and rail services) within walking distance of residents within the masterplan area, as well as a network of walking and cycling routes that provide a realistic alternative to the private car.



Waterfront housing, Ecocity, Malmö

3 Baseline assessment and site analysis

3.1 Introduction

This section of the document describes the existing conditions within and surrounding Cranbrook, as well as the constraints and opportunities in relation to an emerging movement strategy and development of the site.

3.2 Strategic Location

The site is located approximately 4km to the east of Junction 29 of the M5 Motorway, and approximately 9km east of Exeter City Centre. The M5 provides strategic connections with Taunton, Bridgwater, Weston-Super-Mare, Bristol and on to Oxford, Birmingham etc., to the north-east.

The M5 also connects with the M4 at the Almondsbury Interchange, providing access to London to the east, and Newport and Cardiff to the west.

The site is bounded by the London to Exeter railway line to the north, the village of Rockbeare and Exeter airport to the south, and Clyst Honiton and the M5 to the west.

The construction of the A30 trunk road to the south of Exeter Airport removed most of the traffic from the former A30 now B3174 London Road).

3.3 Accessibility

Figure 1 over the page identifies the Cranbrook Masterplan area. In terms of accessibility, there are a number of key facilities and amenities located within the masterplan area and/or within its vicinity. These include:

- Cranbrook Education Campus;
- St Martin's Primary School;

- A convenience goods retail (Co-operative food-store);
- A Post Office;
- A Community Centre; and,
- Other retail units.

Local amenities

As discussed above, there are a number of facilities and amenities already situated within the masterplan area, primarily accessible from Younghayes Road.

St Martin's Church of England Primary School is accessible from Younghayes Road, with a vehicle access from Copseclose Lane, as well as a pedestrian access from Mayfield Way.

In addition, Crankbrook Railway Station is accessible from Burrough Fields, located to the north of the masterplan area.

Employment

There are extensive employment opportunities within close proximity of the site, including Skypark (office, industrial and distribution space), Exeter Science Park (business park for companies specialising in science and technology), the Eastern Growth Area and Exeter City Centre to the west.

As a result of the facilities and services available within the Cranbrook masterplan area, there is also an element of job opportunity available within the development itself.

There are also aspirations to create significant employment opportunities within Cranbrook, as set out in the Economic Development Strategy.

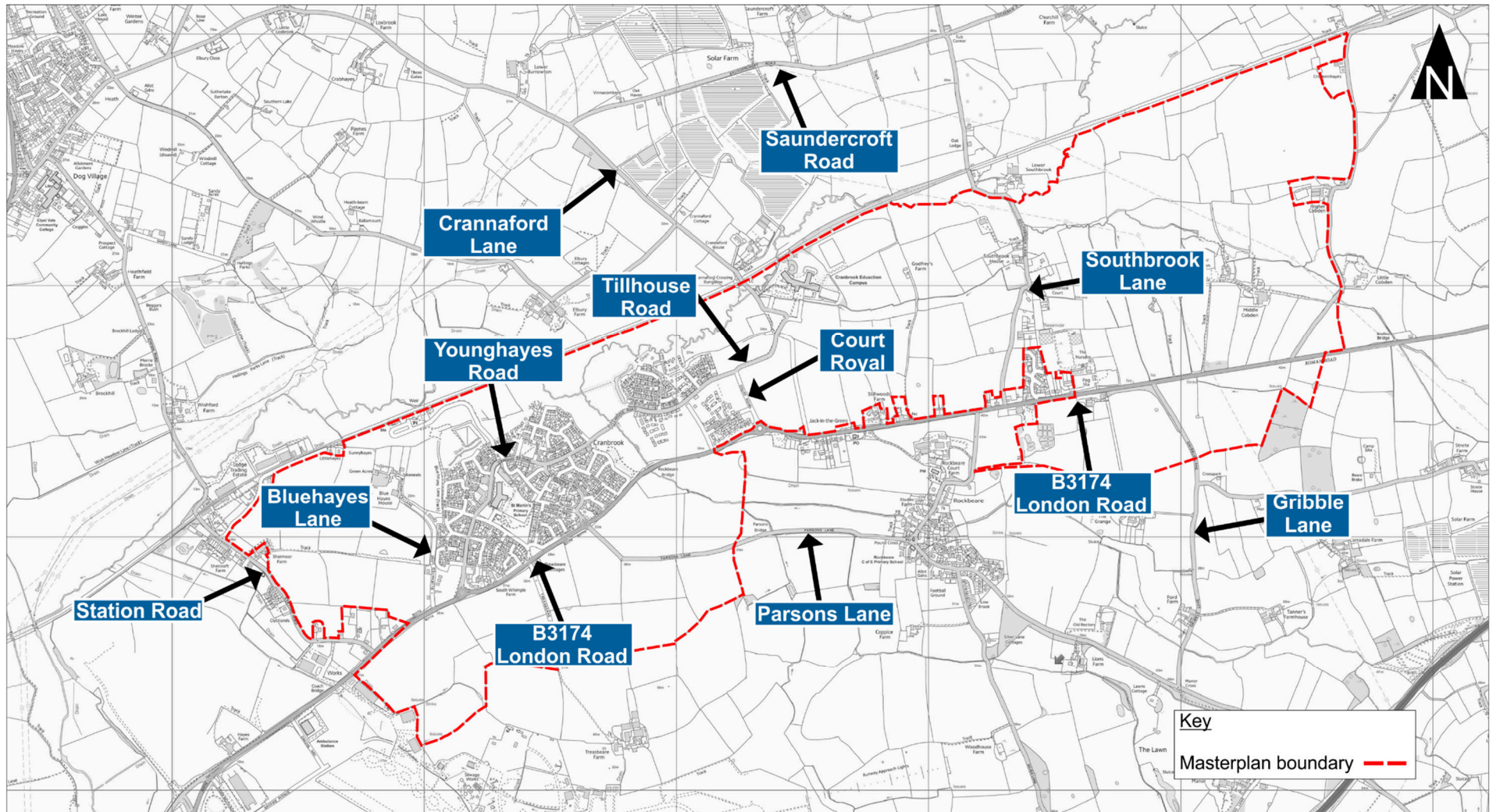


Figure 1 Site location and local highway network

Education

As already mentioned, St Martin's Church of England Primary School is located within the masterplan area, providing education to those within the Cranbrook Masterplan catchment area.

The Cranbrook Education Campus, which opened in September 2015, is an Academy School providing education for 2-16 year olds. The campus has capacity for 420 primary school places, with early years provision, and up to 1,000 secondary school places.

Leisure

Younghayes Community Centre, situated within the masterplan area, offers numerous leisure activities including dance and martial arts, as well as offering a library with computer and internet facilities free of charge.

In addition, there is vast array of leisure facilities available within Exeter City Centre to the west.

Figure 2 on page 12 below indicates the walk distances from the proposed town centre, and it can be seen from the diagram that the proposed town centre is within walking distance of the majority of existing residents at Cranbrook and Rockbeare.

The diagram also indicates that the majority of the expansion areas lie outside the acceptable walk distance of the town centre. However, the masterplan incorporates retail, employment and local facilities within defined local centres.

It should be noted that the isochrones are based on existing footways and footpaths, and that isochrones converge where the walking routes terminate, or are no longer available.

3.4 Pedestrian and cycle provision

There are a number of footways and cycle routes linking the Phase I Masterplan area together, as well as providing connections all the way into Exeter City Centre.

Within the Phase I Masterplan area, there is a shared footway/cycleway along Younghayes Road/Tillhouse Road, with informal pedestrian crossings (in the form of dropped kerbs and tactile paving) across side roads/junctions along the length of the road. The shared pedestrian/cycleways are of a generous width and are segregated from the carriageway with a grass verge.

A shared pedestrian/cycle route is located along B3174 London Road up to the junction with Younghayes Road, with suitable crossing provision at Station Road and Bluehayes Lane.

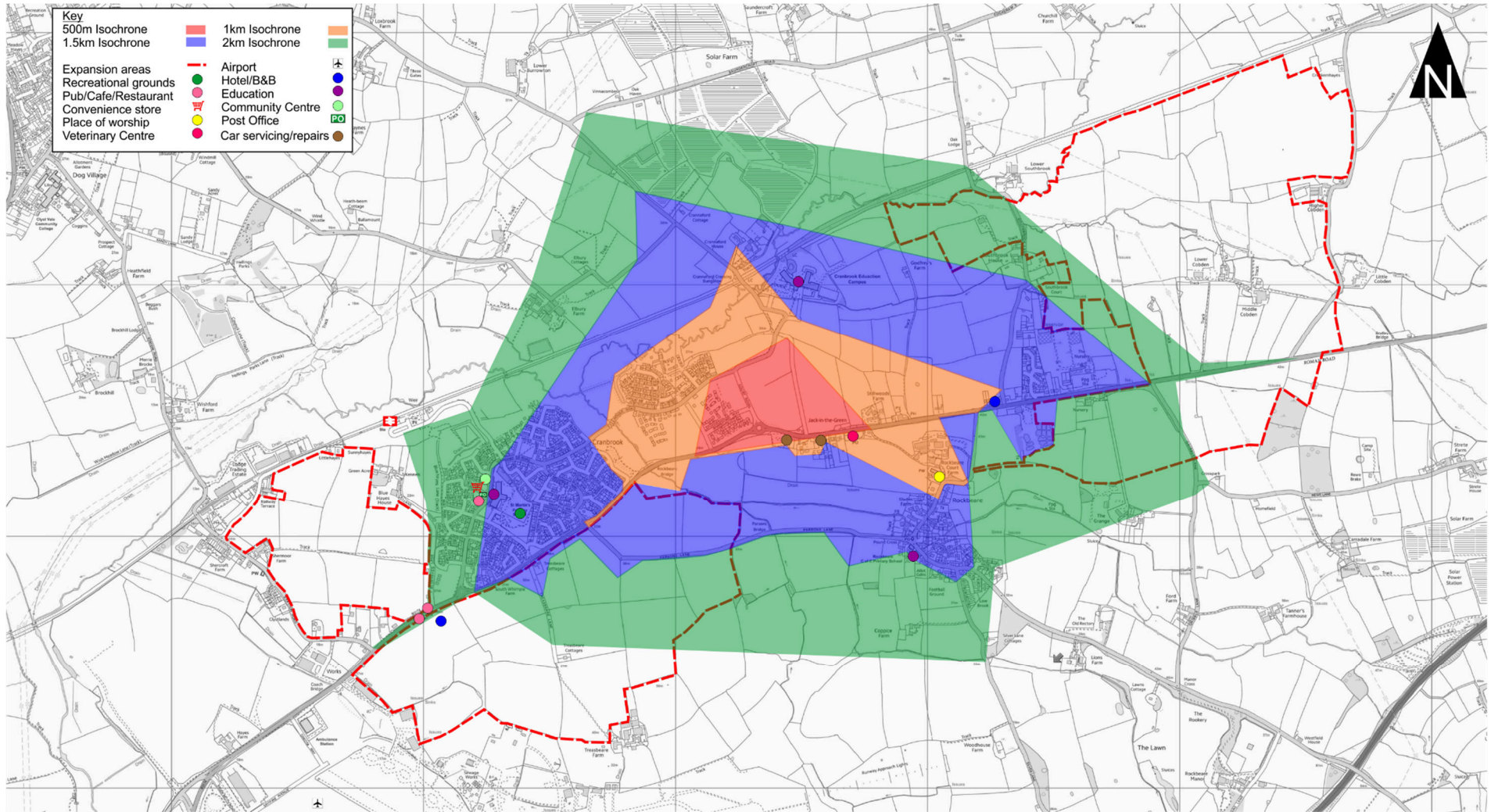


Figure 2 Areas of the masterplan within walking distance of the proposed town centre

3.5 Public transport provision

As outlined above, the Phase I Masterplan area is reasonably well served by both bus and rail services, as shown in [Figure 3](#) on page 13 below, and detailed below.

Bus services

There are a number of bus stops located within the Phase I area, along Younghayes Road and St. Michaels Way. The following regular scheduled bus routes serve Phase 1, as shown in [Table 3](#) below.

Table 3 Bus services and their frequencies

Service	Route	Frequency
4	Exeter – Cranbrook - Ottery St Mary – Honiton – Axminster	Hourly
	Axminster – Honiton – Ottery St Mary – Cranbrook - Exeter	Hourly
4A	Exeter – Cranbrook- Rockbeare – Marsh Green – West Hill - Ottery St Mary – Honiton	Hourly
	Honiton – Ottery St Mary – West Hill – Marsh Green – Rockbeare – Cranbrook - Exeter	Hourly
4B	Exeter – Cranbrook – West Hill - Ottery St Mary – Honiton – Axminster	Two per day
	Axminster – Honiton – Ottery St Mary – West Hill – Cranbrook - Exeter	Two per day

It can be seen from Table 3 that the existing routes combined provide half-hourly services to/from the site, representing good connectivity between the site and the surrounding areas, including Exeter City Centre, Honiton and Axminster, with a bus service approximately every thirty minutes throughout the day.

In addition, the Sowton, Honiton Road Park and Ride site, located on the eastern boundary of Exeter, provides a service into Exeter City Centre.

Rail services

Cranbrook Railway Station, located along the northern boundary of the masterplan area, opened in December 2015, and runs on the Exeter-Waterloo railway line, providing services roughly once an hour to Exeter and London Waterloo.

The station includes a bus turn round facility (for bus/rail interchange) as well as 135 car parking spaces, and a large, covered cycle parking shelter.

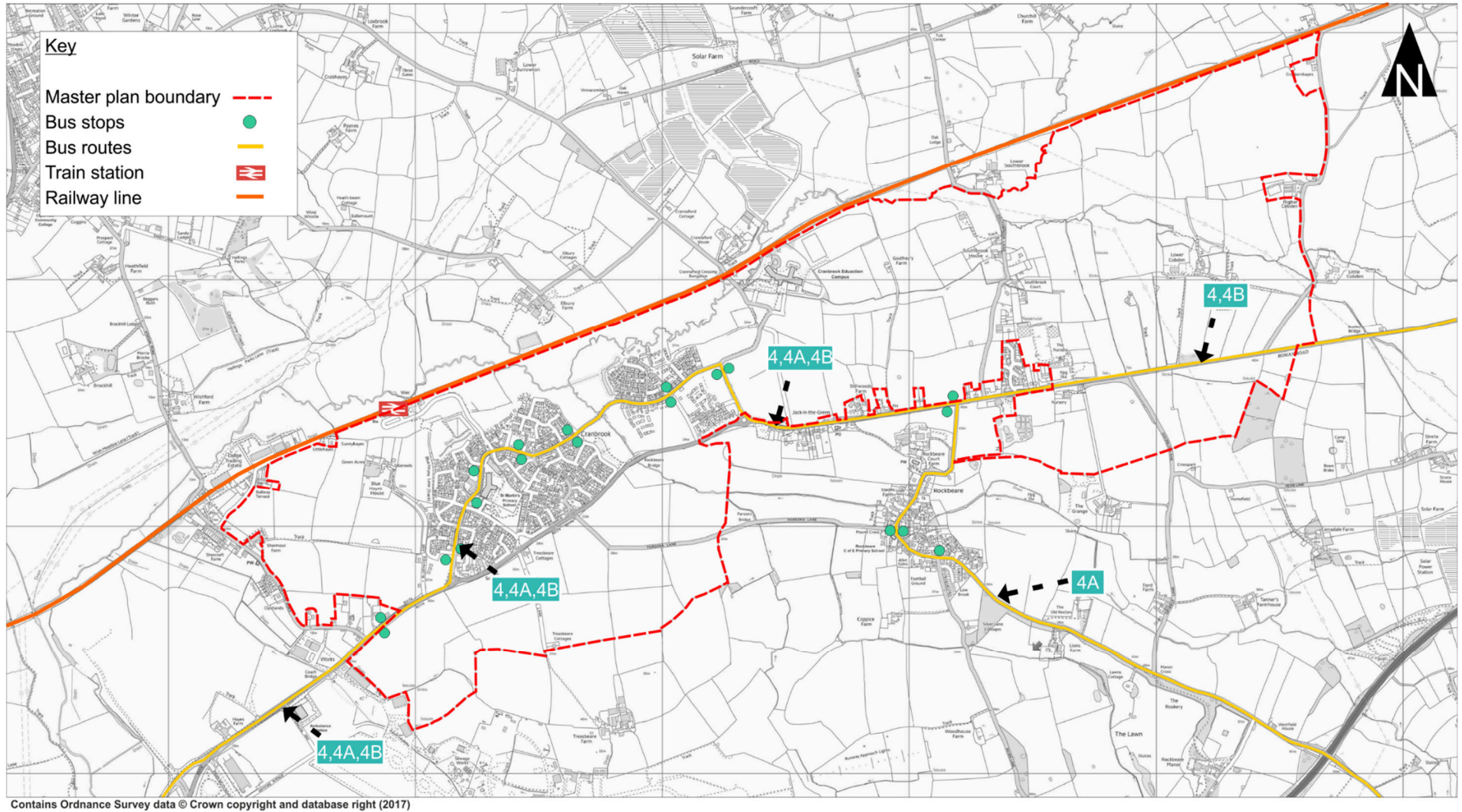


Figure 3 Existing public transport infrastructure and services

3.6 Local and strategic highway network

The local highway network in and around the Phase I Masterplan area is shown in Figure 1 (on page 9 above), and described in the following paragraphs.

B3174 London Road

The B3174 London Road is a two-way single carriageway local distributor road that, within the vicinity of the Cranbrook masterplan area, runs in a south-west to north-east alignment. The developed/consented areas of Cranbrook are mostly accessible from London Road via a series of roundabouts, and many of the other areas are accessible via existing junctions (including Southbrook Lane, Parsons Lane and Station Road).

At its eastern end, the road forms a roundabout junction with the A30. At its western end, the road merges with the Clyst Honiton Bypass and York Terrace.

London Road forms part of a bus route and, as such, incorporates a westbound bus-lane along the southern edge of the carriageway - from the Younghayes Roundabout to 300m west of Station Road. There are a number of bus stops located along the length of the road.

There is a shared footway/cycleway located on the northern side of the carriageway, up to the junction with Younghayes Road, with appropriate informal crossing facilities at existing side roads, including for example at the Bluehayes Lane junction.

There is street lighting along the length of London Road and, within the vicinity of the masterplan area, the road is subject to a speed limit of 40mph.

Younghayes Road/Tillhouse Road

Younghayes Road is a two-way single carriageway road that forms one of the primary routes through the Masterplan Area. The road runs in a north-south alignment, forming a roundabout on to London Road to the south, and merging with Tillhouse Road to the north.

The road is primarily fronted with residential dwellings, as well as a range of facilities including St Martin's Church of England Primary School, Younghayes Community Centre and a Cooperative Convenience Store. There are a number of junctions along the length of the road, providing access to individual development areas.

There are shared cycleways/footways (with generous widths) on both sides of the carriageway, separated from the carriageway with a grass verge. Informal crossing points, in the form of dropped kerbs and tactile paving, are located along the give-way of junctions. In addition, raised tables are located along the length of the road as a form of traffic calming.

The road is lit and is subject to a speed limit of 20mph.

Mayfield Way/St Michaels Way

Mayfield Way/St Michaels Way provides an additional access into Cranbrook. The road runs in a north-south alignment, forming a roundabout junction with London Road and Parsons Lane at its southern end and merging with Younghayes Road at its northern end.

There are residential frontages on both sides of the carriageway, along the entire length of the road, and there are a number of junctions along its length, providing access to residential development areas.

Footways are located on both sides of the carriageway with dropped kerbs and tactile paving located where junctions are formed along the roads length.

Street lighting is present along the length of the road and the road is subject to a speed limit of 30mph.

Court Royal

Court Royal is a two-way single carriageway road that provides access between the B3147 London Road and Tillhouse Road. At the southern end of the road is a three arm roundabout junction on to the A3147 London Road, and at the northern end of the road is a simple priority junction on to Tillhouse Road.

Court Royal forms part of a bus network, with bus stops located at the northern end of the road. There are no direct residential frontages, but the road provides access to Shareford Way, which has residential frontages on both sides of the carriageway.

The road is lit, and is subject to a 20mph speed limit.

Clyst Honiton Bypass

The Clyst Honiton Bypass (CHB), which opened in 2013, provides a bypass east of the village of Clyst Honiton, and links the A30 to the Cranbrook masterplan area. At its northern end, is the traffic signal controlled junction with York Terrace and London Road, and at its southern end is the A30/B3174 roundabout junction.

Provision has been made for pedestrians and cyclists with a shared footway/cycleway on both sides of the carriageway. The road is subject to a speed limit of 40mph, and there is street lighting along its length.

A30 (Honiton Road)

The A30 is part of the strategic highway network that runs south-west from London to Land’s End. To the south-west of Cranbrook, the A30 merges with the M5 as it travels around the south-east of Exeter. Within the vicinity of Cranbrook, the A30 is a dual-carriageway, and is subject to the national speed limit (i.e. of 70mph).

3.7 Existing traffic flows

Devon County Council commissioned traffic surveys in May 2016 at each of the accesses to Cranbrook (Phase I) including:

- Younghayes Roundabout;
- St Michaels Way roundabout;
- Tillhouse Road Roundabout; and,
- Crannaforde Crossing.

Table 4 below shows the combined two-way traffic flows (on roads within the vicinity of the masterplan area) during the busiest periods in the morning peak period (8am-9am) - which coincides with the majority of people travelling to work - and evening peak period (5pm-6pm) – which coincides with the majority of people returning home from work.

Table 4 Two-way vehicle flows

Link	Two-way flows	
	AM peak	PM peak
Younghayes Road	426	434
St Michaels Way	238	225
Tillhouse Road	230	174
B3174 West of Younghayes Road	975	988
B3174 between Younghayes and St Michaels Way	666	657
B3174 between St Michaels Way and Tillhouse Way	487	437

These volumes of traffic are not particularly high, and it is considered that the existing highway network has sufficient capacity to accommodate the existing levels of traffic.

As a comparison, a typical urban single carriageway road has a (two-way) theoretical capacity of up to 1,800 vehicles per hour. The maximum two-way flows on the B3174 (west of Younghayes Road) is approximately 55% of the theoretical capacity of the road.



Swale/water feature, Ecocity, Malmö

4 Movement framework: cycling and walking

4.1 Introduction

Walking and cycling represent the most sustainable means of travel. The potential of these modes as alternatives to car travel is acknowledged and advocated in national, regional and local planning policy, alongside best practice guidance.

The availability of walking and cycling facilities and journey distance has a critical role in the attractiveness of these modes.

The importance of walking and cycling in contributing towards sustainable travel patterns is emphasised not only as modes in their own right but also the considerable role they play as part of a longer journey by public transport. These themes are reiterated within local planning policy.



Therefore, a comprehensive pedestrian and cycle network is proposed for Cranbrook, that draws upon the work that has been put in to improving the walking and cycling environment within Phase I, and encourages modal shift away from private car travel towards walking, cycling and public transport use.

4.2 Principles and objectives

Evidence from the Cycling Demonstration Towns project (of which Exeter was one of the six demonstration towns) shows that there is enormous potential for changing people's travel behaviour - there was an overall increase of 29% in cycle use over the five and half years of the project.

Nine out of ten short journeys could be made by foot, bike and public transport. However, achieving this requires the integration of high quality infrastructure, together with complementary behaviour change measures.

The over-arching objectives of the proposed walking and cycling strategy are as follows:

Off-site

- Connect Cranbrook with key strategic movement corridors (including the B3174 London Road) to accommodate safe and convenient pedestrian and cycle movement to:
 - Exeter City Centre
 - Exeter Airport Business Park
 - Whimple
 - Rockbeare
 - Skyparks
 - Exeter Science Park
- Improve access to the existing footpath network/Public Rights of Way (PRoW).



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Cranbrook, Exeter
Masterplan Movement Strategy (doc ref. 17101 d3 rev C)

On-site

- Provide a network of safe, convenient and attractive routes within the development area, connecting off-site provision with internal uses and facilities based on a simple hierarchy;
- Improve the local network of recreational routes by making the site more accessible to the public and providing new permitted footpaths;
- Ensure that all existing and proposed footpaths are clearly signposted, identifying both local amenities and facilities as well as longer distance destinations.

4.3 Cycling and walking strategy

The likely pedestrian and cycle strategy, based on the current masterplan, is illustrated in [Figure 4](#) and incorporates the following elements:

- A strategic cycle route, following the alignment of the railway line) to connect with proposed strategic routes to the east (towards Whimple) and to the west (towards Exeter City Centre);
- Segregated or shared pedestrian and cycle routes adjacent to the vehicle routes to allow separation of vulnerable users from vehicles;
- A network of pathways within the development plots to facilitate movement between the main route network and destinations across the development;
- A network of permitted recreation routes, in the form of footpaths and cycle paths connecting with existing routes in the area; and,
- Significant improvements to the London Road corridor through the masterplan area that includes:

- Enhanced pedestrian and cycle facilities on one or both sides of the carriageway
- Pedestrian and cycle crossings across London Road that are level with the footway, or within a shared-surface environment

The proposed strategy identified in [Figure 4](#) over the page, has been developed to connect all significant trip generators (i.e. residential land parcels) with significant trip attractors (i.e. schools, retail uses, areas of employment, etc.). It includes existing cycle and walking routes (including off-site green lanes) as well as potential on and off-site links.

It should be noted that the diagram is a representation of what is required, based on the current masterplan. The final strategy may need to be amended as the masterplan develops.



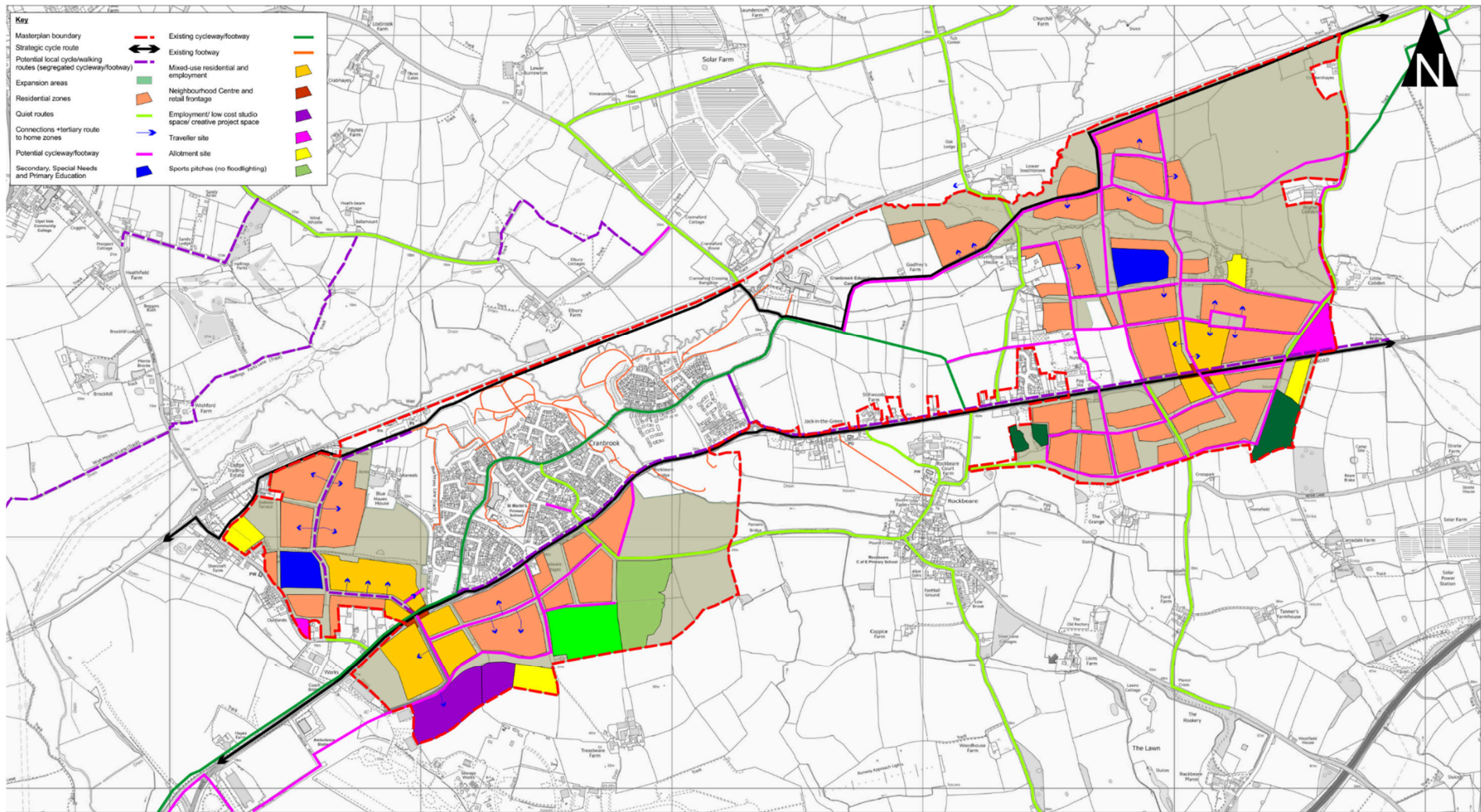


Figure 4 Movement framework: walking and cycling

5 Movement framework: Public transport

5.1 Introduction

Public transport provision will form an important function within the access strategy for Cranbrook, as it will provide a realistic alternative to the private car either as the main mode, or as part of a longer journey (for example providing access to the rail station).

One of the strengths of Cranbrook is that it is a broadly linear development, which is relatively easy to serve with scheduled bus services. However, one of the challenges is the affordability of driving, related not only to petrol prices, but also the price and availability of car parking in and around Exeter.

New public transport infrastructure is essential to serve the quantum of development proposed at Cranbrook.

5.2 Public transport strategy

To achieve the stated objective of maximising the number of people that travel to Cranbrook by sustainable travel modes, there will need to be significant investment in public transport provision.

Proposed and aspirational improvements to public transport, as part of the development at Cranbrook, can be categorised as follows:

- A second **Rail** station at Cranbrook East;
- Bus rapid transit (**BRT**); and
- **Bus** services

5.3 Rail services

As outlined above, the existing station at Cranbrook is situated on the Exeter St David's to London Waterloo line, with an hourly service to and from Exeter St Davids, see **Figure 5** over the page.

One of the issues associated with the existing station is its location. The station is situated at the end of a long cul-de-sac with little or no passive surveillance, and is currently not served by bus, despite there being infrastructure provision at the station. However, the existing road layout has been designed to enable the road to be extended into the Western Expansion Area.



Devon County Council is currently reviewing the rail network in and around Exeter, and a second rail station at Cranbrook may be delivered once the results of feasibility and delivery studies have been concluded. The proposed location of a possible second station has been designed into the masterplan.

Once the new station is operational, the two stations will continue to be served by an hourly service (in both directions), with the trains stopping at one or other station.

The second station and increased frequency will only be achieved by through the implementation of a passing loop adjacent to the mainline railway line. Two options are currently being explored by the County Council:

- A 400m loop, which would cost up to £14m, and deliver an hourly service at both stations; and,
- A 3km passing loop, that would significantly increase capacity and hence frequency of rail services.

However, no funding has been secured at present to construct the passing loop, and hence deliver a second station and increased frequency at Cranbrook.

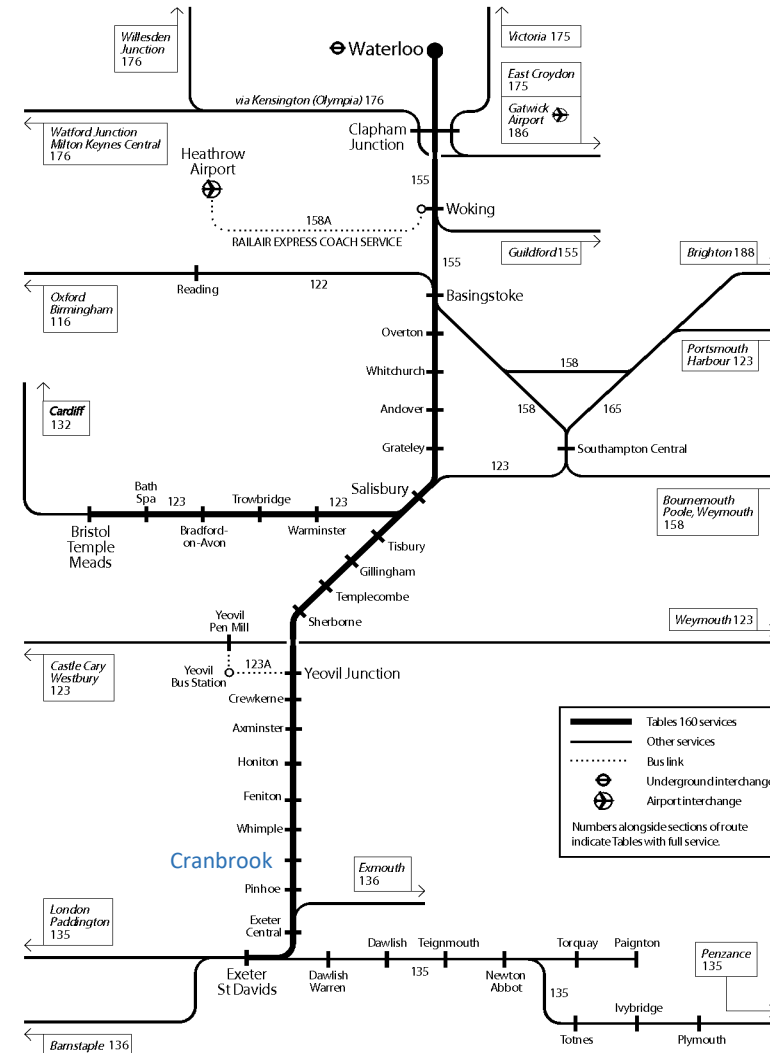


Figure 5 Rail network plan

5.4 Bus rapid transit (BRT)

The 'Assessment of Options for Delivery of the RSS Growth in the Exeter Sub Region' indicates that:

'Escalation of demand given 7,500 dwellings at Cranbrook will cause severe congestion which could have substantial detrimental impacts on the local economy.'

'..therefore alternative provision for public transport priority needs to be made. This could be in the form of an offline, bus-only carriageway which runs from Cranbrook, through third party land to the south of the old A30 and into the proposed Skypark.'

'further public transport enhancements may be required in the form of an additional bridge and bus priority measures on the link to Cumberland Way to ensure there are no delays to public transport.'

It is therefore considered that, to deliver 7,500 homes, together with retail, employment and industrial uses, it will be necessary to provide a new high capacity public transport service to Cranbrook, to serve phase I and all subsequent phases of the masterplan.

A BRT could be introduced on a phased basis, with the capacity and level of service increasing commensurate with the rate of development. It is anticipated that within the Masterplan area, the BRT could run on-street. Once off-site the BRT could run along a dedicated route through the Exeter Science Park and over a new 'bus only' bridge across the M5 (north of junction 29). However, there is currently no funding for a bus only bridge across the M5, and therefore the BRT will need to be delivered along an interim route using existing road infrastructure.



5.5 Bus services

In addition to rail and BRT, development at Cranbrook will be supported by improving bus services to the area, and it is anticipated that additional bus services will benefit the neighbouring communities and employment facilities as well as the new residential and working population. The aim is to enhance public transport links to the east (towards Honiton, Axminster etc.) and to the west (to Exeter Science Park, Skyparks, Eastern Growth Area and Exeter City Centre).

Enhanced bus services will be required to be delivered at the outset, to ensure that good public transport is available for the new community.

Cranbrook is already served by existing scheduled bus services (route 4/4A/4B), which operates with an existing 30minute frequency. However, it is difficult to envisage how the service could be enhanced, particularly to serve the two stations, as well as the southern expansion area(s), without significantly increasing journey times for existing users.

It is therefore considered that:

- a local 'loop' service is introduced to serve the whole of the Cranbrook area, including the town centre and rail stations. This would link together the whole of the masterplan area and ensure that housing, employment and retail facilities are within 400m walking distance of a bus stop; together with,
- A bus interchange (possibly within the town centre) to integrate with the existing scheduled bus service. This would allow Cranbrook residents to access the existing scheduled bus services from the masterplan area as well as access employment and retail facilities within the town centre.

5.6 Infrastructure

Whilst high quality bus services are integral to the success of the development, a similar quality of infrastructure provision will be vital in attracting users to the service, including:

- High quality bus stops:
 - High quality three-sided shelter
 - Seating and lighting
 - Comprehensive timetable information, including network maps and fare details
 - A flag indicating services calling at the stop
 - Off-bus ticketing facilities to speed boarding times
 - Real time passenger information screens
 - Raised kerbs to facilitate easy boarding and alighting

- Cycle stands to facilitate cycle-bus interchange
- Bus priority measures such as bus lanes or bus gates; and
- Off-site improvements that are necessary:
 - to improve the flow of buses;
 - maintain or reduce journey time to the City Centre
 - Improve reliability



5.7 Ticketing

One of the key themes of the public transport strategy is to ensure that an attractive fare structure is in place. The ability to purchase tickets for more than one mode (bus and rail) and by a variety of means is crucial to securing additional mode share to/from Cranbrook.

Exeter (including Cranbrook), is currently covered by the Exeter and Exeter Plus ticket zone, which enables holders to use any bus service in the area shown in [Figure 6](#) below.

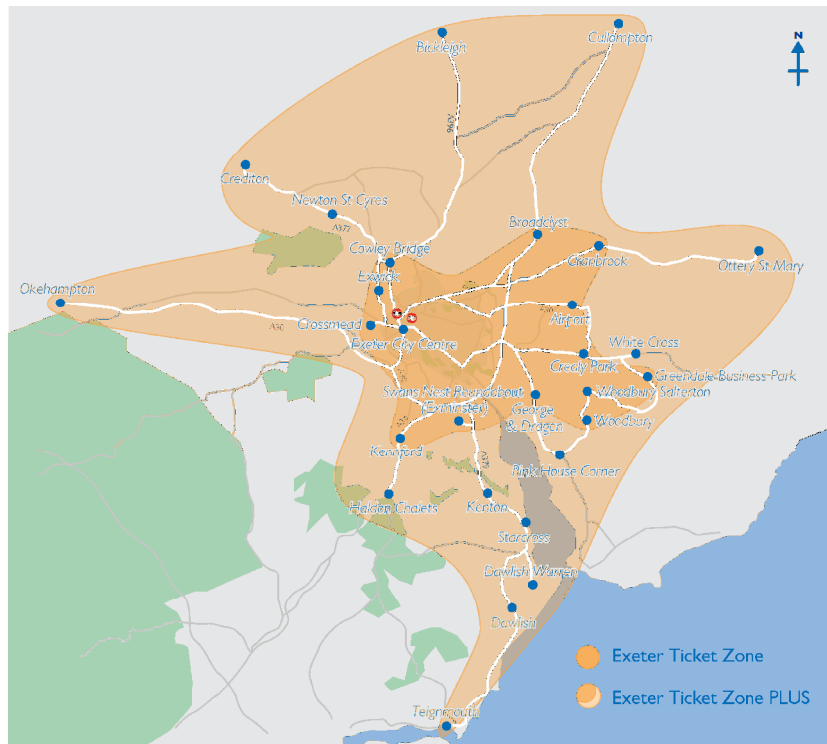


Figure 6 Exeter and Exeter Plus Ticket Zone

It is considered beneficial to extend the validity of the pass to include rail services, but this will require negotiation and co-operation between Stagecoach and South West Trains.

Smartcards and smartphones are increasingly popular as a means of paying for travel. Systems such as Oxford Bus Company's 'the key' or Cardiff Buses 'iff Card' smartcards allow unlimited travel in a zone or on a particular route, where passengers place the card on a card-reader as they join the bus. Ticketing schemes such as this reduce boarding times and help speed up journey times for all users. A further example is off-bus ticket machines at bus stops.

Tickets could potentially be purchased by a wide variety of means – on the buses, at bus stops, at local shops, online, by telephone or by smartphone app (Stagecoach Bus App). Making tickets easily available and simple enhances the accessibility of bus services and in many cases, avoids the need for cash on the bus.

5.8 Indicative public transport map

An indicative public transport map is shown in [Figure 7](#) over the page.

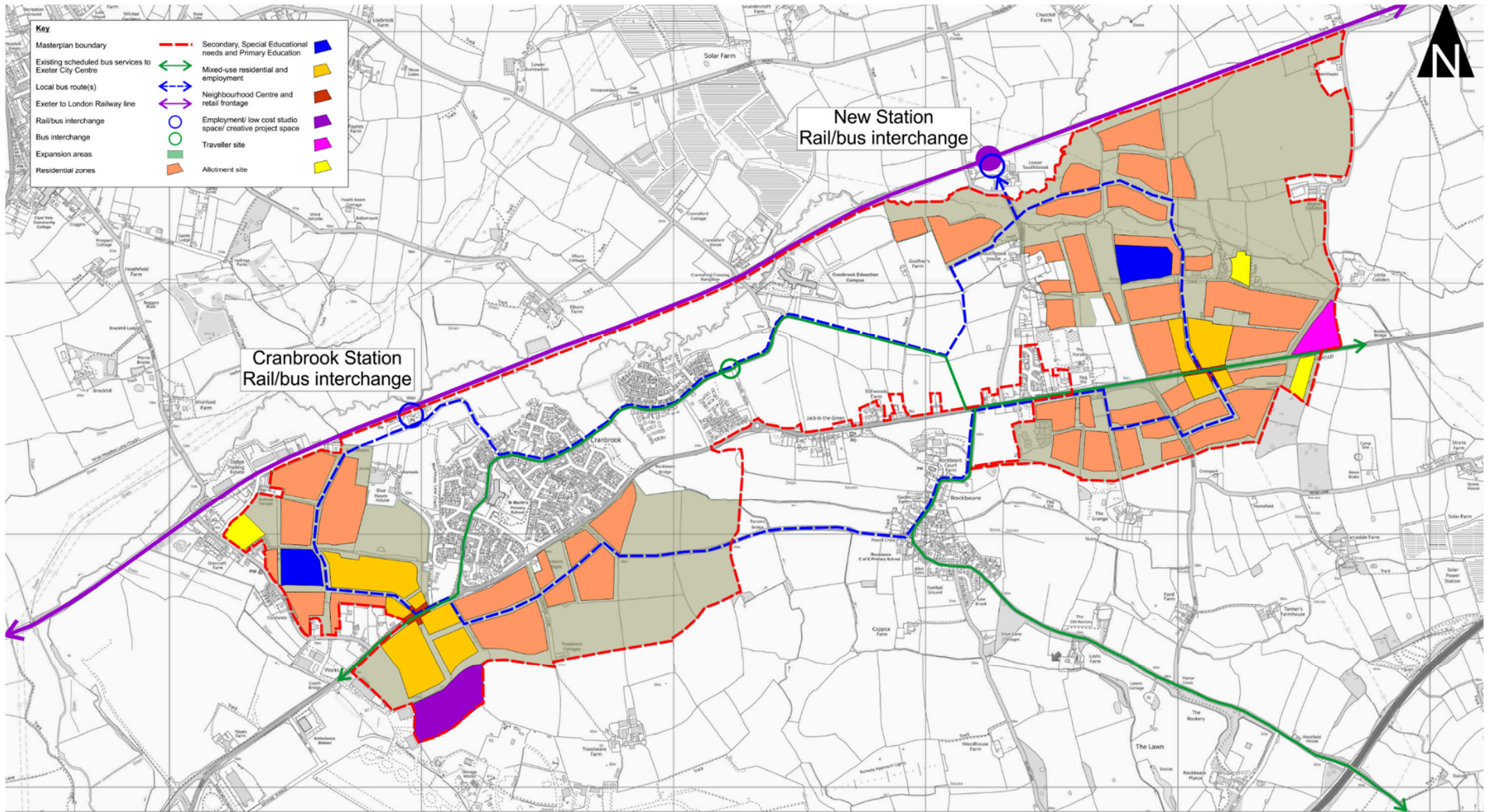


Figure 7 Movement framework: public transport

6 Movement framework: highway network

6.1 Introduction

The strategy for accommodating vehicular movement in relation to Cranbrook has been developed having regard to a number of over-arching principles, including:

- Promoting the use of more sustainable travel through this part of East Devon and into Exeter
- Mitigating against development impact;
- Enabling the delivery of development on the site; and,
- Improving road safety on the approach to the development.

In combination, these principles provide a framework for the delivery of development at Cranbrook that would provide sufficient highway capacity for local and strategic vehicular movements, whilst improving traffic conditions locally.

6.2 Vehicle access strategy

Figure 8 illustrates the key points of the vehicular access strategy for development at Cranbrook, and the access strategy can be broken down as set out below:



Figure 8 Access strategy

Vehicular access

The development will be accessed via a number of existing and proposed junctions on to the existing public highway, including:

- Improvements to the B3174 London Road/Station Road junction [Junction 1] – these could take the form of localised improvements such as a roundabout junction or through the implementation of traffic signal control as part of a wider Urban Traffic Control (UTC) system that would include the access to Skypark, the Science Park and the remaining junctions (junctions 2 to 6 identified below);
- A new ‘Western Gateway Junction’ in to Cranbrook [Junction 2]. Some initial work has been undertaken with a view to providing a new 4-arm signalised junction at this location. However, this can only be achieved through the implementation of a wider UTC system. Other options

include a staggered junction, or a three arm priority junction serving land to the north of London Road;

- Improvements to the existing B3174 London Road/Younghayes Road roundabout junction [Junction 3] – potential to provide a fourth arm as part of an enlarged roundabout or to remodel the junction to provide traffic signal control as part of a wider UTC system;
- Improvements to the existing B3174 London Road/St Michaels Way/Parsons Lane roundabout junction [Junction 4] – potential to provide improved facilities for pedestrians and cyclists, which could take the form of a ‘European’ style roundabout;
- Improvements to the existing B3174 London Road/Court Royal roundabout [Junction 5] - potential to provide improved facilities for pedestrians and cyclists, which could take the form of a ‘European’ style roundabout;
- A new ‘Eastern Gateway Junction’ in to Cranbrook [Junction 6] - it is anticipated that this junction could take the form of a three-arm junction providing access to the eastern expansion areas;

As well as providing access to Cranbrook, these access points will provide connections to existing settlements in Rockbeare and Whimble.

6.3 Internal circulation

Vehicular movement will be accommodated within the proposed development by a network of streets that provide good connectivity and permeability throughout. The roads will need to be designed to meet the functional requirements of the development, alongside wider placemaking, landscaping and ecological objectives.

At this stage, the exact location and standard of highways within the development is yet to be finalised and will be ultimately dependent on the detailed design process as well as the layout of individual plots within the development. However, it is envisaged that the internal road network will be based on a simple hierarchy of routes as set out below.

Primary access and circulation

Primary vehicular traffic routes will cater for relatively high volumes of traffic, including HGVs and buses, and provide the main accesses in to Cranbrook. On-street parking will only be allowed within dedicated parking bays to ensure a free-flow of traffic. Typical cross-sections are shown in [Figure 9](#) below.

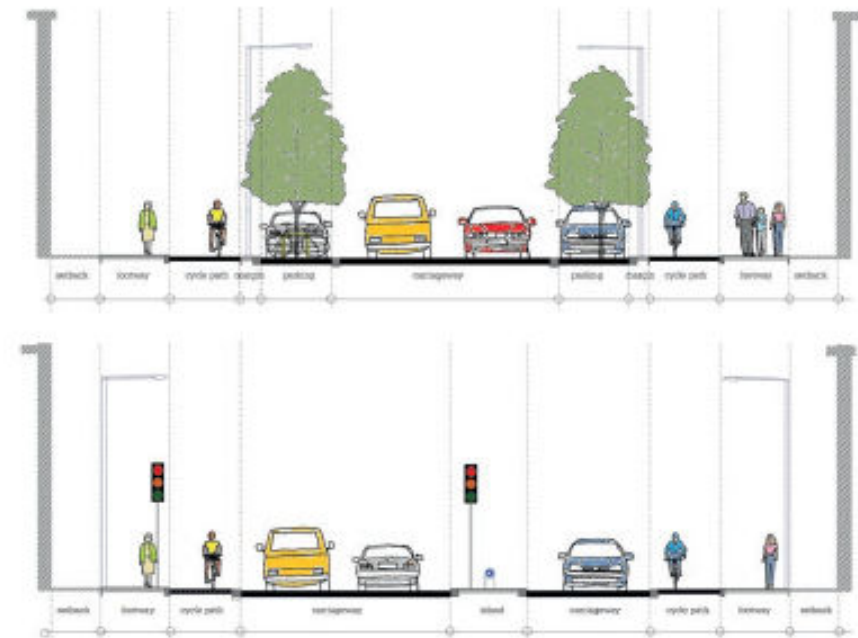


Figure 9 Typical cross-sections - primary streets

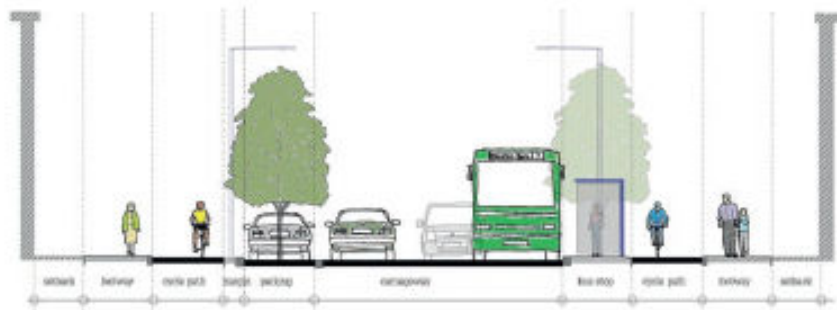


Figure 9 (cont'd) Typical cross-sections - primary streets

Movement function

- Principle movement corridor within the development;
- Facilitates vehicle circulation throughout the development;
- Incorporates adjacent pedestrian and cycle routes (off-street);
- Incorporates safe and conveniently located pedestrian and cycle crossings;
- Principle public transport corridor(s) through the development;
- Accommodates frequent vehicle movements, including service and delivery vehicles to the key centres;
- Provides connections with secondary access routes; and,
- Provides direct access to development plots.

Place function

- Strong landscape character;
- Shared space at key local squares;
- Limited frontage access;
- Pedestrian activity
- On-street parking spaces

Secondary routes

Secondary vehicular traffic routes will cater for medium volumes of general traffic and will provide internal circulation within the development and connections to access routes. HGV traffic should be restricted on the secondary routes. On-street parking will be permitted in suitable locations. The character of secondary routes will vary with their location and function, and some initial cross-sections are shown in Figure 10 below.

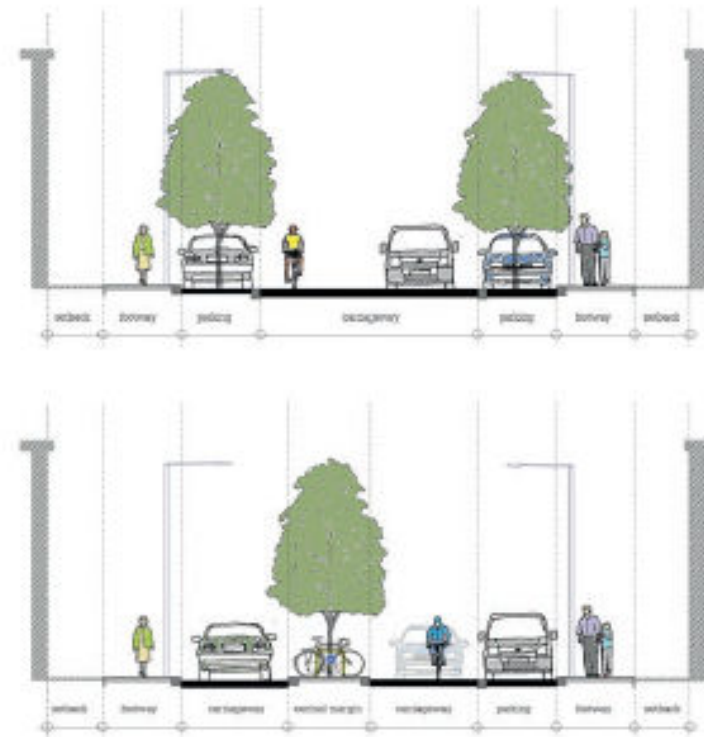


Figure 10 Typical cross sections – secondary streets

Movement function

- Provides connections from primary access and circulation routes to the rest of the site;
- Accommodates generally lower traffic volumes than primary access routes;
- Incorporates adjacent pedestrian and cycle routes (off-street);
- Incorporates safe and conveniently located pedestrian and cycle crossings;
- Predominantly access based movements; and,
- Provides direct access to development plots.

Place function

- Strong landscape character;
- Increasing frontage activity;
- More community facilities adjacent to the routes, including cycle parking provision; and
- On-street parking spaces.

Tertiary routes and accesses

Tertiary routes and accesses are shared pedestrian and cycle-based routes that will cater for a small number of vehicles (excluding HGVs) and can provide direct local access to homes and local businesses. They will also provide home zone-type spaces for informal social use. This may involve tree planting and high quality public realm (for example, using block paving rather than asphalt), and may include the introduction of informal play spaces, play equipment, tables and benches. The home zone area is shared between vehicular, pedestrian, cyclist and social users, with little delineation of the space, whether through level change or road markings. In general, no on-street parking will be provided on tertiary routes, though loading bays and disabled car parking spaces may be permitted at suitable locations.

Typical cross-sections are outlined in [Figure 11](#) below.

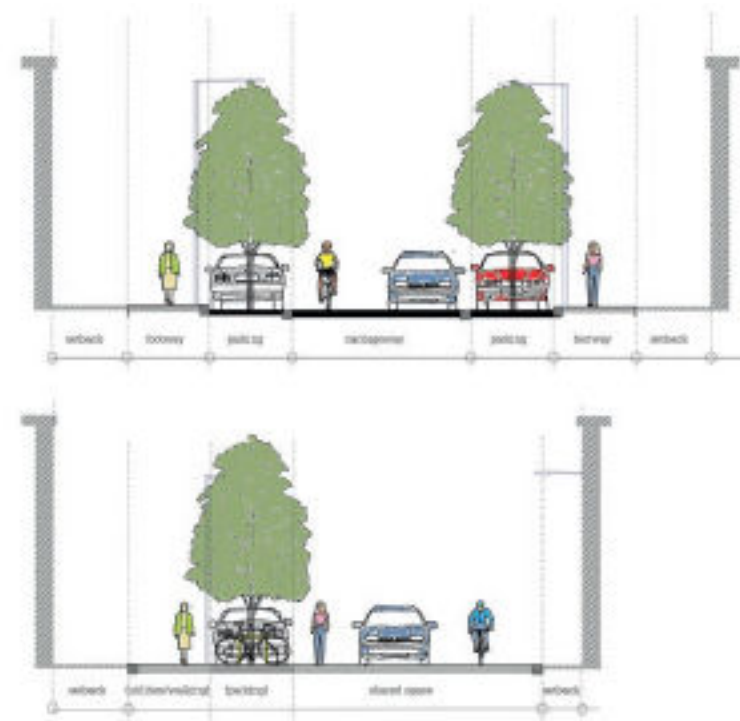


Figure 11 Typical cross-sections – tertiary streets

Movement function

- Internal plot access with residential frontage;
- Relatively low traffic volumes;
- Increased volume of pedestrian and cycle traffic;

- Incorporates safe and conveniently located pedestrian and cycle crossings;
- A mix a segregated and shared surface routes; and,
- On-street cycle route provision.

Place function

- Strong landscape character
- Residential streets with frontage access
- Increased pedestrian activity
- Shared use of road space
- Other natural influences including landscaping etc.

Junctions

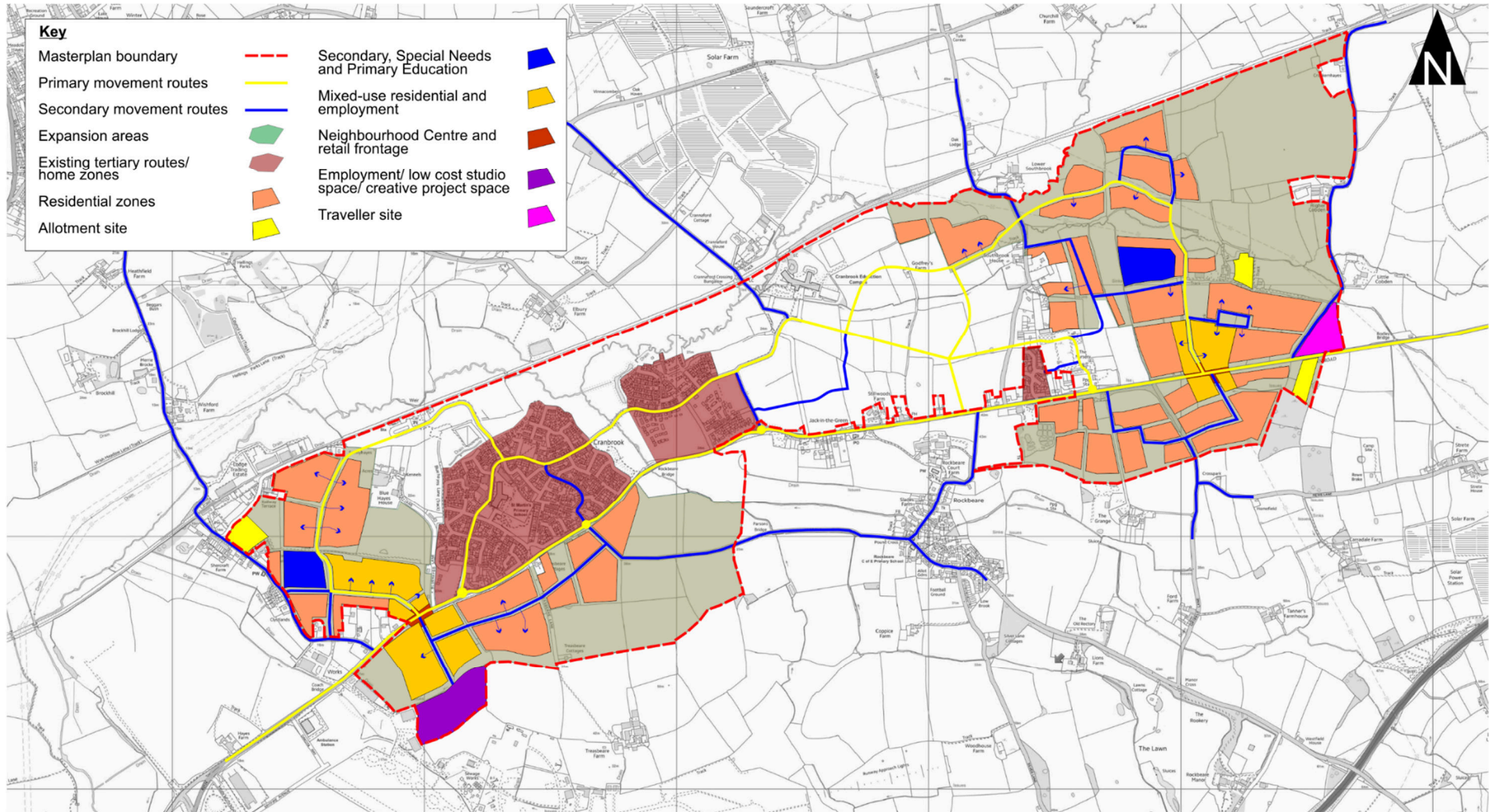
It is envisaged that the majority of on-site junctions will be formed primarily of priority give-way junctions either in a traditional form or built in to shared space within key local squares.

Within the district centres and town centre, it may be appropriate to include traffic signal controlled junctions, with enhanced facilities for pedestrians and cyclists, including:

- Straight across (pedestrian and cycle) crossings – with an all-red pedestrian stage;
- Raised table throughout the entire junction

6.4 Indicative on-site highway network

Figure 12 over the page indicates an initial alignment of primary secondary and tertiary routes through the masterplan area, but minor amendments to the alignment may be made to the routes provided that they maintain the indicated connections to the primary routes and other secondary routes.



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Figure 12 Movement framework: highway network

7 Travel planning and smarter choices

7.1 Introduction

Travel plans are the Government’s recommended way forward to widen travel choice, promote sustainable travel choices and reduce single-occupancy car travel. They are an important tool for the delivery of national, regional and local transport policy and are an integral part of the planning process, fulfilling a role in encouraging more sustainable development.

A travel plan is a long-term management strategy for an organisation or site that seeks to deliver sustainable transport objectives. A travel plan sets targets to promote sustainable travel and identifies an appropriate package of initiatives and measures to achieve this. It then sets out an action plan to implement those measures and monitor their success.

7.2 Benefits of a travel plan

Travel plans can assist in increasing accessibility and transport conditions at a local level whilst helping to reduce congestion, local air pollution, carbon emissions and noise. Growing evidence suggests physical activity as part of people’s daily life contributes to psychological and physical well-being. People who are more active physically are more productive and have better attendance records.

Objectives

The specific objectives for Cranbrook are to:

- Increase the share of journeys made on foot, by bicycle and public transport;
- Reduce single occupancy vehicle trips associated with the development;

- Address the access needs of all site users, by supporting walking, cycling and public transport to promote healthy lifestyles and sustainable communities;
- Improve awareness amongst residents about the different travel options and facilities available.

Targets

Targets are the measurable goals by which the Travel Plan will be assessed. Targets are essential for monitoring the progress and success of the Travel Plan. The targets are set out in **Table 5** below, and are to be achieved within the lifetime of the Travel Plan. Indicators are the elements which will be measured in order to assess progress towards the targets. The baseline values are based on the mode splits set out in Section 1 above. These targets will be reviewed throughout the lifetime of the Travel Plan

Table 5 Mode split targets

Target (and specific objectives met)	Indicators	Residents’ mode split		
		Baseline value	Interim target	Target
Increase the use of active travel modes (1,2)	All trips made by public transport	8%		15-20%
	All trips made by walking and cycling	8%		15-20%
	All trips made by car (as driver)	76%		50%
	All trips made by car (as passenger)	3%		10%

The baseline values outlined in the table above are based on the results of the most recent Community Questionnaire. However, these should be updated with the results of an Initial Travel Survey (ITS), which will be undertaken once the development has reached a set trigger point, that will be agreed with between the developer(s) and the local planning authority.

The target, which will be achieved over the lifetime of the Travel Plan, will also need to be agreed with between the developer(s) and the local planning authority. Typically, a realistic modal shift from the private car to more sustainable travel modes (walking, cycling, public transport and car sharing) will be between 15 and 20%.

7.3 The Smarter Choices Strategy

Once the targets are set, the Smarter Choices Strategy can be developed accordingly. It is proposed that The Strategy will consist of a mix of on-site and off-site measures and in turn these will consist of more traditional measures alongside some new and innovative interventions.

On-site interventions

A number of site-wide interventions will be introduced to benefit all residents and employees of the site such as travel information points, public transport provision, transport forums and car share clubs, and the provision of a well sign-posted and connected network of walking and cycling routes. Such interventions become more effective when a critical mass is reached, so are more effective over a wider area.

The first stage of the strategy would be the implementation of traditional travel plans for the development site, including residential and workplace travel plans. There should be an overall framework for the whole site, setting out site-wide objectives and all individual travel plans will sit within this framework, which will be secured through planning conditions/s106 agreement.

The residential elements of the site will have their own travel plans with their own measures which should consist of the provision of Travel Information Packs to all new residents, together with introductory or subsidised options for the car club or for public transport, to compliment the site-wide interventions being introduced and to give the new residents the opportunity to try out the various travel options available to them.

All employers on the site will also be required to implement workplace travel plans which will fit within an overall travel plan framework for the whole site. This will include monitoring and mitigation strategies for all businesses, should their individual targets not be achieved.

Whilst travel plans have proven to be very successful, it is noted that the provision of generic travel information alone does not necessarily mean that people will use sustainable transport, given that much of the information is superfluous to people's individual needs. Personalised Travel Planning (or PTP) provides tailor-made information to people in order that they receive only the information they want and that is relevant to their particular travel patterns.

As such, personalised, targeted travel advice for residents (PTP) should also be included within the overall framework, and it is envisaged that this could take place during the purchasing process, or immediately after residents have moved into their new home. This kind of intervention has been shown to reduce single occupancy car trips by 10% on average (akin to the peak hour traffic reduction noticed in 'school holidays') and is an extremely cost-effective way of reducing traffic levels; especially when compared with infrastructure costs of trying to build our way out of congestion.

Other incentives may also be offered as part of the residential travel plan, such as cycling or walking equipment, but this would be targeted dependant on the outcome of the PTP discussions, to ensure that best and most effective use of the incentives on offer is achieved.