

Introduction

<u>Purpose</u>

This chapter provides essential guidance for developers and designers planning and delivering street infrastructure in South West Rugby. Developed collaboratively with Warwickshire County Council (WCC), a principal stakeholder in highway management, this code promotes a people-centric approach to movement and street design. It aligns with placemaking principles, prioritizing road safety, sustainable transport, and creating environments that enhance the quality of public spaces.

The code applies to:

- Highway infrastructure and streets to be adopted by WCC.
- Non-adopted elements, such as private drives, with recommendations to ensure consistency.

Developers must refer to this guidance in conjunction with:

- Warwickshire Design Guide (WDG)
- Manual for Streets 1 & 2 (MfS)
- Local Transport Note 1/20 (LTN 1/20)
- National Model Design Code (NMDC)

<u>Vision</u>

The vision for South West Rugby's transport network is to create a low-carbon, resilient, and inclusive system that:

- Supports health, well-being, and quality of life.
- Promotes connectivity, accessibility, and sustainable mobility.
- Fosters a thriving economy through efficient movement networks.
- Enhances Rugby's unique natural and built environment

Structure

The code is organised into the following sections:

- 2.0 Street Network: Characteristics, connectivity principles, and street hierarchy guidance.
- 3.0 Movement Framework: Design of movement routes, including active travel, bus routes, and service corridors.
- 4.0 Street Coding: Specifications and design for various street types.
- 5.0 Related Movement Guidance: Covers parking, mobility hubs, emergency access, and refuse collection.

Also refer to:

Public spaces

RBC local plan policy: DS8, DS9, HS1, HS5, D1 + South West Rugby Masterplan SPD (2021, updated 2024)

WCC policy: Warwickshire Design Guide

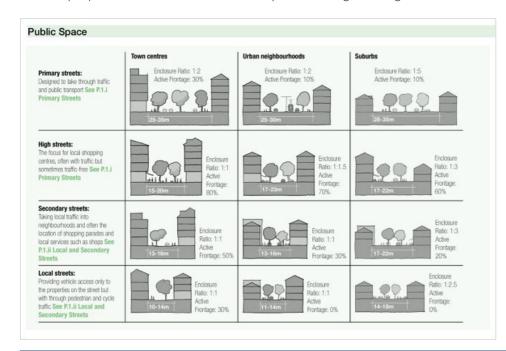
*plus others outlined above

Street network

Street characteristics

The street network is the foundation of public life, supporting movement, placemaking, and access. According to the NMDC, a connected network of streets, public transport access, and prioritization of walking and cycling are essential for all developments.

- MO.01 All schemes must contribute to an integrated, walkable, and safe street network.
- MO.02 Streets must balance their link function (movement of people and goods) with their place function (public spaces supporting social and economic activities).
- MO.03 Development must reflect and enhance the character of the street it occupies. The street's character will vary based on its hierarchy and local context.
- MO.04High-quality public spaces must have thoughtful street design and wellproportioned enclosures formed by surrounding buildings.



Also refer to:

Public spaces Built form

RBC local plan policy: HS1+ South West Rugby Masterplan SPD (2021, updated 2024)

Warwickshire Design Guide

Connected Network

A well-connected street network forms the circulatory system of any settlement, determining how safely and efficiently people and goods move within and beyond a development.

- MO.05Long-Term Framework: The street network must provide a durable and adaptable structure, often outlasting the buildings it serves.
- MO.06Choice and Variety: Streets must offer direct, efficient routes to make walking and cycling more attractive while promoting activity and safety.
- MO.07Controlled Permeability: Cul-de-sacs should be limited to tertiary streets. Measures like modal filters **could** restrict vehicular through-traffic while maintaining access for pedestrians and cyclists.
- MO.08 Safety and Security: Designers must consider passive surveillance, good lighting, and active street-level uses to ensure safety, particularly in areas with high footfall.

Public Transport Integration:

- MO.09 Access to public transport must be prioritized to reduce reliance on private cars.
- MO.10 Developments must provide connected networks with safe, convenient, and accessible links to transport hubs, enabling residents to reach schools, town centres, and employment areas efficiently.

Case Study: Poundbury, Dorchester

Poundbury exemplifies a well considered street network. It includes three distinct east west routes: a distributor greenway for through traffic, an urban street serving the main centre, and a pedestrian friendly ceremonial spine. Smaller, interconnected streets provide continuity and ease of movement, especially for pedestrians.



Street network

User Requirements

Accessibility and Movement

- MO.11 Well-designed streets must be accessible and inclusive, catering to all users regardless of age, ability, or mode of travel.
- MO.12 Active Travel: Walking and cycling should be prioritized as primary modes for local journeys under five miles.
- MO.13 User Hierarchy: Streets must consider pedestrians and cyclists first, followed by public transport, servicing vehicles, and finally private vehicles.
- MO.14 Accessibility must be a golden thread throughout the design process, integrating features like adequate footway widths, inclusive crossings, and careful placement of street furniture.

Walking and Pedestrian Needs

- MO.15 Footways must be at least 2 meters wide, free from obstructions, and separated from carriageways with conventional kerbs.
- MO.16 Crossfalls must be minimal to avoid challenges for wheelchair users and individuals with mobility impairments.
- MO.17 Streets near schools, shops, and community hubs **must** cater to vulnerable users with enhanced safety measures.

Cycling Requirements

MO.18 Developers must ensure:

- Safe, direct, and well-lit cycle routes connecting neighbourhoods to town centres, rail stations, and other key destinations.
- The adoption of a cycle-anywhere approach within developments. Where traffic speeds are higher, segregated cycle lanes designed to LTN 1/20 standards may be required.

Bus transit

- MO.19 Developments must provide bus stops within 400 meters of all dwellings.
- MO.20 Bus stops should include shelters, seating, real-time information displays, and integration with mobility hubs.

Servicing and Emergency Access

- MO.21 Developers must ensure efficient servicing, including HGV access and refuse collection.
- MO.22 Emergency services must have unobstructed access to all properties.

Private Vehicles

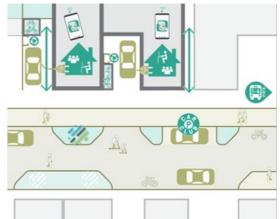
- MO.23 Streets should strike a balance between promoting sustainable transport and managing vehicle access.
- MO.24 Modal filters and traffic-calming measures must reduce car dominance without compromising necessary access.

Junction Design

- MO.25 Junctions must prioritize safety, convenience, and accessibility for all users.
- MO.26T-junctions should be the default intersection type, while roundabouts and traffic signals **should** be limited to primary and secondary streets.

Crossings

- MO.27 Formal crossings must align with pedestrian and cyclist desire lines to reduce risks and encourage use.
- MO.28Drop kerb crossings should be placed every 100 meters to improve pedestrian permeability.



Infographic illustrating sustainable transport elemetrs start at home and local street





Nansledan Newquay - walking comfort at side streets

Street network

Street hierarchy

The design of a street network plays a fundamental role in shaping how streets are used, perceived, and experienced. Streets perform different roles depending on their movement function (the volume and type of users they serve), place function (how they support social and economic activity), and the surrounding context. These roles are further influenced by built form, land uses, and the design of the street space, including natural features, landscaping, lighting, and wayfinding elements.

Street Categorization

To create clarity and consistency in design, this code categorizes streets into defined street types, each with a distinct function that reflects both movement and place priorities. Street type classification must consider the area type, the range of modes it serves (walking, cycling, public transport, and motor vehicles), and its specific design requirements.

The hierarchy aligns with the Manual for Streets (MfS), which defines common street types and functions. These include multifunctional streets and spaces, arterial routes, high streets, boulevards, and residential streets. Each type has unique characteristics tailored to its role in the network. The street hierarchy described below integrates these established types with additional classifications to meet the specific needs of South West Rugby.

Junctions and Intersections

- MO.29 T-junctions must form most intersections within the development to maximize safety and clarity for users.
- MO.30 Crossroads generally should not be used due to safety concerns, as raised by WCC.
- MO.31 Higher-order junctions, such as roundabouts or traffic signals, must be reserved for primary and secondary streets only, ensuring that traffic flow and safety considerations are balanced at key intersections.

Primary Street (Cat 3A)

Role:

Provides high-capacity links to urban centres and the wider strategic road network.

Characteristics:

- Limited or no frontage access to prioritize movement efficiency.
- Designed to accommodate higher traffic volumes, including public transport.

Secondary Street (Cat 3b)

Role:

Acts as the main local connector, providing essential links between primary streets and tertiary streets. These streets form the backbone of SW Rugby's development.

Characteristics:

- Mixed-traffic design accommodating buses, HGVs, and general traffic.
- Frequent junctions with tertiary streets to improve connectivity.
- Streets must be continuous and connected at a minimum of two points to the external highway network to provide flexibility in traffic routing.
- All developments must ensure proximity to secondary streets, enabling 400-meter maximum walking distance to bus stops for all dwellings.

Tertiary Street 1 (Cat 4a)

Role:

Provides local access to residential properties and links primary or secondary streets.

Characteristics:

- Direct frontage access to properties.
- Frequent junctions to support permeability.
- These streets should connect to other streets at both ends wherever feasible.

Tertiary Street 2 (Cat 4b)

Smaller-scale streets, typically serving as cul-de-sacs or minor local access

Characteristics:

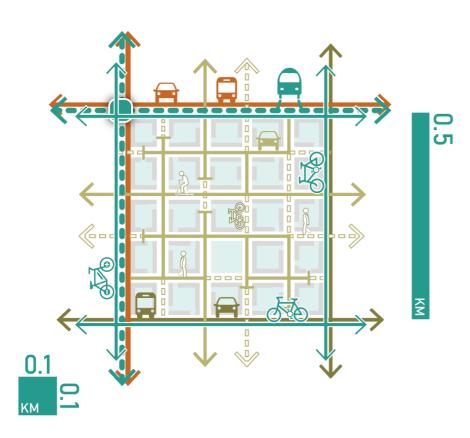
• Limited connectivity, designed for localized movement and access.

Street network

Street network principles

The following principles underpin the development of a well-structured, efficient, and accessible street network for South West Rugby.

MO.32 Developers **must** adhere to these principles in the design and implementation of street layouts:



Infographic showing principles of modal networks (eg fine grain walking, cycle anywhere via model filters, structuring spines streets & tertiaries creating blocks)

SUPERBLOCK DEVELOPMENT WALKABILITY DIRECT CYCLING SPINE STREETS STRUCTURE PARCELS Plan for radial cycle Ensure a dense and Complete the street Structure the development Use tertiary streets (Types continuous network routes and greenways that around secondary streets, 1 and 2) to define larger network by subdividing ensuring efficient bus connect key destinations, superblocks into smaller of pedestrian routes, superblocks, balancing enabling walking as a such as the development connectivity with efficient development parcels access. centre, from multiple land use. using tertiary Type 2 viable and attractive mode of travel throughout directions. All dwellings must be streets. Superblocks should allow the development. located within 400 Actively minimize meters of a secondary for local permeability Parcels should typically have depths of 60 to 80 Incorporate frequent severance caused by street to guarantee public while reducing transport accessibility. unnecessary vehicular meters, ensuring efficient crossing points and major roads by using through-traffic. modal filters or breaking Where this distance use of space and logical minimize barriers to up vehicular continuity cannot be met, additional layouts for access and movement. around greenways to secondary streets must be frontage prioritize cycling. incorporated.

Street network

Case Study Street Network Example

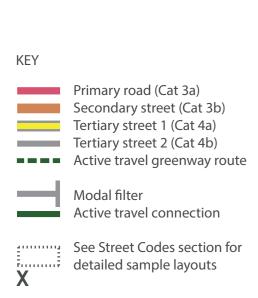
An idealized street network for South West Rugby demonstrates these principles in action:

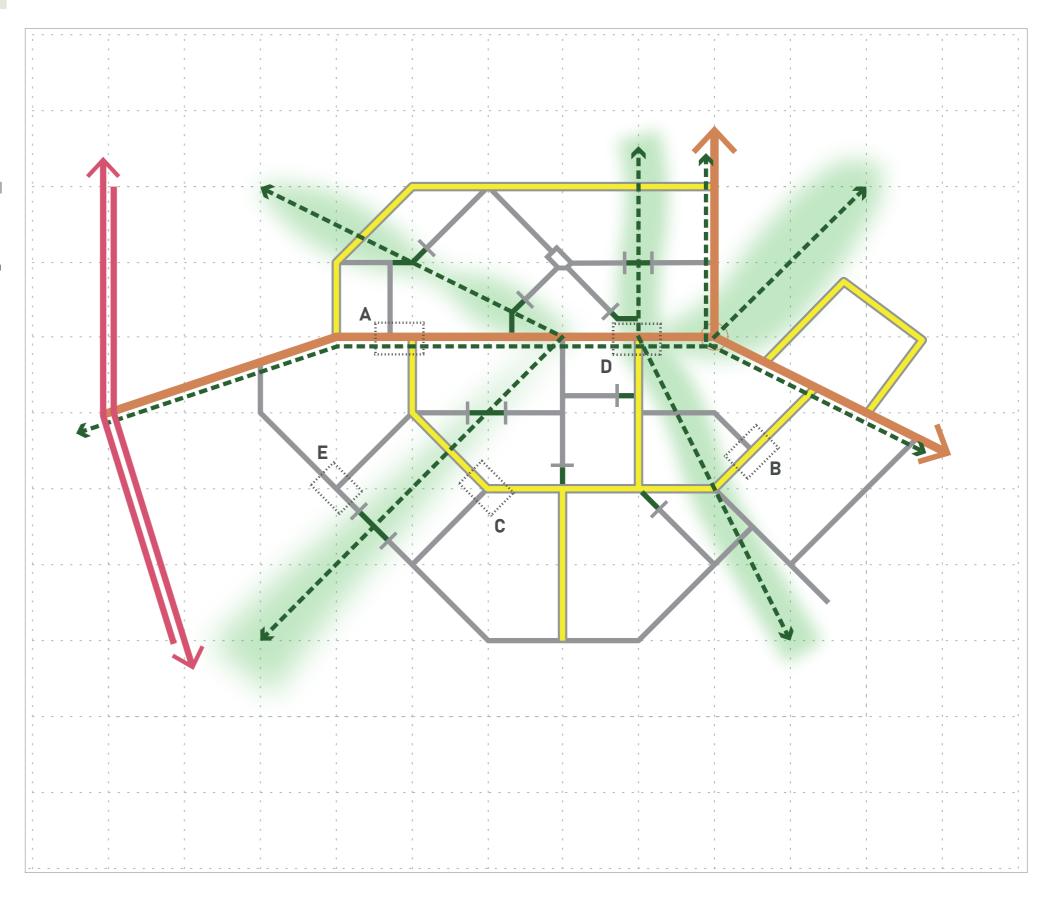
Walk-Anywhere Approach: A grid-like pattern of walking routes ensures continuous, safe, and convenient pedestrian access throughout the development.

Radial Cycling Routes: Dedicated cycle greenways link neighbourhoods to central areas while avoiding severance by prioritizing crossings and modal filters.

Secondary Spine Streets: The network prioritizes public transport by using secondary streets to create direct, efficient routes for buses and ensuring maximum walking distances to stops are within 400 meters.

Superblocks and Parcels: Larger superblocks are structured with tertiary T1 streets to create manageable, walkable neighbourhoods. Smaller Tertiary Type 2 streets define development parcels within the superblocks, ensuring effective land use.





Street network

Network Speed Reduction

Secondary Street Corridor

Managing traffic speeds is a critical design consideration for fostering safe, accessible, and functional environments. Designers must address this during the street network planning stages, applying diverse techniques to ensure traffic flow aligns with the network's intended use—typically 20 mph for general secondary streets or 30 mph for streets with bus routes. For Secondary (Type 3B) streets, the following strategies exemplify effective methods to manage speed while enhancing urban design:

Gateway Junctions: Leverage junction types and the strategic placement of landmark buildings to encourage reduced speeds by signalling transitions in the street hierarchy.

Change of Direction: Integrate junctions or bends that naturally slow vehicles while emphasizing urban form to reinforce the reduced-speed environment.

Priority Give-and-Take: Implement priority working to alternate traffic flows, favouring outbound traffic while creating localised resistance for inbound movement.

Chicanes: Use horizontal deflections or staggered lanes to slow traffic effectively while maintaining visual interest and functional connectivity.

Urban Context: Embed mixed-use, higher-density developments at central nodes to emphasise pedestrian priority and encourage slower vehicular speeds.

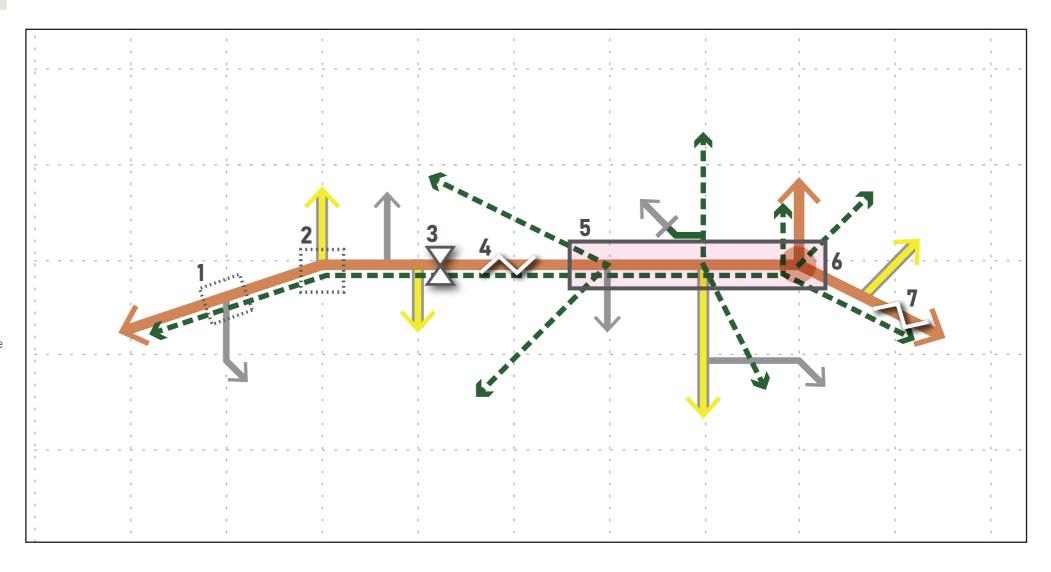
Dutch-Style Roundabouts: Introduce tight entry and exit geometries at roundabouts to reduce speeds while improving safety and efficiency for all users.

Gateway Chicanes: Repeated chicanes can create a rhythmic speed control effect in key areas.















Nansledan Newquay - change of street alignment with island to slow traffic

Street network

Tertiary Street Networks

For Tertiary (Types 4A and 4B) streets, a similar suite of strategies is recommended, with adaptations suited to the scale and context of these smaller streets. These techniques ensure the streets support their roles in accessibility and placemaking:

Change of Direction / Junctions: Utilise tight corner radii and limited visibility to slow vehicles and enhance pedestrian safety.

Modal Filters: Disrupt vehicular continuity by allowing access only for pedestrians, cyclists, and other active modes, effectively creating low-traffic zones.

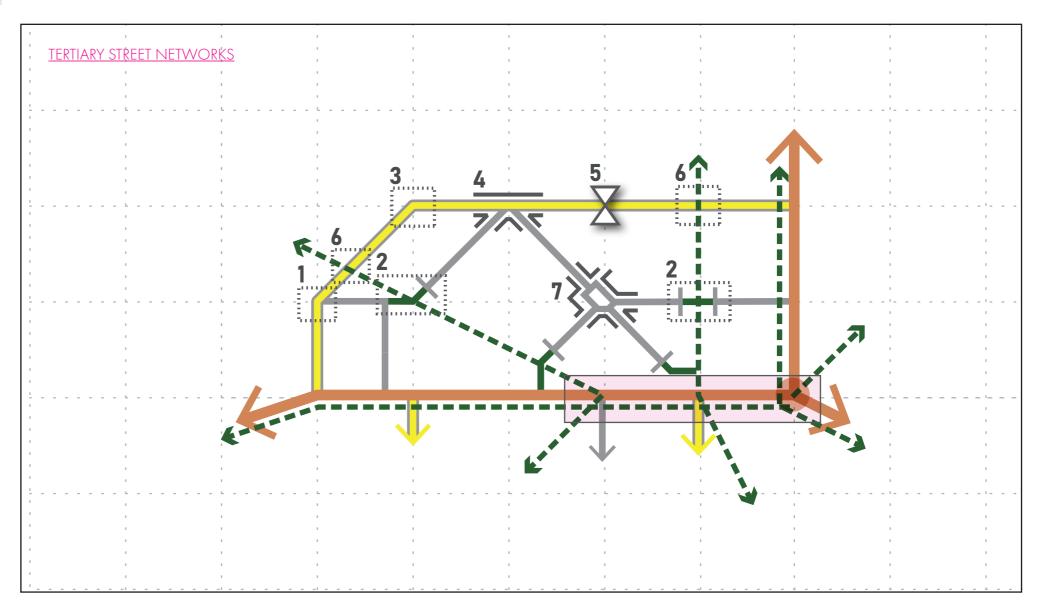
Tight Corner Radius: Use reduced corner radii to enforce slower speeds while maintaining connectivity and a pedestrian-friendly scale.

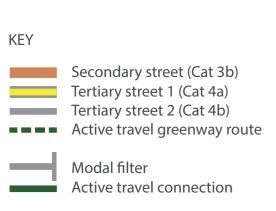
Urban Form: Cluster junctions to encourage slower speeds and create visual interest, integrating street furniture and landscaping to enhance placemaking.

Pinch Points: Introduce kerb buildouts or strategically placed parking bays to narrow lanes, creating informal traffic calming while supporting street character.

Cycle Crossings / Pinches: Highlight crossings with textured surfaces or colour changes, ensuring active travel modes are clearly prioritised.

Urban Squares: Incorporate multifunctional public spaces within street layouts to naturally calm traffic while fostering community interaction.







Sherford Plymouth - using urban form and public space to manage traffic speed





Sherford Plymouth - using pinch points with parking to manage traffic speed on straight streets

Street network

This section outlines the movement framework for the design code, building on the principles established in the preceding sections. Developers must adhere to this principal movement framework as a mandatory guideline. While some flexibility in precise alignments is permitted, the fundamental principles and objectives of the framework must be strictly maintained.

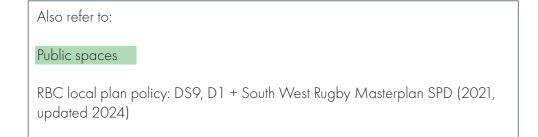
The movement framework incorporates a series of modal routes to be implemented through adopted streets, bridleways, and footpaths. Where routes traverse multiple landholdings or include existing highway land, developers are responsible for coordinating the delivery of the required infrastructure.

The primary street network consists of primary, secondary, and Tertiary 1 streets. Developers must follow the prescribed nature and locations of these streets, with a degree of design tolerance to accommodate site-specific needs. The finer Tertiary 2 street network is not explicitly coded but should be designed in alignment with the street network principles outlined earlier.

Key Routes:

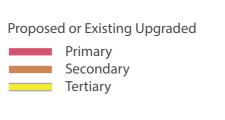
- Route 1: New primary street (Homestead Link Road)
- Route 2: New primary street (Potsford Dam Link Road)
- Route 3: New secondary street (Community Spine)
- Route 4: Upgrade of Cawston Lane to secondary street
- Route 5: New secondary street (Sustainable Transport Corridor)
- Routes 6–14: A series of new Tertiary 1 link streets.
- 7: Modal filter to sustainable transport corridor

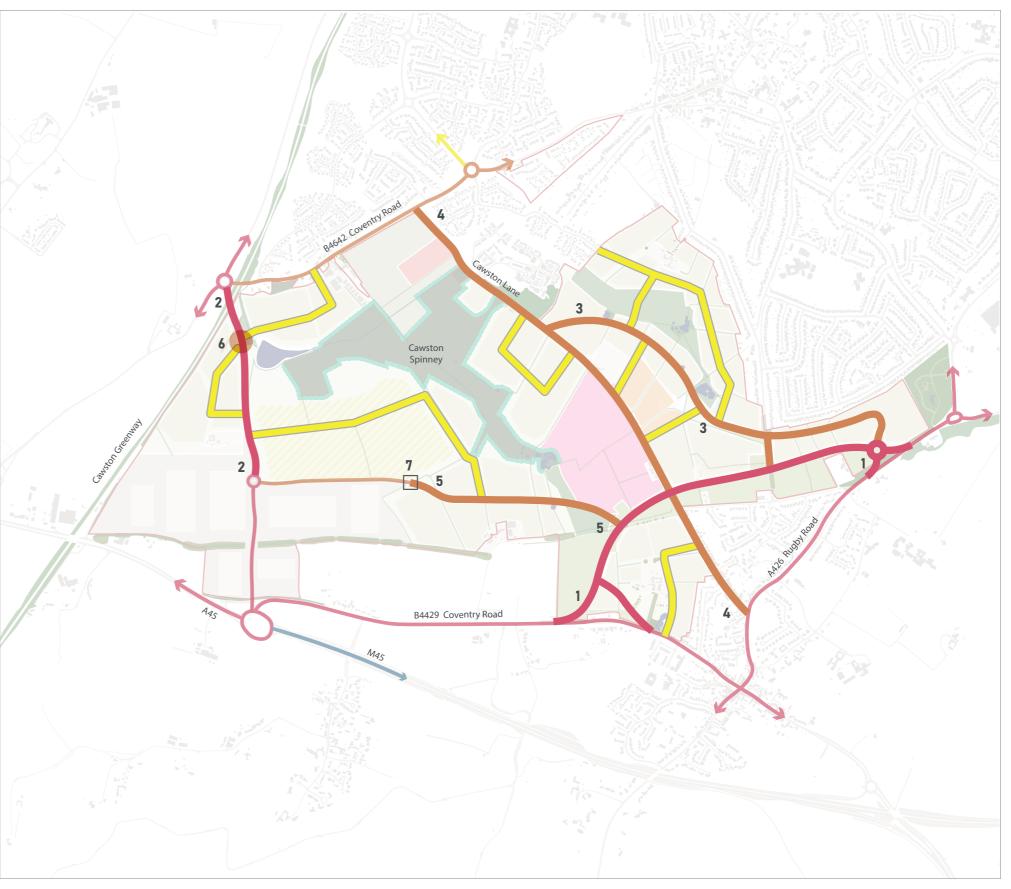
These streets must establish at least two connections to the main street network, forming the backbone for a future grid of Tertiary 2 streets (not depicted in the framework).





Warwickshire Design Guide





Active travel framework

The active travel framework aims to create a dense, connected network to support internal active mode movements and facilitate wider connectivity to external destinations. This framework prioritises a segregated walking and cycling network for safety and accessibility.

Primary Active Travel Routes:

- Cawston Lane Upgrade: Transition to secondary street with active travel
- Existing Footpath Upgrade: Conversion to active-only street.
- Existing Bridleway Upgrade: Conversion to active-only street.
- New Sustainable Transport Corridor: A secondary street designed for active travel and public transport.
- Existing Footpath Upgrade: Conversion to active-only route/street.
- Existing Footpath Upgrade: Conversion to active-only route/street.
- New Active-Only Route: Leading to the edge of the woodland.
- New Link (Primary Street): Potsford Dam Link Road.
- New Link (Primary Street): Homestead Link Road.
- New Link (Secondary Street): Community Spine. 10.

This framework emphasises integration with key external connections, enabling efficient movement for pedestrians and cyclists.



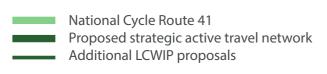
RBC local plan policy: HS1+ South West Rugby Masterplan SPD (2021, updated 2024)

Warwickshire Design Guide

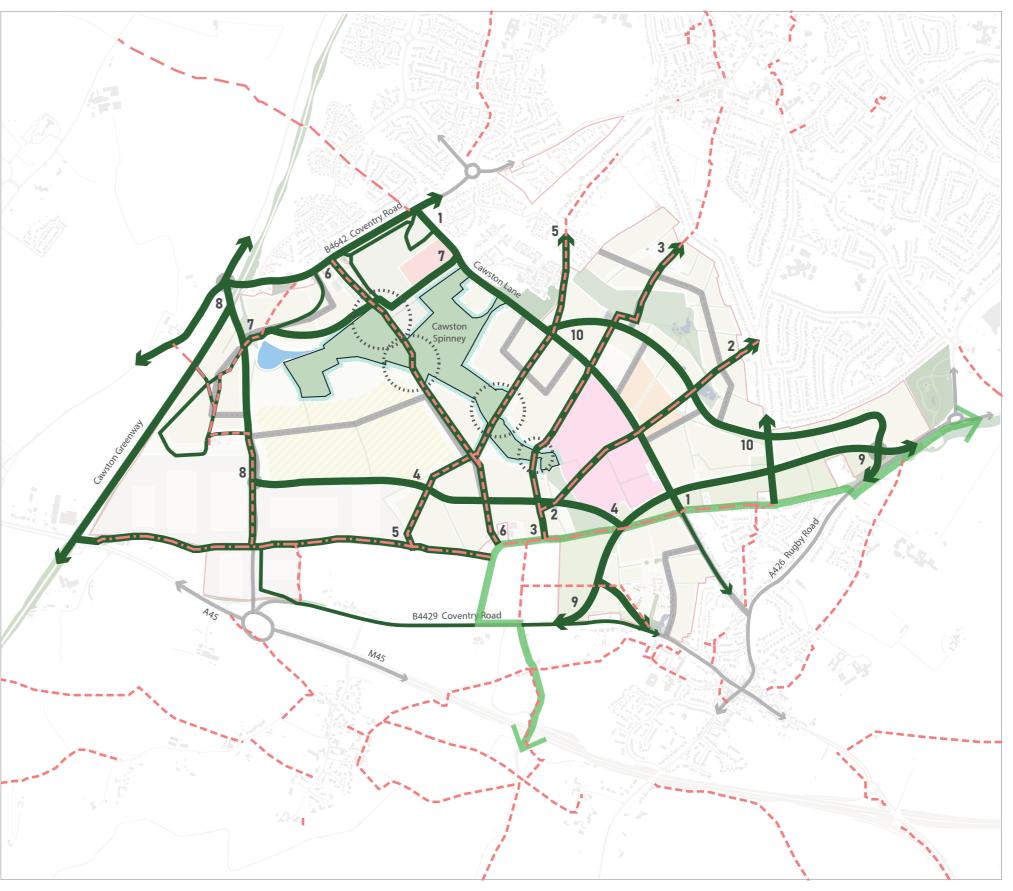
KEY

Existing PROW:









Bus + HGV network

The movement framework accommodates buses and HGVs for local access on primary and secondary streets. Tertiary streets are generally not designed to support HGV traffic, except for refuse collection vehicles and emergency services.

Also refer to:

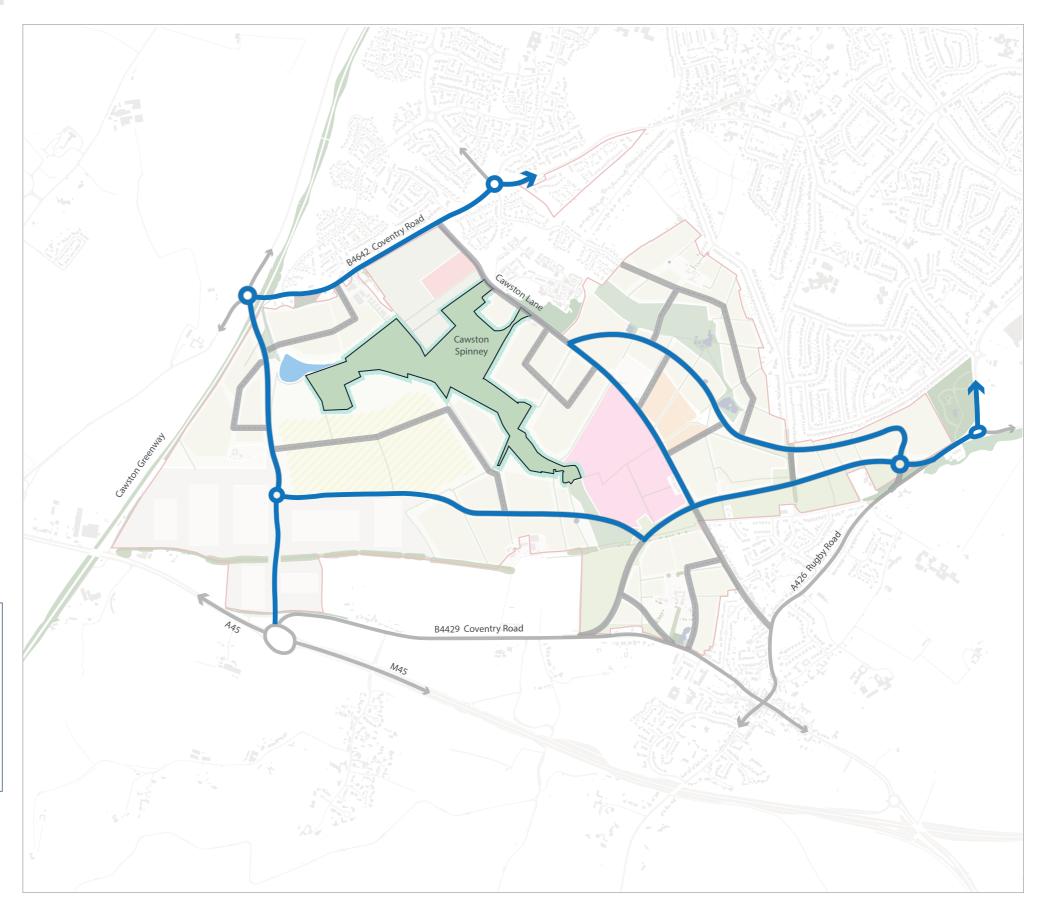
Public spaces

RBC local plan policy: DS9, D1 + South West Rugby Masterplan SPD (2021, updated 2024)

Warwickshire Design Guide

KEY

Primary Bus / HGV network



Related movement considerations

Mobility Hub

The delivery of sustainable transport infrastructure will be critical to the success and sustainability of the new community at SW Rugby.

MO.33 Mobility hubs must provide a choice of sustainable transport modes and should make it easy to switch between those modes.

MO.34 Users must be able to arrive by walking, wheeling, or cycling and should have seamless access to the available facilities or transport options.

MO.35 A primary community mobility hub must be located in the local centre and should be supplemented by smaller 'mini mobility hubs' at key nodes, including employment locations and all bus stops.

MO.36 Mobility hubs must be accessible, visible, and easy to navigate through good public realm design.

MO.37 The design must contribute positively to the surrounding area with highquality, distinctive architecture and a strong focus on community placemaking.

MO.38 Mini mobility hubs must include:

- Bus waiting environments with real-time information where the hub is colocated with a bus stop.
- Cycle parking.
- Car club vehicle(s) in designated on-street bays.
- A meeting point with seating and enhanced public realm features.

MO.39 The central mobility hub at the local centre must conform to the following principles:

- Bus integration, including a bus interchange.
- Neighbourhood car club.
- Cycle infrastructure for both short and long-distance journeys, including electric and cargo bike hire.
- Car park integration with EV charging facilities.
- Secure and covered cycle parking, accessible 24/7.

Also refer to:

Public spaces Built form

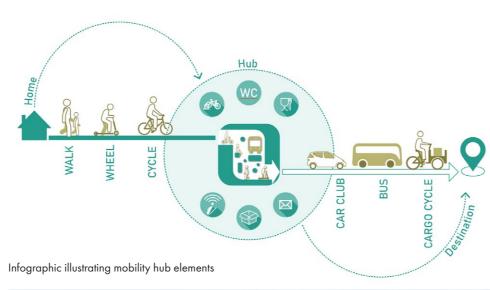
Homes + buildings

RBC local plan policy: DS8, DS9, HS1, D1, D2 + South West Rugby Masterplan SPD (2021, updated 2024)

Warwickshire Design Guide

MO.40 Additional features could include:

- A café to encourage activity and provide natural surveillance.
- WC facilities.
- Cycle maintenance stations.
- A parcel delivery hub for drop-off and collection.
- Real-time mobility information through smart screens and QR code
- Design based on 'Secure by Design' principles while maintaining placemaking and inclusivity.





Mobility hub (CGI) in town square setting

Cycle Parking

MO.41 Cycle parking must be provided close to homes and buildings, ensuring convenience and security.

MO.42 It must be covered and accessible, encouraging use regardless of weather conditions

MO.43 Cycle parking must be more convenient than on-plot or off-plot car parking.

MO.44 Secure cycle enclosures should be located at front entrances or side access points.

MO.45 Enclosures must accommodate various cycle sizes and include power for electric bike charging.

MO.46 Visitor and staff cycle parking must be provided at key nodes, using Sheffield-style cycle stands.



Eddington Cambridge - mobility hub bike store

Parking

- MO.47 Car parking **must** be designed to support placemaking, ensuring that it does not dominate the local environment.
- MO.48 Well considered parking **should** be convenient, safe, and attractive, integrating seamlessly into streets, blocks, and plots while providing access to EV charging points.
- MO.49 Parking standards are set out in the Rugby District Council Local Plan and should allow for both allocated and unallocated residential parking solutions. This flexibility could enable more people focused design approaches instead of prioritizing vehicle storage.

<u>Unallocated residential parking</u>

MO.50 This **could** provide an efficient way to accommodate vehicles, adjusting for the average rather than maximum car ownership.

MO.51 In some development areas, all parking needs could be met in this way.

Allocated residential parking

MO.52 This **must** be accommodated on plot or in designated private parking courts or car barns.

Non-residential parking

MO.53 This **should** be integrated into the built form where possible, such as in semi basements or decks. Surface level parking must be positioned towards the rear of plots, away from the main street frontage, with landscaping used to reduce visual impact.



Nansledan, Newquay - employment hub landscaped car park

Parking types

MO.54 Developers should adopt parking solutions appropriate for the site, including:

On Street Parking

- MO.55 This must be in designated bays interspersed with planting and street trees.
- MO.56 Perpendicular layouts could be considered where street width allows.
- MO.57 Bays **should** be at least 6m long and 2.5m wide on secondary streets, while tertiary streets should allow for 6m x 2.0m bays.

Parking Courts

- MO.58 These must be overlooked for safety, should not exceed twelve spaces, and should incorporate green infrastructure.
- **MO.59** Front parking courts **should** only be used on Tertiary T2 streets and must include street furniture and soft landscaping.



Sherford Plymouth - use of inset parking with trees



Nansledan Newquay - parking court with EV charging

On-plot parking

- MO.60 At the side of the property **must** provide natural surveillance and be long enough to fit a car behind the building line.
- **MO.61** At the font of the property **must** be set back at least 6m from the pavement, with screening through hedges or bin stores.
- MO.62 In the rear garden **could** be appropriate if well lit, overlooked, and does not impact quality of life.
- MO.63 Integral garages **should** be designed carefully to avoid dominating facades.



Kings Worthy - use of double garages as parking colutions in street scene

Related movement considerations

Emergency services

MO.64 All developments must ensure full accessibility for emergency vehicles.

MO.65 Developments with limited vehicle access points **must** account for alternative routes to ensure continued access if a road is blocked.

Key requirements include:

MO.66 A minimum carriageway width of 3.7m between kerbs **must** be maintained for fire service vehicles.

MO.67 Fire service vehicles **must** be able to get within 45m of all residential property doors.

MO.68 Fire service vehicles must not be required to reverse more than 20m.

MO.69 These requirements **must** align with guidance in the Warwickshire Design Guide, Part 3.

Refuse & recycling collection

MO.70 Developers **must** incorporate effective refuse collection strategies, ensuring accessibility and integration with the public realm.

MO.71 Detached/semi-detached housing: bins must be placed to the side or rear of properties.

MO.72 Terraced housing: collection must be from the rear or via front bin stores.

MO.73 Communal bin stores: these **must** be integrated into building footprints with rear access and designed to avoid blank facades.

MO.74 Layout considerations: tertiary streets **must** be designed in service loops to allow efficient refuse collection.

MO.75 Collection Points: all dwellings **must** be within 25m of an adopted road for refuse collection.

Kings Worthy - well-designed bin store

Highway adoption

MO.76 All primary, secondary, and most tertiary streets (T1/2) **should** be adopted by Warwickshire County Council as the Highway Authority.

MO.77 Industrial estate roads could remain private with appropriate public transport and public rights-of-way agreements.

MO.78 The adoption process must comply with:

- Warwickshire Design Guide standards.
- Section 38 Agreements under the Highways Act 1980.
- Local authority procedural requirements for adoption.

The Warwickshire Design Guide provides further details on technical and procedural aspects of highway adoption.



Nensledan Newquay - adopted street

Also refer to:

Public spaces
Built form
Homes + buildings

RBC local plan policy: DS8, DS9, HS1, D1, D2 + South West Rugby Masterplan SPD (2021, updated 2024)

Warwickshire Design Guide