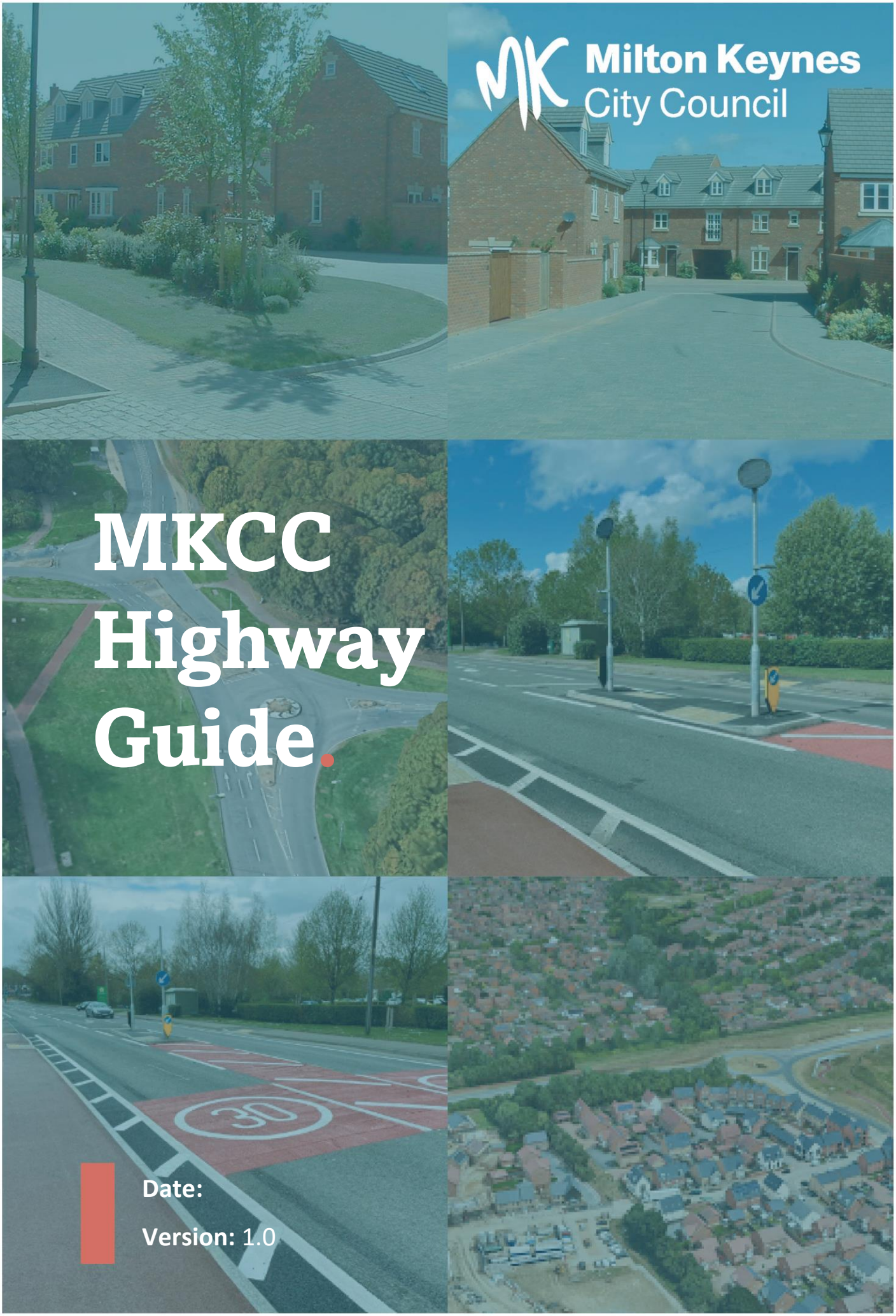

Milton Keynes
City Council
MKCC
Highway
Guide.
Date:
Version: 1.0

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Purpose Of This Document

Effective planning and development control are critical to the design and management of modern transport systems. Well designed and constructed systems help people to travel to work, to leisure facilities and to their homes sustainably, efficiently and safely.

Here we set out design requirements and minimum standards for new highways and associated infrastructure in Milton Keynes. The information here supports designers of new development proposals as well as highway improvement and regeneration schemes. Its key focus is using active travel options to help create a healthy, sustainable and prosperous future for Milton Keynes and its residents.

Section One sets out the background context of the planning application process and explains the framework of policies this guide supports. Section Two covers the core design principles underpinning modern active travel environments and sets out guidance on how to follow these principles. This includes options for larger and more innovative and ambitious proposals.

Section Three explains the 'Roads' and 'Streets' hierarchical system Milton Keynes County Council (MKCC) uses to categorise its local network. It also provides a regional context for our roads. More detailed guidance including minimum standards is set out in Section Four. Here we also include other key aspects of highway design.

Terms and Abbreviations

To support the readability of this document a list of common terms and abbreviations has been provided.

ABBREVIATION	DEFINITION	EXPLANATION
Absolute	Limitation	The permitted minimum or maximum limit of a value or dimension that is still allowable but worse than desirable.
ATE	Active Travel England	An executive agency supported by the DfT for promoting walking, cycling and wheeling as preferred modes of transport and statutory consultee on all large planning applications across England.
Desirable	Preferred	The preferred minimum or maximum of a value or dimension that designers should aim to achieve.
DfT	Department for Transport	The government body responsible for transport planning and design.
DMRB	Design Manual for Roads and Bridges	National set of standards for highways and highway structures available online.
EA	Environmental Agency	A public body responsible for the protection and enhancement of the environment.
HDM (team) / (officers)	Highways Development Management team/officers	The council's planning team responsible for reviewing planning applications from a highway engineering perspective.
Home Zone	A street designed for pedestrians, residents and cyclists.	Also known as 'Living Streets', 'Play Streets'. These are shared spaces within residential streets that prioritise Active Travel and leisure over vehicles.
MCHW	Manual of Contract Documents for Highway Works	The standard suite of specification documents for Standards for Highways made up of the Specification for Highways Works, Instructions for Specifiers and Method of Measurement for Highway Works.
MFS	Manual For Streets	National guidance on the design of local streets.
MKCC	Milton Keynes City Council	The Local Authority.
NCN	National Cycle Network	A network of signed paths for active travel users available online.
PAAT	Planning Application Assessment Toolkit	An assessment matrix by Active Travel England to score planning applications on metrics such as transport connectivity, route accessibility and design quality.
PRN	Primary Route Network	The network of major roads for national and inter-regional travel between major settlements and ports within the UK.

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ABBREVIATION	DEFINITION	EXPLANATION
Redway	A shared-use path for Active Travel	The Milton Keynes specific style of largely off-carriageway shared-use paths constructed with red pigment, forming an Active Travel network throughout Milton Keynes.
RSA	Road Safety Audit	A process of safety checks for new or improvement road schemes.
SSD	Stopping Sight Distance	The total distance a vehicle travels from first spotting a hazard to stopping.
TPO	Tree Preservation Order	A legal order by a Local planning authority to protect trees or woodlands.
TRO	Traffic Regulation Order	A statutory regulation under the Road Traffic Regulation Act 1984, often in the form of double yellow lines or speed limits.
TSM	Traffic Signs Manual	National guidance centred around signs and road markings with other inclusions.
TSRGD	Traffic Signs Regulations and General Directions	The legal framework governing the design, placement and use of traffic signs across the UK.
AW	Anglian Water	The regional water supplier for Milton Keynes.

1. Section 1 – Highways Development Management

1.1. Introduction

1.1.1. Highways Development Management (HDM) supports the highway and transportation aspects of our development control process. Early use of HDM is key to the successful delivery of high quality, safe and accessible transport infrastructure. It has a defining influence on the overall layout and feel of developments and a significant impact on the day-to-day experiences of users of the built environment.

1.1.2. This relationship between the highway infrastructure, the development and user makes early engagement with integrated highway design essential. It is important that both this guide and the Council's HDM officers are consulted during the preparation of all master-planning documents such as Development Briefs and Design Codes. Failure to do this can result in unnecessary and costly changes to the wider development at a late stage.

1.1.3. Our officers provide advice and input for all transport-related documents submitted as part of the planning process.

Milton Keynes Road Hierarchy

1.1.4. Milton Keynes' road network is classified into 11 categories known as 'Types' that reflect decreasing speed, width and traffic flow:

- Types 1-5 are 'Roads' used for major and local thoroughfares.
- Types 6-9 are 'Streets' used for a range of residential and local access routes.
- Types 10-11 are Shared Driveways/Crossovers used as accesses for small groups of dwellings.

1.1.5. A detailed explanation of the highway network and breakdown of different road types can be found in Section 3 – The Road and Street Hierarchy**.**

The Development Management Process

1.1.6. The development management process is part of the wider policy framework for Milton Keynes. This can be accessed through our online planning policy portal.

1.1.7. An overview of the Milton Keynes development management process is set out below. Figure 1 covers the planning to adoption process and Figure 2 the adoption process.

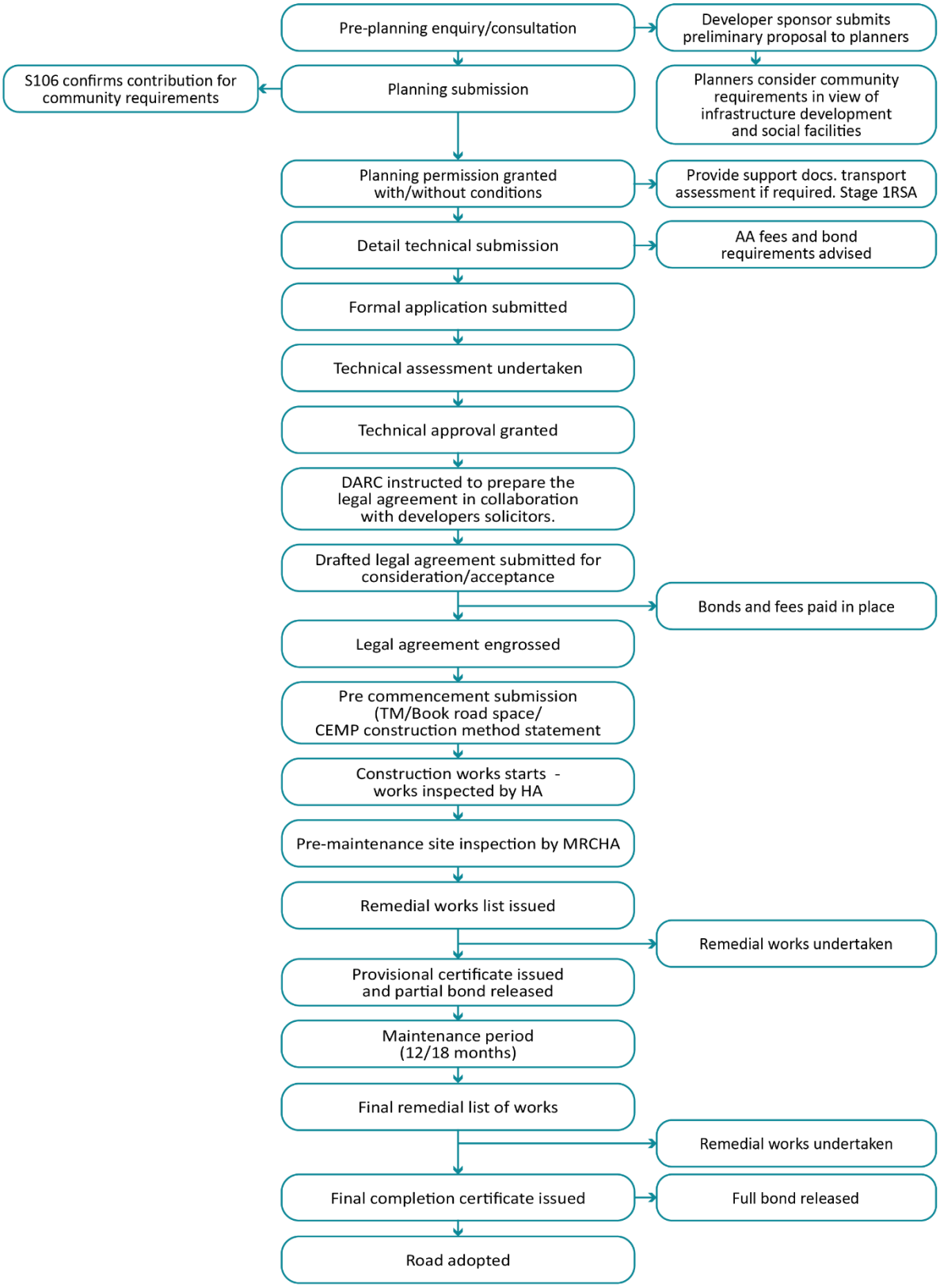


Figure 1: MKCC Development Management Process

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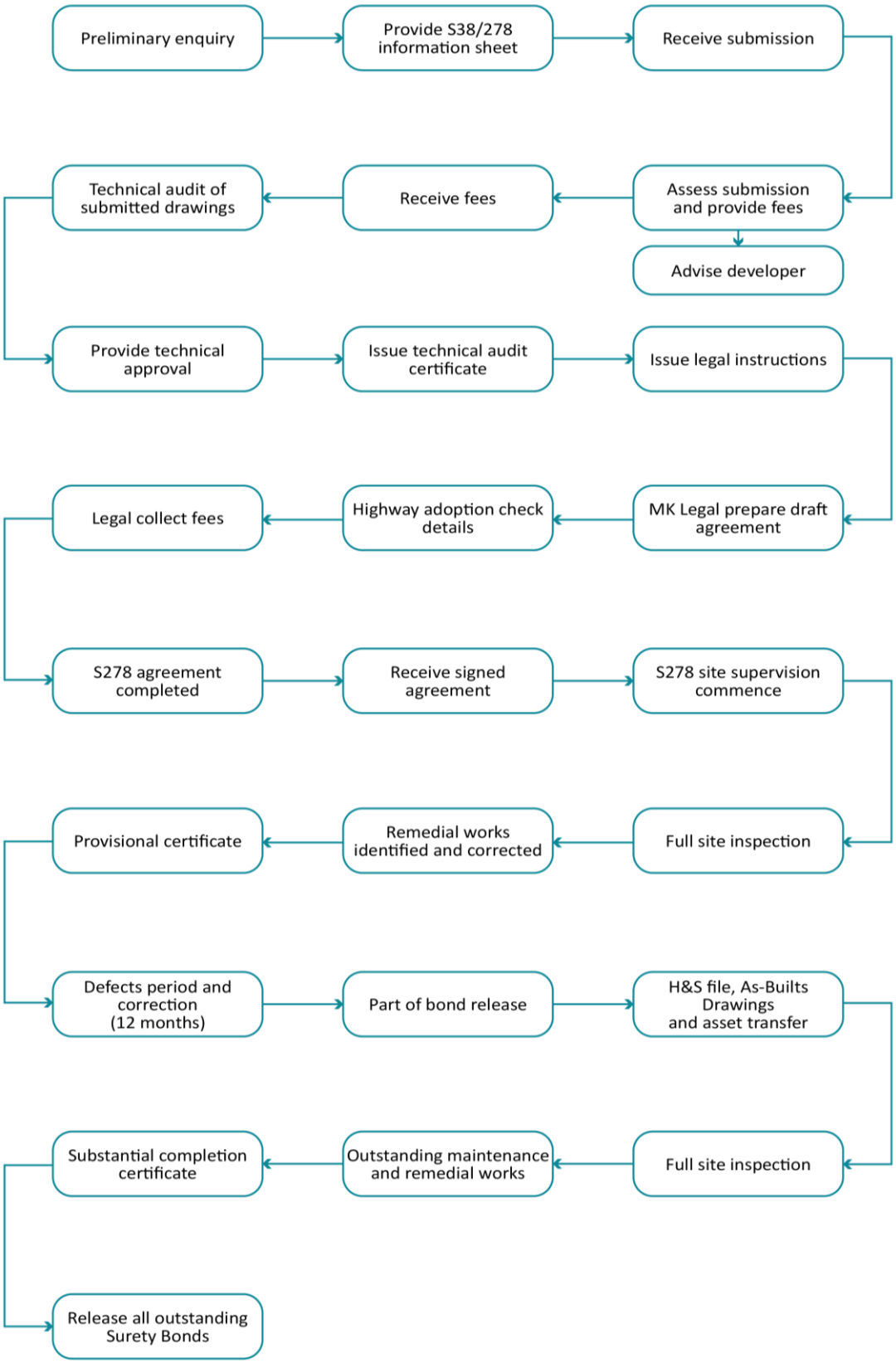


Figure 2: MKCC S278 Adoptions Process

2. Section 2 – Promoting the Active Travel Environment

2.1. Benefits and Design Principles

2.1.1. Active travel infrastructure is key to creating and promoting healthy and accessible transport options including walking, cycling and other non-motorised transport. Core benefits include improved health outcomes, carbon reduction and air quality improvement, as well as economic benefits associated with reduced transport costs.

2.1.2. Indirect benefits range from improved mental health and greater social interaction and community cohesion to more reliable commutes alongside an important economic boost from increased footfall and retail spending in commercial areas. This is why active travel journey planning and infrastructure is a core facet of MKCC's development and planning strategies. Our vision is for developments designed with active travel at their heart, with vehicular movements made to fit around these important facilities.

2.1.3. Three key documents set out MKCC's strategic goals and future direction for active travel. These are recommended reading for background and context:

- Mobility Strategy for Milton Keynes 2018-2036[1]
- Local Cycling & Walking Infrastructure Plan 2023[2]
- Sustainability Action Plan[3]

2.1.4. Core active travel goals covered in these documents can be achieved through a range of resources and methods. Key resources aligned with Milton Keynes' active travel design approach include:

2.1.5. The 10 Healthy Streets criteria can be used as a guiding set of principles:

- Everyone feels welcome
- Easy to cross
- Shade and shelter
- Places to stop and rest
- Not too noisy
- People choose to walk and cycle
- People feel safe
- Things to see and do
- People feel relaxed
- Clean air

2.1.6. The 10 principles of Sport England's Active Design Checklist[4] are broken down into a series of questions that can be used as part of the high-level review of plans. These centre on:

- Activity for all
- Walkable communities
- Providing connected active travel routes
- Mixing uses and co-locating facilities
- Network of multi-functional open spaces
- High-quality streets and spaces
- Providing activity infrastructure
- Active buildings, inside and out
- Maintaining high-quality flexible spaces
- Activating spaces

[1] Mobility Strategy for Milton Keynes 2018-2036 (Milton Keynes City Council, 2018)
[2] Local Cycling & Walking Infrastructure Plan (Milton Keynes City Council, 2023)
[3] Sustainability Action Plan (Milton Keynes City Council, 2019)
[4] Active Design Checklist (Sport England, 2023)

2.1.7. The Active Travel England (ATE) Planning Application Assessment Toolkit (PAAT) uses a rating system to scrutinise designs across a range of criteria. This is most suitable for larger projects that meet the ATE consultation threshold. A more complex tool, this is supported by Advice Notes.

2.1.8. All plans submitted for developments that include Streets or an active travel component must be designed in line with the Healthy Streets criteria. They should then be reviewed against the Active Design Checklist as well as ATE's PAAT. Further explanation of these principles and criteria is available in the Active Design Manual[5] and Healthy Streets Guide to the Indicators[6]. We know that the design industry is committed to continual improvement but any designer wanting to use new or different tools must first consult with MKCC's HDM team.

2.1.9. Further detail on required characteristics for newly planned Roads and Streets and the incorporation of active travel principles is set out in Table 1 below. This table should be used as a checklist to ensure that core aspects and principles of design for new developments are covered. The use of Redways (off-carriageway shared-use paths) is also acceptable as part of our active travel requirements.



[5] Active Design Manual (Sport England, 2023)
[6] Healthy Streets Guide to the Indicators (TFL, 2017)

INTERACTION/ CONSIDERATION	PRIMARY & DISTRICT DISTRIBUTORS TYPE 1-2	INDUSTRIAL ROADS & ACCESSES TYPE 3-4	LOCAL DISTRIBUTORS & PRINCIPAL STREETS TYPE 5-6	MAJOR & RESIDENTIAL STREETS TYPE 7-8	SHARED STREETS TYPE 9
Includes Active Travel Journey Routing	✓	✓	✓	✓	✓
Active Travel Side Road Crossing Priority[a]		✓[c]	✓	✓	✓
Active Travel Main Road Crossings spaced circa 400m	✓[b]	✓	✓		
Carries Segregated or Grade Separated Cycling	✓	✓	✓		
Carries Shared (On-Carriageway) Cycling		✓[f]	✓[h]	✓	✓
Direct Style Active Travel Routes	✓	✓	✓	✓	✓[h]
Carries Public Transport	✓	✓	✓	✓	
Public Transport Priority	✓	✓	✓		
Utilises Traffic Calming				✓	
Utilises Active Travel Modal Filters			✓	✓	✓
Inclusion of Active Travel Direct Links		✓	✓	✓	✓
Exceeds Desirable Minimum Dimensions set by LTN 1/20, 5.5[11]	✓[e]		✓[e]		
Regular Places to Stand and Sit			✓	✓	✓
Discouragement/Prohibition of On-Street Parking	✓	✓	✓[d]	✓[d]	✓[d]

a. Includes design/marked priority explained further in Redway Crossing Guide[7].
b. Crossings must be grade-separated, with spacing relaxed to circa 800m of another crossing.
c. Dependant on HGV visibility in both directions.
d. Types 6-9 can incorporate some on-street parking by design.
e. In areas of high flow or high peak volumes.
f. Type 4 only where carriageway width and low vehicle flows allow.
g. Utilising through-routes whilst remaining cul-de-sacs for vehicles.
h. Type 6's without bus routes only.

Table 1: The Road Hierarchy Principles Checklist

[7] Redway Crossing Design Guide (Milton Keynes City Council, 2024)

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2.2. Network Planning and Route Optimisation

2.2.1. Active routing is integral to high-quality network planning, and it must be a core consideration in all new developments. All travel modes should be considered, and designers should include route optimisation for each mode to most key destinations.

2.2.2. Following the principles and criteria set out below in Item 2.1 and Table 1 will support designers to ensure these requirements are met. Conceptual designs should then be checked against Active Sport England's Design Checklist[4].

Good Active Travel Journey Routing

- Allows users to navigate along and through the grid road system easily and in residential areas uses cut-throughs to offer routes shorter than those used by vehicles. It avoids cul-de-sacs/dead-ends and long detours.

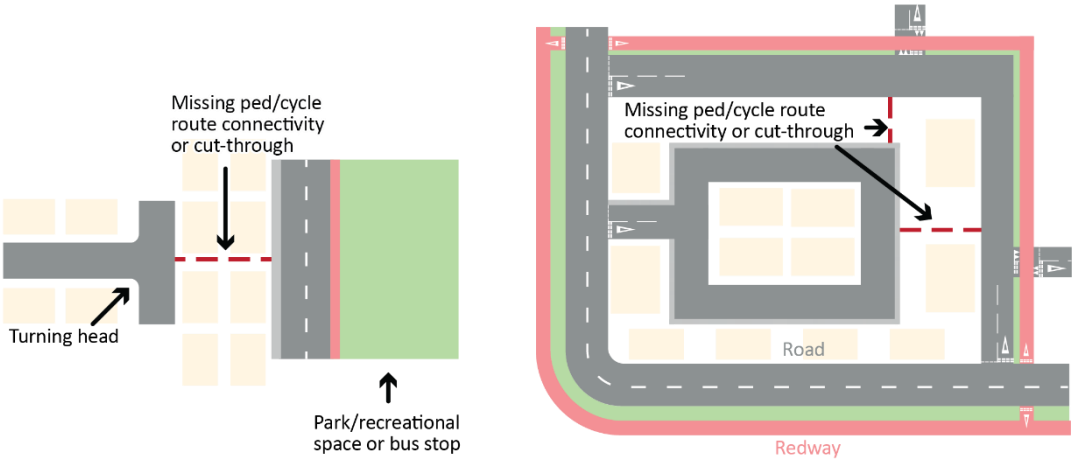


Figure 3: Avoiding Active Travel Cul-de-Sacs and Dead Ends

- Should be given priority on Streets at junctions and crossings shown in Table 1 and meet the Redway Guide Crossing Suitability Flow Diagram[7] criteria.
- Provides suitable crossing intervals to reach opposing sides, particularly at junctions, and considers desire lines, expected demand and accident history. Developers should aim to maintain crossing intervals within 100m for Types 4-9.

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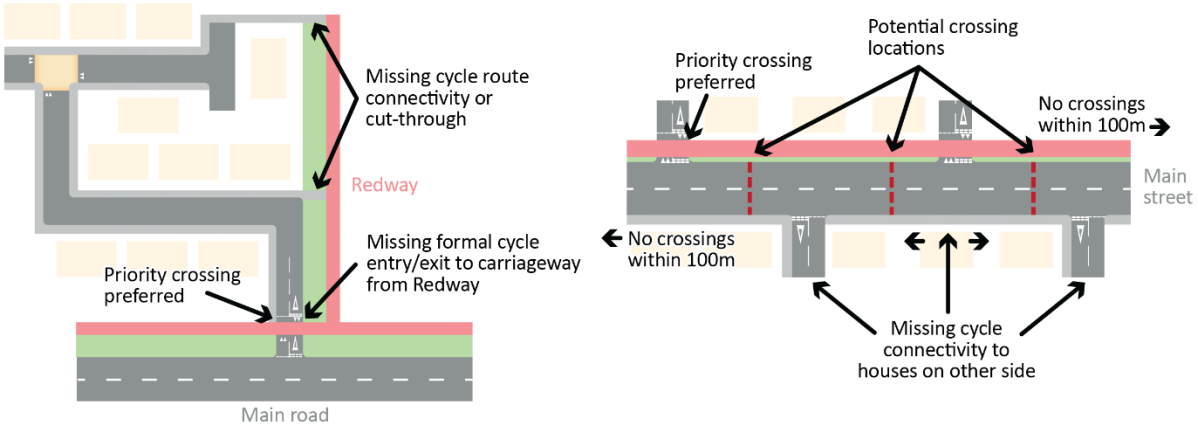


Figure 4: Ensuring Active Travel Connectivity

- Should intersect mobility hubs to facilitate hub demand and usage.
- Routing must also directly connect cycling and pedestrian routes to local destinations and congregation points on smaller streets.
- Longer journeys using Types 6-8 Streets, must consider 'final connections' to parking, hubs or large destinations. For example, Type 5 and 6 Roads will often only run within 20-70m of a user's destination. It is important that significant destinations are fully connected. The answer is not for cyclists to dismount and use a pedestrian crossing for the last stretch.

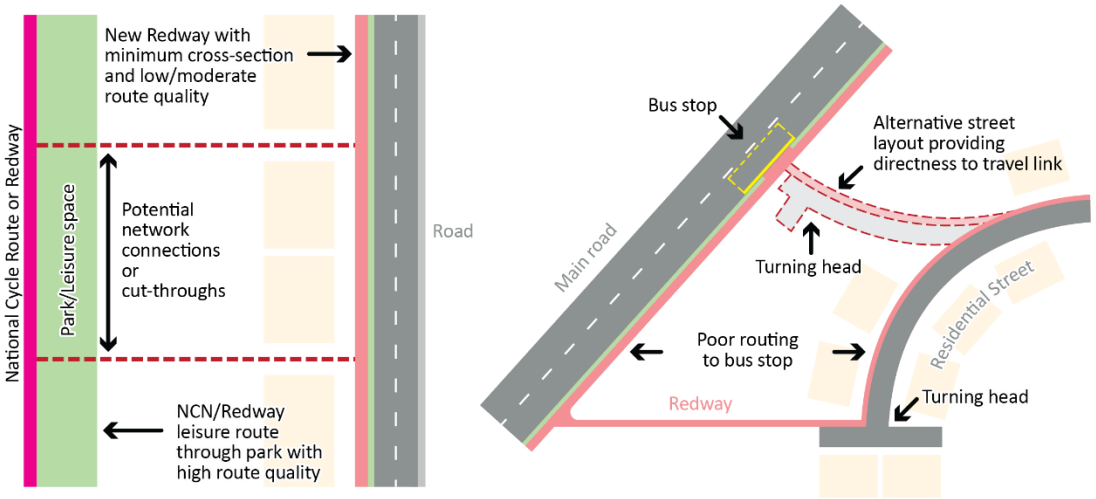


Figure 5: Balancing Accessibility with Directness

- Should identify locations where leisure routes can be created or already exist and integrate them in proposals.

Walkable Distances

2.2.3. Cycling will be at the forefront of design because it improves journey range considerably. But it cannot be the only consideration and active travel design should consider walkers and wheelers in terms of distance. Designs that focus only on cycling are likely to push walkers to move to cars.

2.2.4. We strongly recommend designers undertake proximity mapping for all new developments - in line with Sustrans' Walkable Neighbourhoods research report[8] - to show the shortest navigable distance needed for local services and facilities. MKCC does not specify acceptable maximum absolute distances, but developers should plan to keep journeys to bus stops and facilities within 400m and 800m respectively. This can only be achieved if walkable neighbourhoods are at the forefront of design decisions from the earliest opportunity.

2.2.5. Developers must provide connections that reduce journey distances to facilities as much as possible, and at a minimum reduce distances to main active travel routes. They may have to justify or rectify long distances if these are thought to be related to poor network planning or insufficient route optimisation.

2.2.6. Designers of new developments must also be fully aware of the amenities and services available within the wider area and how residents are expected to travel to these facilities.

2.3. Incorporating Active Travel Design in Developments

New Developments

2.3.1. A well-connected network minimises the distances travelled by all users. It allows active travel connectivity between and through estates without wholesale reliance on the Road/Street network. Specifically, cycling dead-ends that force cyclists to dismount to continue their journey must be avoided. Instead, direct links for pedestrians and cyclists should be incorporated into Street layouts (Figure 4). Good street layouts can also support safe and convenient parking, particularly for visitors.

2.3.2. At distributor level the network layout should facilitate and encourage multi-modal journeys using public transport. Consequently, all new developments in Milton Keynes are expected to include active travel connections to public transport. Grid Roads (Types 1 and 2) will achieve this via Redways which are grade separated.

2.3.3. New Street design must consider primary function as well user needs. All new Streets must offer active travel priority, and this should be integral in their design. Roads carrying buses, trams and/or larger volumes of traffic which are Type 3,5 and 6 of the Road Hierarchy should include fully segregated active travel provision outside of the carriageway (Table 1). Designers should note that crossings on Types 3 and 5 Roads may also necessitate signalisation. This must adhere to traffic signal standards and where relevant integration with bus priority or walking and cycling routing.

2.3.4. All new developments over 50 dwellings must be assessed using Active Travel England's Route Check or Area Check (whichever is more relevant) scheme review tools. These can be found online alongside the Active Design Checklist[4]. These assess the quality of schemes on a number of principles and safety metrics. The output from these tools and the checklists must be provided as part of an application for review by the development management team.

Large Developments

2.3.5. New developments of more than 100 dwellings, or those which require the expansion of the grid network (Type 1 and 2 Roads) or Primary Route Network (PRN) within the MKCC authority must include a walking, cycling and horse-riding assessment and review (WCHAR) in line with the Design Manual for Roads and Bridges (DMRB)[9]. This will necessitate the appointment of a Lead Assessor and classification of the development as either a small or large highway scheme during the options or concept design stage. The assessment report must be submitted to our HDM team.

Existing Developments

2.3.6. Plans centred around upgrading or regenerating existing infrastructure, the goal remains to achieve high quality active travel outcomes comparable to new developments. However, if site constraints prevent full compliance with Active Travel principles, the designers and developers must discuss the options with the HDM team.

2.3.7. The inclusion of shared-use spaces and lower quality segregation is likely to be the most significant compromise. In new developments shared-use is most appropriate for smaller streets, connections[7] and journey endpoints. However, segregation will be required on strategic routes along larger streets and around district centres and schools. We accept that limited routes of shared-use or light segregation will be the only viable option in some areas of significant constraint. But it should be stressed that where functional fully segregated facilities are possible, these must always take precedent in proposed designs.

2.3.8. The most relevant guidance for planning within existing infrastructure is Manual for Streets[10], LTN1/20[11] and Sport England's Active Design Manual[5]. These focus on the inclusion of cycling-specific infrastructure within the built environment. However, designers must also keep the needs of walkers and wheelers in sharp focus.

2.4. Active Travel Design Features

Cycling Tracks and Protection Levels

2.4.1. Active travel design for existing infrastructure should ensure cyclists are given sufficient protection from the carriageway and traffic, allowing them to feel both safe and confident in using new facilities. Further detail is available from LTN 1/20 Section 4.4[11]. Where a greater level of protection is possible, it should be provided. Where only an insufficient level of protection is possible, the first recommendation from officers is likely to be to reduce the speed of a road carrying cycle traffic.

2.4.2. LTN1/20, Section 5[11] provides geometric requirements for cycle tracks. The Redway Guide[7] covers suitability of layouts around crossings and connections.

[8] Walkable Neighbourhoods (Sustrans, 2022)
[9] Design Manual for Roads and Bridges GG142 Walking, cycling and horse-riding assessment and review (National Highways, 2019)
[10] Manual For Streets (Department for Transport, 2007)
[11] Local Transport Note 1/20 Cycle infrastructure Design (Department For Transport, 2020)

Cycle Parking

2.4.3. Short-term cycle parking provision will normally be expected to be secure, covered and provide sufficient space to accommodate users. Cycle parking locations must be visible convenient for building entrances. All long-term cycle parking should be in an enclosed structure with full weather protection and use Sheffield or equivalent stands. Developers should understand expectations and differences between long-term and short-term requirements, such as changing facilities or CCTV. Detailed guidance on cycle parking can be found in MKCC Parking Standards SPD[12].

Schools

2.4.4. Schools should be integrated with the Redway network, and this will dictate the cycling provisions in their immediate surroundings. Planning of the surrounding street network should prioritise reducing walking distances to schools[13]. Care should be taken to ensure sufficient space around school entrances and exits to allow for some congregation. For example, crossings directly outside a gateway are likely to experience queueing which could back up onto the carriageway.

2.5. Active Travel Links

2.5.1. Milton Keynes has an extensive, existing network of footpaths, bridleways and byways, which forms part of the highway network. This can be viewed online. There is also an extensive network of Redways (Milton Keynes off-carriageway active travel routes) which are covered in the Redway Guide[7], also available to view online.

Footways and Cycle Tracks

2.5.2. The desirable width requirement for a footway to allow unrestricted access to all pedestrian users is 2.0m. Wider footways will be required in 'High Street' type environments, outside schools and other similar facilities where alternative arrangements for cyclists have been made. If this is not possible, shared-use spaces with high traffic or vulnerable users should aim to provide 4m width. However, areas of low pedestrian flows and low numbers of young, old or less able users require shared-use spaces of only 3.0m width.

2.5.3. Segregated cycle tracks and required buffers (when on-carriageway) have a range of desirable and absolute minimum widths. These are set out in the Redway Guide[7]. Additional guidance is available in LTN 1/20, 5.5[11].

2.5.4. Designs failing to meet the desirable values will be challenged, and developers should provide clear justifications and evidence of constraints in these proposals. Where constraints prevent compliance with Redway Guide[7] requirements, designers must discuss proposals with the HDM team.

2.5.5. The minimum vertical clearance over footways is 2.6m. In exceptional circumstances, this may be reduced to 2.3m for distances of no more than 10.0m. Footways adjoining carriageways must be constructed to fall towards the carriageway. Vertical clearance for all cycle routes must meet an absolute minimum of 2.7m. Clearances relating to signs are different and covered by TSM[14].

2.5.6. Visibility splay provision is a requirement for cycle tracks and is covered in LTN 1/20, Table 5-5[11].

Public Rights of Way

2.5.7. When Public Rights of Way cross sites, developers/designers should contact the Rights of Way Team at the earliest opportunity to discuss options. Developments involving Public Rights of Way must submit a PRoW scheme as part of their application. This should be discussed in pre-application discussions and submitted at the outline application stage. These schemes should include:

- Plans showing current legal routes of Public Rights of Way.
- An indication of whether diversion orders are required.
- Plans showing proposed routes post development.
- Details of how routes will be treated during construction. For example, will temporary closures be necessary.
- Design, surfacing and relevant maintenance details.

2.5.8. During the construction phase:

- Any paths to be left on their original line must have the route (including width) accurately surveyed and physically marked out before any works begin.
- Developers may need to apply for temporary diversions and will be expected to provide an alternative route through or around the site wherever practical.

2.5.9. Alongside advice from the Rights of Way Team, designers should refer to the local improvement plan produced by MKCC[15] as well as national guidance from DEFRA[16]. Section 7.8 of this guidance states:

"In considering potential revisions to an existing right of way that are necessary to accommodate the planned development, but which are acceptable to the public, any alternative alignment should avoid the use of estate roads for the purpose wherever possible and preference should be given to the use of made up estate paths through landscaped or open space areas away from vehicular traffic."

2.5.10. For Bridleways, designers should refer to DMRB[17] if advice sought is not covered by the MKCC Bridleway Design Manual[18] Please note, the absolute minimum vertical clearance for all equestrian routes is 3.7m.

[12] Parking Standards (Milton Keynes City Council, 2023)
[13] New Residential Development Design Guide (Milton Keynes City Council, 2012)
[14] Traffic Signs Manual (Department For Transport, 2018)
[15] Rights of Way Improvement Plan 2023-2033 (Milton Keynes City Council, 2023)
[16] Rights of Way Circular 1/09 (DEFRA, 2009)
[17] Design Manual for Roads and Bridges CD143 Designing for walking, cycling and horse-riding (National Highways, 2021)
[18] Bridleway Design Manual (Milton Keynes City Council, 1990)

2.6. Active Travel Junctions and Crossings

2.6.1. Designs at junctions and crossings involving active travel components should ensure active travel priority over vehicles and be made in accordance with the Redway Guide[7] process summarised below. Further guidance is available from LTN1/20, 5.8[11].

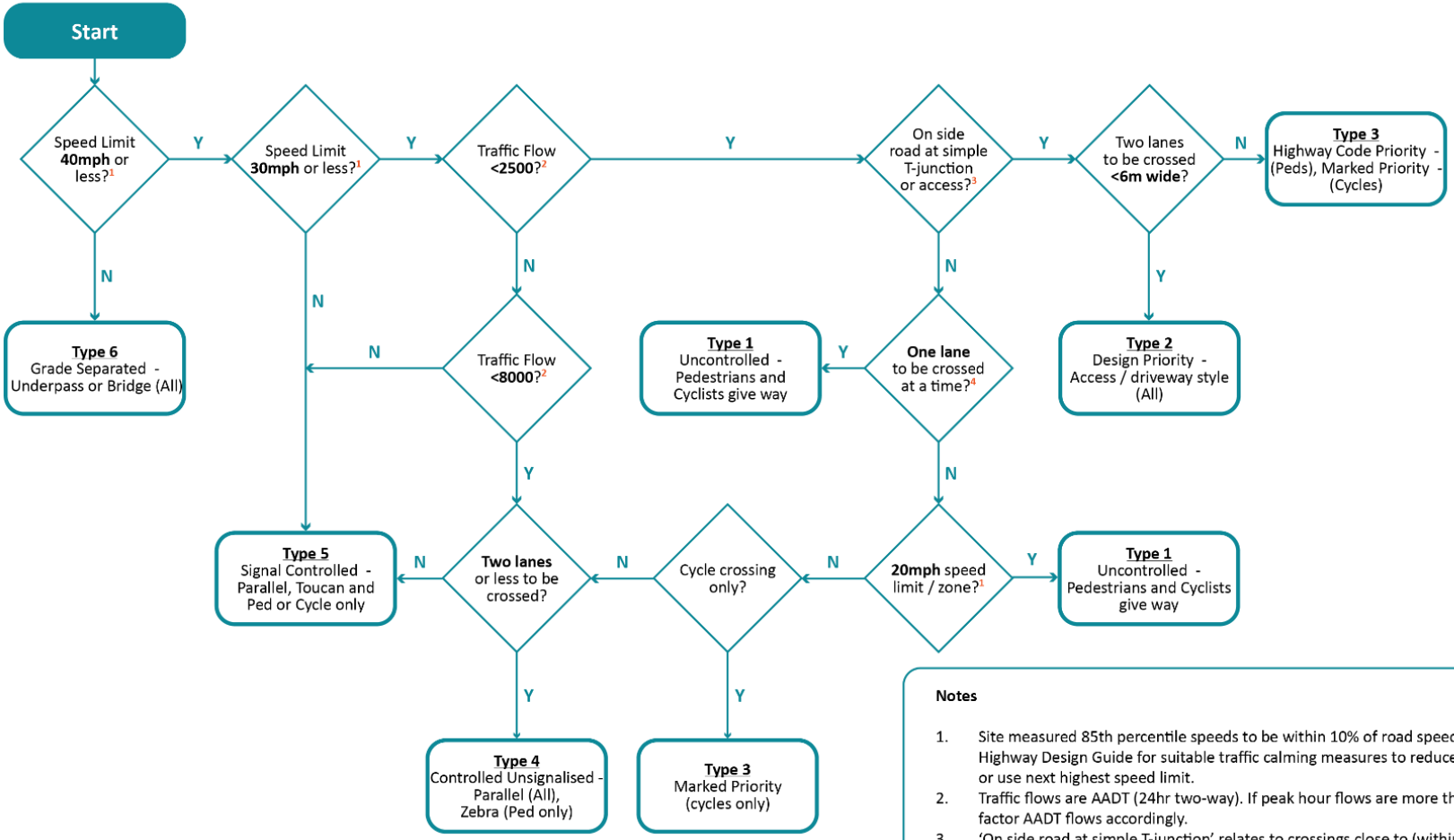
2.6.2. Developers should first determine the parameters set out in the Redway Guide Crossing Type Selection Process[7] and then follow the Suitability Flow Diagram in Figure 6 to determine minimum crossing provision. The Crossing Priority Provision table[7] can then be used to determine crossing priority where relevant. In some cases, a higher crossing type not covered on the table may be justified due to site specific factors[7].

2.6.3. All uncontrolled and controlled crossings should also meet both the Department for Transport (DfT's) Tactile Paving guidance[19] and Inclusive Mobility Guide[20] requirements.

2.6.4. All Equestrian Crossings must meet DMRB CD143, 5.20[17] requirements. Care must be taken not to discharge horses onto carriageways where visibility is restricted. Provision of properly laid out areas adjacent to the carriageway is essential and the design of any crossing must be discussed with the Council at the earliest opportunity.

[19] Guidance on the Use of Tactile Paving Surfaces (Department for Transport, 2021)
[20] Inclusive Mobility (Department for Transport, 2021)

2.7. Crossing Suitability Flow Diagram



Notes

1. Site measured 85th percentile speeds to be within 10% of road speed limit. See Milton Keynes Highway Design Guide for suitable traffic calming measures to reduce speeds to acceptable levels or use next highest speed limit.
2. Traffic flows are AADT (24hr two-way). If peak hour flows are more than 10% of this figure then factor AADT flows accordingly.
3. 'On side road at simple T-junction' relates to crossings close to (within 5m), or across, bellmouths of minor junctions or accesses.
4. Buildouts and central refuges can be used to reduce crossings to only one lane at a time.

General Notes

5. Provision given is the minimum, suitable higher provision can alternatively be used.
6. See 'Crossing Type Typical Layout' drawings in the Milton Keynes Redway Guide for acceptable details and layout sub options for setback and shared / segregated routes.

Figure 6: Crossing Suitability Flow Diagram[7]

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3. Section 3 – The Road and Street Hierarchy

3.1. The Highway Network

3.1.1. The UK's national road network uses a hierarchical system. This encourages the use of appropriate road types by assisting through-traffic on major routes and giving increasing priority to non-motorised traffic on more minor routes. The highest level of this network is the Primary Route Network (PRN). Handled by national bodies, this carries inter-urban and long-distance traffic between primary destinations.

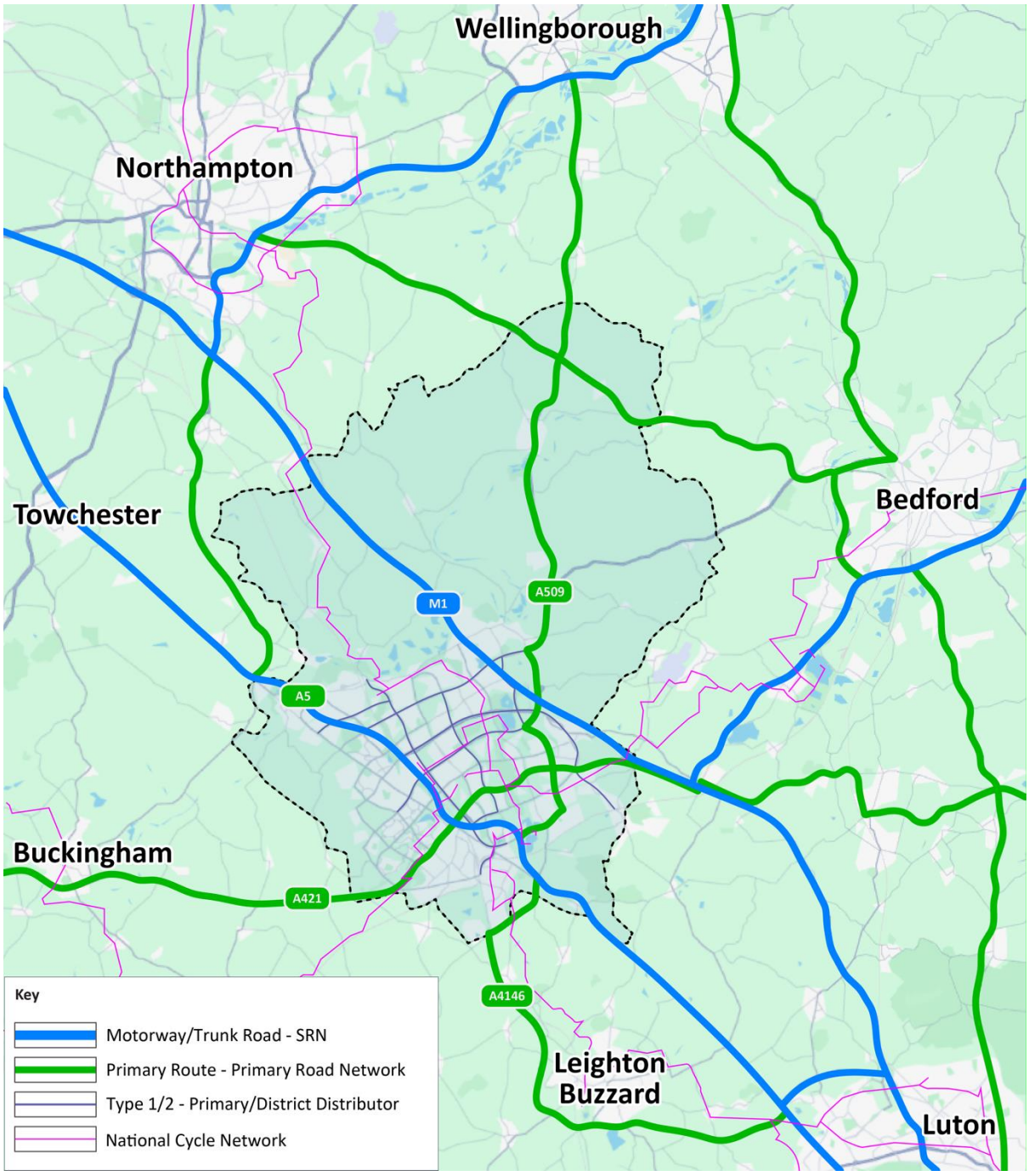


Figure 7: Milton Keynes Highway Network

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3.1.2. Beneath that, Milton Keynes splits its network into two categories: 'Roads' (Types 1-5) and 'Streets' (Types 6-9). Types 10 and 11 are private spaces referred to as Shared Drives.

- **Type 1 - Primary Distributors** - All motorways, trunk roads, primary routes and principal roads.
- **Type 2 - District Distributors** - B Roads, Grid Roads, other locally strategic routes.
- **Type 3 - Industrial Roads** - Non-residential roads designed to accommodate HGV traffic.
- **Type 4 – Industrial Accesses** - Non-residential connections to commercial or industrial destinations.
- **Type 5 - Local Distributors** - Collector routes within local areas or grid squares.
- **Type 6 – Principal Streets** - The largest through routes connecting to hundreds of dwellings.
- **Type 7 – Major Streets** - All remaining 30mph routes connecting to several dozen dwellings.
- **Type 8 – Residential Streets** - All remaining residential streets, links or zones with 20mph speed limits.
- **Type 9 – Level Surface Streets** – Shared Streets without vertical pedestrian segregation.
- **Type 10 – Shared Drive** - Accesses to a handful of dwellings.
- **Type 11 – Shared Crossover** - Accesses to a few dwellings.

3.2. Road Types

3.2.1. All 'Roads' in Milton Keynes must be designed in accordance with our standards. For Types 1 and 2 these are set out in the Design Manual for Roads and Bridges (DMRB). Item 4.3 of the MKCC geometric standards covers Types 3-11. This plan shows Roads denoted by type. This numerical system categorises the hierarchy at a granular level. Types 1-5 are considered 'Roads', whilst types 6-9 are considered 'Streets'.

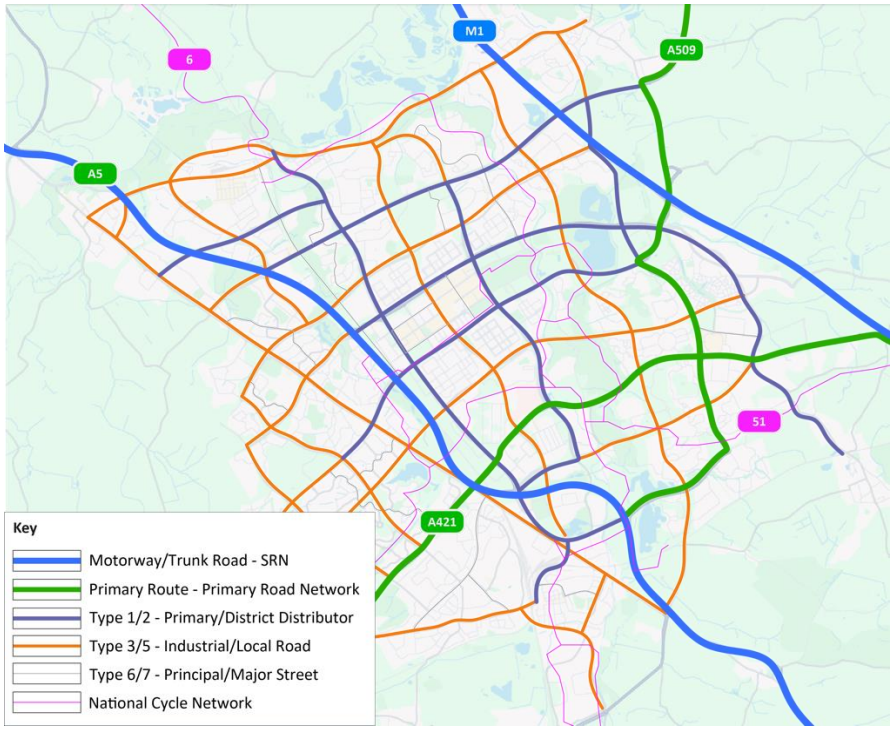


Figure 8: Milton Keynes Road Network

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Primary (Type 1) and District (Type 2) Distributor Roads

3.2.2. These form the main links between the PRN and local roads. They also handle traffic travelling between different areas and centres in Milton Keynes. Our grid road system is made up of these Types, and all future grid roads will fall into these categories. These roads will normally use roundabouts as connecting junctions, interspersed between roughly 1km long links. Redways are required on at least one side of a grid road, and design requirements are set out in the Redway Guide[7].

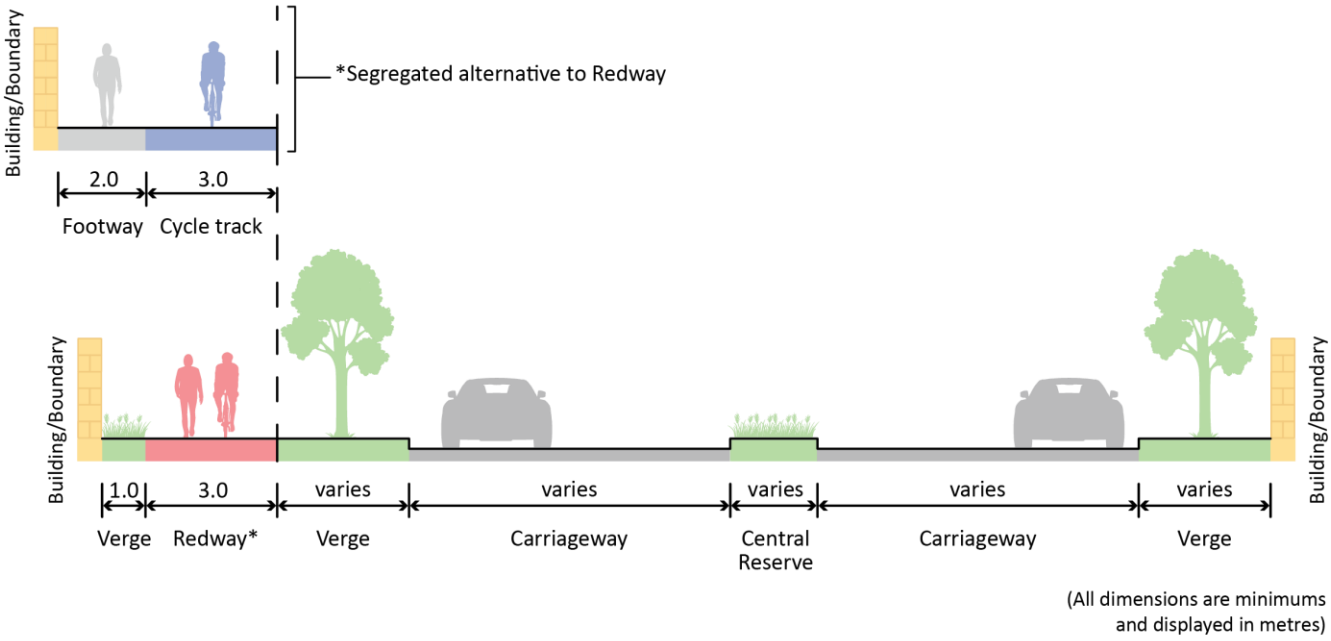


Figure 9: Typical Type 1 and 2 Roads

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Industrial Distributor (Type 3) and Industrial Access (Type 4) Roads

3.2.3. All routes that primarily serve, or are intended to serve, non-residential developments are defined as Roads because they cater for higher levels of LGV/HGV movements. Distributors provide access from Type 1 and 2 roads to other roads within industrial estates, business parks and other commercial areas. Access roads are normally within industrial and commercial estates and serve individual premises, but they remain separate from streets due to their requirement to carry HGV/LGV traffic.

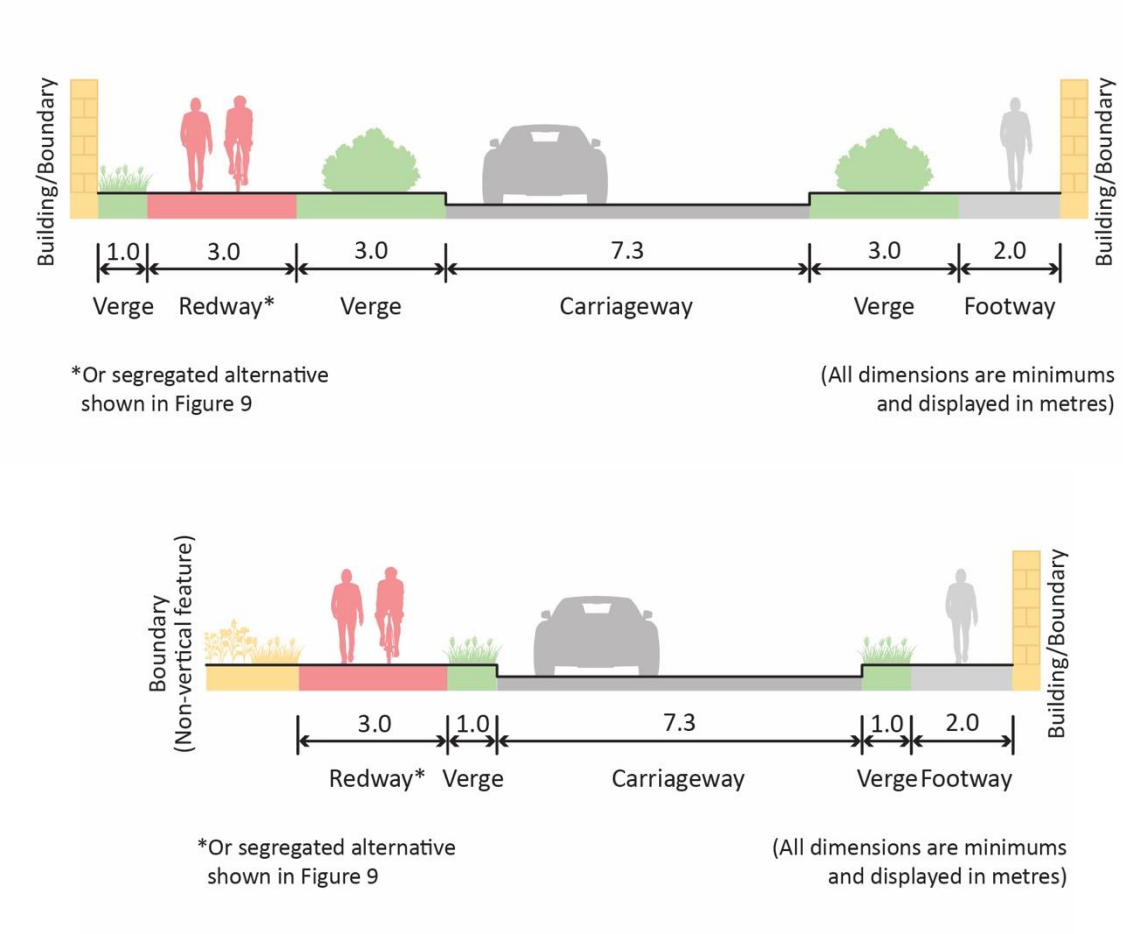


Figure 10: Typical Type 3 and 4 Roads

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Local Distributor Roads (Type 5)

3.2.4. These provide access to streets in residential areas and local centres. In Milton Keynes these are the main routes within individual grid squares. Providing access to residential locations, these also carry buses and refuse vehicles and so traffic calming features such as road humps or major horizontal deflections should be avoided. These roads do not normally provide direct access to dwellings and should be through routes with a minimum of two connections to Type 1 and 2 roads.

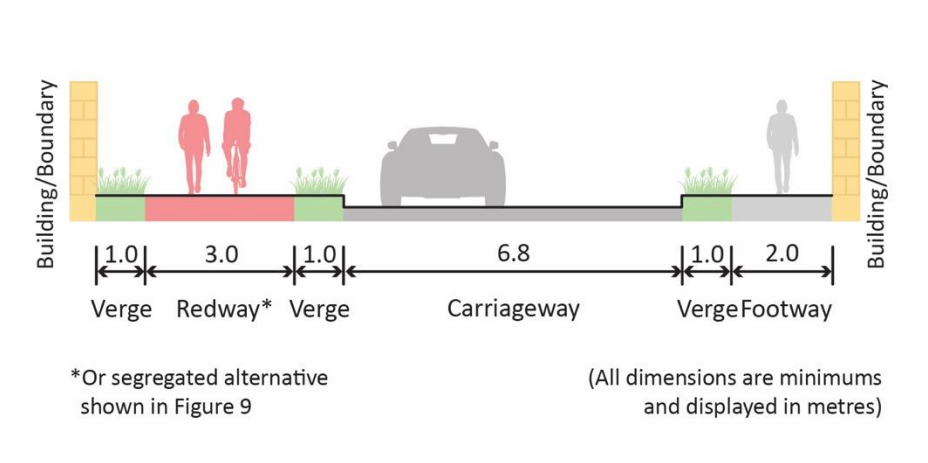


Figure 11: Typical Type 5 Roads



3.3. Street Types

3.3.1. A well planned and carefully designed street system enhances the appearance of developments and contributes to an attractive, safe, clean and nuisance-free environment. It minimises traffic flows and restrains vehicle speeds to acceptable levels (Item 4.6). It also provides access for the emergency services as well as deliveries and refuse collection (Item 4.8).

3.3.2. All 'Streets' within Milton Keynes should be designed in accordance with the MKCC geometric standards set out in Item 4.3, with conceptual guiding support from Manual for Streets[10]. Streets' primary function is to provide access to buildings, and land and can be split into Main Residential Streets (Types 6-7), Residential Streets (Type 8) and Level Surface Streets (Type 9).

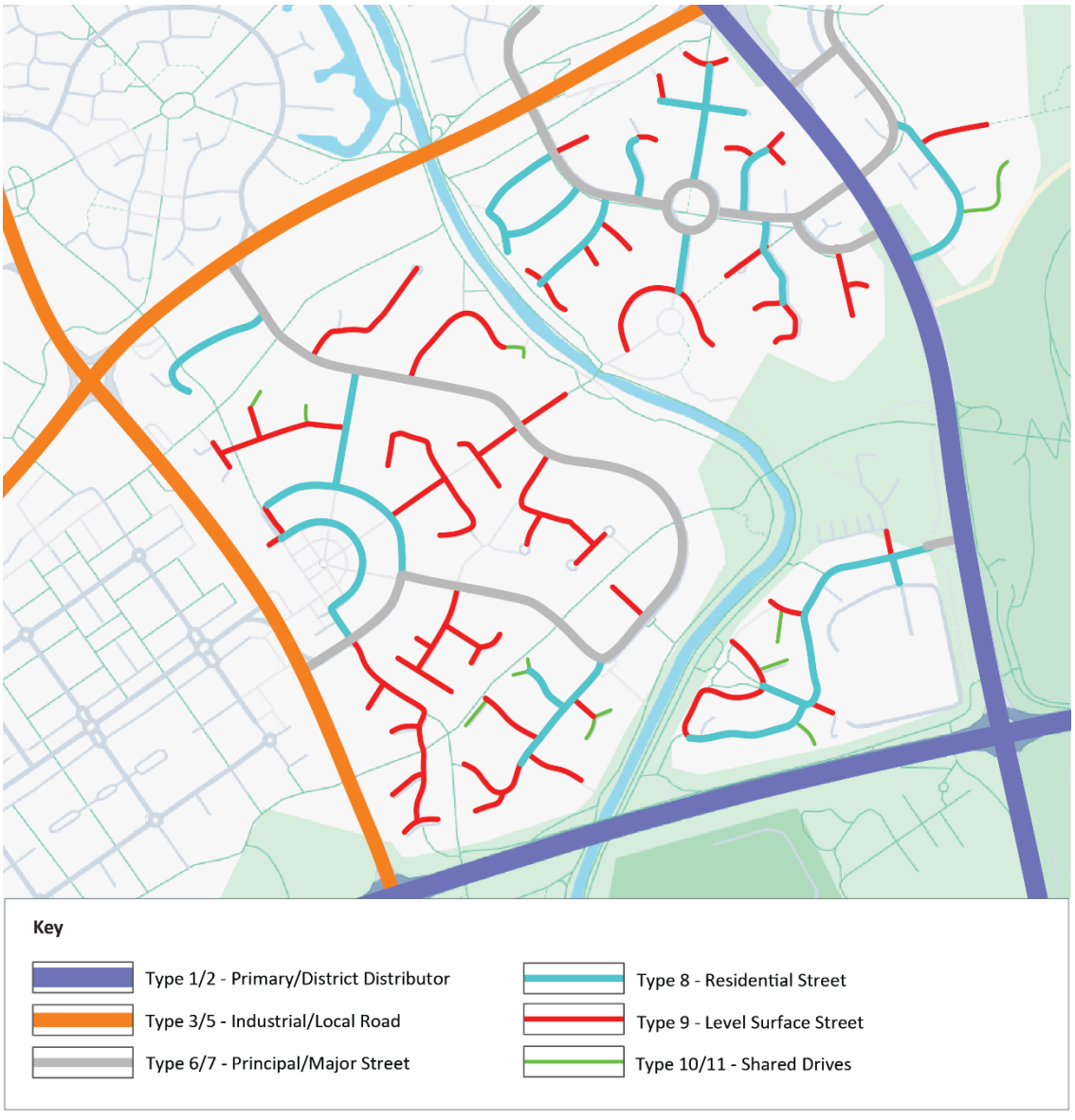


Figure 12: Example Street Layout

Main Residential Streets (Types 6-7)

3.3.3. These Streets often provide access for individual or groups of properties but will always act as through routes connecting to Residential and Level Surface Streets. All Type 6-8 Residential Streets are prospectively adoptable (Item 4.12). Main Residential Streets will serve 50-300 dwellings depending on layout and design.

3.3.4. Type 6 'Principal Streets' can connect up to District Distributors (Type 2) and down to Residential Streets (Type 8). They require two distinct access routes to the main network. This is normally achieved by ensuring that such routes are through routes. If this is not possible developers must discuss proposals with our HDM team.

3.3.5. Type 7 'Major Streets' serve up to 100 dwellings and must have a second point of access, although this may take the form of an emergency access link (Item 4.13). These are the largest links within 20mph zones, specifically where cycle routes are on-carriageway, and have a lower design speed.

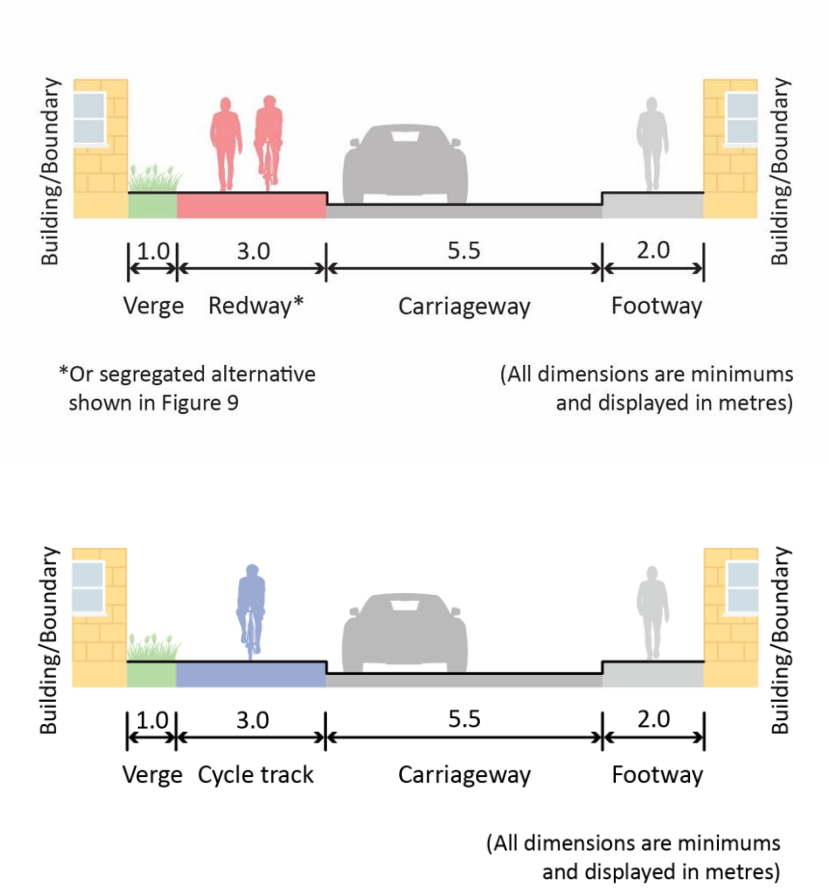


Figure 13: Typical Type 6 and 7 Streets

Residential Streets (Type 8)

3.3.6. These Streets serve most new developments and provide access to individual properties and to Level Surface Streets. Residential Streets must provide segregated active travel routes but are less likely to act as public transport routes.

3.3.7. These also require a second point of access which can be an emergency access link (Item 4.13).

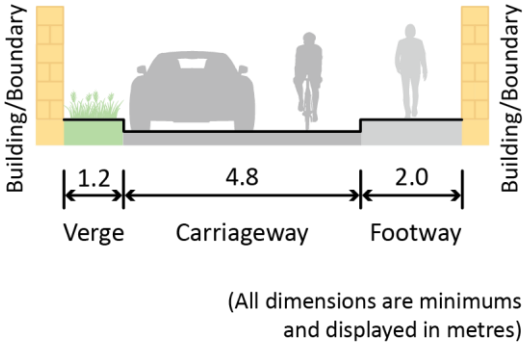


Figure 14: Typical Type 8 Residential Streets



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Level Surface Streets (Type 9)

3.3.8. Type 9 'Shared Streets' must be designed to prioritise residents and pedestrians over vehicles. Designers may want to consider additional features and measures to create Home Zones/Living Streets[21]. Cul-de-sacs are the preferred layout. Alternatively, through-routes open at both ends are acceptable if developers can demonstrate that traffic from nearby streets will not use them as cut-throughs. In either arrangement these can be up to 50m in length with a limit of 15 dwellings. This allows them to avoid 20mph zone requirements for traffic calming and maintain sub-15mph speeds with limited traffic flows.

3.3.9. The type of development, parking arrangements and size of dwellings will determine the number of dwellings that can be served. Streets must not be extended to accommodate larger dwellings, so a development with large, wide dwellings should still be limited to 50m. Vehicle speeds in Shared Streets are limited to 10-15mph (16-24kph) with a design speed of 10mph recommended for Home Zones.

3.3.10. Traditional highway traffic calming measures should not be necessary for 'Shared Streets' (see guidance in Table 1 and Table 6). Inherent design features including dwelling layout should prevent drivers from attaining speeds greater than 15mph (Residential Design Guide, 3.7.44[13]). Street layout should use buildings, street furniture, car parking and landscaping to create an environment where pedestrians and cyclists can move freely and safely, and drivers feel as though they are intruding. A benefit of Shared Streets is their seamless integration with Active Travel through-routes without needing crossings. This makes them more useable than Residential Streets.

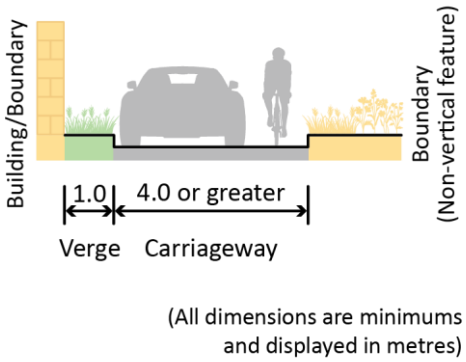


Figure 15: Typical Type 9 Streets

[21] The Quiet Lanes and Home Zones (England) Regulations (Legislation.gov.uk, 2006)

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Shared Driveways (Types 10-11)

3.3.11. Type 10 'Shared Driveways' can provide access to between three and five dwellings while Type 11 'Shared Crossovers' will serve only two or three dwellings. Both will typically provide pedestrian access to dwellings as well as vehicular access to parking spaces. These Types will typically be privately owned and not adopted by Milton Keynes City Council.

Road/Street Type Selection

3.3.12. The Road or Street Type of each link in a new development must be clearly identified. For retrofit schemes designers must identify any intended changes. The example conceptual plan of the street hierarchy below shows Roads and Streets denoted by Type, branching off from the initial Type 1 or 2 distributor roads.

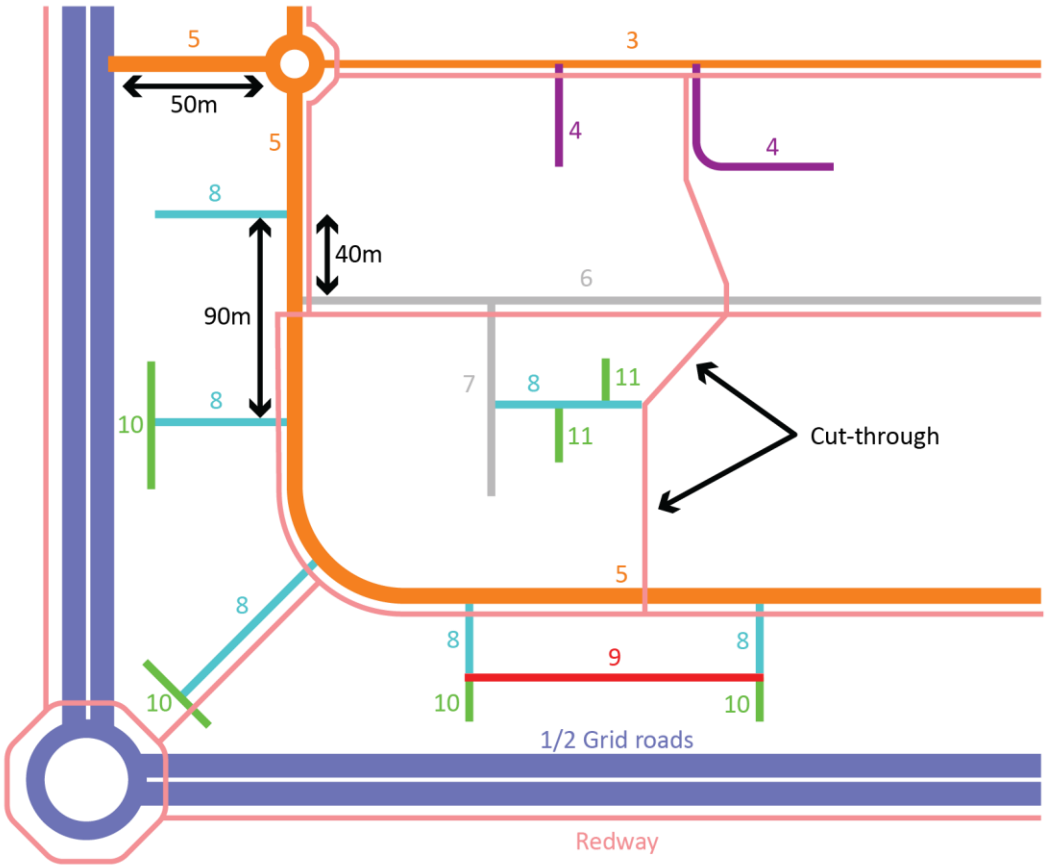


Figure 16: Conceptual Development Hierarchy

3.3.13. In designs for new parts of the network, the category of road or street appropriate for any given link will largely – but not definitively – be defined by these criteria, listed in descending order:

- Adjacent Road types which are connected will define the range. For example, a Road which connects from or to a Type 1 or 2 Road will always be a Type 3 or 5. Any Street connected to a Type 5 must be a Type 6-8.

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- If a new Road is to be a grid road, it must be Type 1 or 2.
- Whether a Road is to carry significant HGV or LGV traffic or leads to any industrial or non-retail commercial developments will define whether it is industrial (type 3-4) or not.
- A bus route will necessarily be Type 6 as this is the only Street type with the additional lane width to facilitate buses.
- The number of dwellings a Street is designed to serve will also help clarify its category between Types 6-8.
- A level surface Street serving six or more dwellings will always be a Shared Street (Type 9) and never a Shared Driveway (Types 10-11).
- The number of dwellings a Shared Driveway serves will help establish its classification between Types 10-11.



4. Section 4 – Detailed Guidance

4.1. Introduction

4.1.1. This section gives detailed guidance on the design and layout of highways in and around new developments. It should be read in conjunction with Item 4.3 which sets out the minimum design and geometric requirements for each Road and Street Type. Typical cross-sections of each Type are found in Items 3.2 and 3.3.

4.2. Standard Construction Details

4.2.1. Milton Keynes City Council maintains a range of standard construction details which developers should use in design proposals. Where MKCC already has a standard detail, custom details will require significant justification and will likely be rejected.

4.2.2. The specifications and typical details for the construction of all highway infrastructure in Milton Keynes can be found online and in our 'Specification for Highway and Construction Work'. For Type 1 and 2 Roads which do not have a MKCC specific detail, designers and developers should default to MCHW documentation (also available online) or the relevant British Standard, or contact our HDM Team.

4.2.3. Pavement construction requirements for footpaths, footways and cycleways are set out in the MKCC standard details.

4.2.4. All highway signing should follow Traffic Signs Manual[14] (TSM) guidance and the standards set out in Traffic Signs Regulations and General Directions[22] (TSRGD). In addition, MKCC also requires sign offsets to meet clearance requirements laid out in Item 4.4.

[22] Traffic Signs Regulations and General Directions (Department for Transport, 2016)

4.3. Table of Geometric Standards

TYPE (CROSS-SECTION)	NAME	SERVES	CARR. WIDTH	FOOTWAY	CYCLES	VERGE FOR CARR./RED.	DESIGN SPEED mph (kph)	FWD VIS.[g]	JUNCT. RAD.	JUNCT. SPACING[a]		ACCESS		MAX. GRAD.	MAX. STRAIGHT, MIN. OFFSET	MIN C.L RAD.	TURNING HEAD
										ADJ	OPP	FROM	TO				
ROADS																	
1 (Figure 9)	Primary Distributor	N/A	Refer to the Design Manual for Roads and Bridges														
2 (Figure 9)	District Distributor	N/A	Refer to the Design Manual for Roads and Bridges														
3 (Figure 10)	Industrial Distributor	250+ vph	7.3m	2 x 2m	Redway / Off Carr.	2 x 3.0m Carr. 2 x 1.0m Red.	30 (50)	70m	15m	90m	40m	1,2	4	1:20 1:40 first 30m	-	60m	-
4 (Figure 10)	Industrial Access	Up to 250 vph	7.3m	2 x 2m	Redway / Off Carr.	2 x 1.0m Carr.	25 (40)	45m	15m	50m	25m	1-3	N/A	1:20 1:40 first 30m	-	60m	9-12
5 (Figure 11)	Local Distributor	300+ Dwellings	6.75m	2 x 2m	Redway / Off Carr.	2 x 1.0m Carr. 2 x 1.0m Red.	30 (40)	70m	10m	90m	40m	1,2	6-8	1:14 1:40 first 30m	-	60m	-
RESIDENTIAL STREETS																	
6 (Figure 13)	Principal Street	100-300 Dwellings	5.5m[c]	2 x 2m	Redway / Off Carr.	None	25 (40)	33m	8m	50m	25m	2,5	7-10	1:14 1:40 first 15m	100m, 2.0m	20m	1-4
7 (Figure 13)	Major Street	50 to 100 Dwellings	5.5m	2 x 2m	Off Carr. / On Carr.	None	25 (40) / 20 (32)[f]	33m	6m	30m	15m	5,6	8-11	1:14 1:40 first 15m	100m, 2.0m	20m	1-4
8 (Figure 14)	Residential Street	16 to 50 Dwellings	4.8m	1 x 2m	On Carr.	1 x 1.2m Carr.	20 (32)	25m	5m	30m	15m	5-7	8-11	1:14 1:20 first 10m	50m, 1.5m	15m	1-4
LEVEL SURFACE STREETS																	
9 (Figure 15)	Shared Street	Up to 15 Dwellings	4.0m or greater	N/A	On Carr.	Min 1.0m[b] Carr.	15 (24) / 10 (16)	15m	4m	N/A	N/A	6-8	10-11	1:14 1:20 first 5m	30m, 1.0m	7.5m	5-8
SHARED DRIVES																	
10	Shared Drive	3 to 5 Dwellings	3.2 to 4.1m[e]	N/A	On Carr.	2 x 1.2m[d] Carr.	<10 (16)	-	4m	N/A	N/A	6-9	-	1:14	-	-	8+13-17
11	Shared Crossover	2 or 3 Dwellings	3.2m	N/A	On Carr.	None	-	-	45° Splays	N/A	N/A	7-9	-	1:10	-	-	13-17

a. Measured Centreline to Centreline. The minimum distance to the first junction on a road/street is 50m for types 1-6 or as per the relevant adjacent 'ADJ' distance for types 7-8.
b. To be determined in conjunction with statutory undertakers and the Council's Highway Adoptions team.
c. Where the road is part of a bus route the width should be increased to 6.2m.
d. Verges are required for adoptable Shared Drives. They are not required on private Shared Drives.
e. Minimum requirement of 5.0m width in accesses with wall-to-wall sides.
f. Where cycling routes are on-carriageway and therefore 20mph zones are in effect.
g. Fwd Vis = Forward Visibility to an object with a minimum height of 0.6m above ground.

Vph = vehicles per hour

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4.4. Carriageway Geometry

4.4.1. For Road Types 3-5, carriageway design must meet the standards set out in Item 4.3. The design of Type 1 and 2 Grid Roads must follow DMRB, CD127[23] and DMRB CD109[24] standards. For any Road Type near a railway, DfT rail guidance[25] should be applied and designers and developers should also consult our HDM Team.

4.4.2. Width or gradient of carriageway and verge and other carriageway geometry standards must be met wherever possible. Although we accept that with some schemes including retrofit some standards might not be achievable. In these cases, the appropriate solution will be a 'departure' which is covered further in Item 4.13. Cases where the existing arrangement is outside of standards and a material change to geometry still results in non-adherence will also be considered a departure. Again, designers should refer to Item 4.13.

4.4.3. Importantly, in stretches involving on-carriageway cycling, lane widths between 3.2m and 3.9m should be avoided to deter close overtaking (LTN1/20, 7.2.5[11]).

Bends

4.4.4. Adverse camber should be eliminated on all bends. Where reverse curves are proposed they must be sufficiently separated to eliminate adverse camber.

4.4.5. The minimum horizontal centre line radius of any bend on all new roads is shown in Item 4.3. Table 2 below. This sets out the minimum horizontal radii and associated additional widening for the different road categories.

ROAD TYPE	3+4+5 (Industrial Roads + Local Distributor)	
Centre Line Radius (m)[a]	60-100	100-150
Inside Widening (m)[b]	1.2	0.4
ROAD TYPE	**6+7 (Principal Street + Major Street)**	
Centre Line Radius (m)[c]	20-40	40-60
Widening (m)	0.4	0.2

a. When occurring on a bend of more than 10 degrees.
b. Widening should occur on the inside of the bend specifically.
c. When occurring on a bend of more than 45 degrees.

Table 2: Carriageway Widening on Bends

4.4.6. Accordance with the minimum requirements above does not bypass the need for sufficient vehicle tracking on all proposals. Further detail on these requirements is laid out in Item 4.9.

[23] Design Manual for Roads and Bridges CD127 Cross-sections and Headrooms (National Highways, 2021)
[24] Design Manual for Roads and Bridges CD109 Highway Link Design (National Highways, 2020)
[25] Managing the Accidental Obstruction of the Railway (Department for Transport, 2020)

Vertical alignment

4.4.7. Vertical curves should be used wherever two carriageway gradients meet and where, when expressed as percentages, those gradients differ by more than 2%. The difference between the gradients when expressed as percentages is referred to as “K”. The minimum length of such vertical curves should be the higher of:

- 30m or 10K, on Type 3 and 4 roads.
- 30m or 6K, on Type 5 and 6 roads.
- 20m or 6K, on Type 7 and 8 roads.



Clearances (Horizontal)

4.4.8. A minimum distance of 0.6m must be maintained between the edge of the carriageway and any highway structure or feature - such as signs and barriers - above ground level.

4.4.9. A 1.0m minimum separation must be maintained between the carriageway and all buildings, walls, hedges, fences or other enclosures or vertical obstructions adjoining the highway. This includes foundations, eaves, opening doors and windows, downpipes and gates.

4.4.10. The design of VRS must meet DMRB[26], standards and DfT[27] guidance and involve prior discussion with our HDM Team. Where necessary, designs must include assessments determined by MKCC.

Clearances (Vertical)

4.4.11. The minimum vertical clearance for carriageways, measured from the highest point of the carriageway, is 5.3m.

4.4.12. This increases to 5.7m for footbridges over carriageways.

4.4.13. The minimum restricted headroom for underpasses is 3.7m, subject to consultation with the highway authority and emergency services.

Gradients

4.4.14. The maximum longitudinal gradients of all new carriageways are covered in Item 4.3.

4.4.15. The minimum gradient of all new carriageways is 1:100, although 1:150 may be accepted on Type 3 and 4 Roads in exceptional circumstances and where channel blocks are used in the construction. Gradients for cycle tracks are covered in LTN1/20, Table 5-8[11] and footways in the Manual for Streets, Figure 3.12(a)[10].

4.4.16. On Driveways and other hard standings for vehicles the maximum gradient is 1:14. In exceptional circumstances this may be increased to 1:10 outside of the highway boundary. Where driveways fall towards the highway, a drainage channel connected to a pipe network or suitable soakaway will be required.

Crossfalls

4.4.17. The carriageway crossfall must be a minimum of 1:40. Any instance when this crossfall cannot be met requires a departure. The maximum allowed crossfall is 1:24, and any crossfall that exceeds 1:24 will be rejected. Justification for a departure must meet the criteria set out in Item 4.13.

4.4.18. Where footways are provided, they must fall towards the carriageway.

4.4.19. Verges have the same maximum and minimum crossfall requirements as carriageways and footways.

[26] Design Manual for Roads and Bridges CD377 Requirements for Road Restraint Systems (National Highways, 2021)
[27] Provision of Road Restraint Systems on Local Authority Roads (Department for Transport, 2011)

Earthworks

4.4.20. For Roads on an embankment or in a cutting, earthwork profiles can be sloped to a maximum of 1:3 subject to agreement with the highway authority.

4.4.21. Where such slopes are constructed, a 1.0m verge at normal crossfall should be provided between the slope and the carriageway or footway. Large signs or street furniture will sometimes be required which may increase the minimum verge width required. Further maintenance strips, safety fencing or other associated works may be required for steep (>1:3) slopes.

Forward Visibility

4.4.22. Forward visibility for links should meet requirements set out by link Type in Item 4.3. Designers should also understand how minimum stopping sight distance (SSD) requirements are reached in national guidance (MFS, 7.5[10]). This covers links with surveyed speeds of up to 37mph or a speed limit of 30mph. For 40mph speed limits and higher, designers should refer to DMRB standards[24] These use a different formula, resulting in a jump in required SSD values. Table 3 below combines these sources.

SPEED (mph)	10	15	20	25	30	40	50	60	70
Desirable SSD (m)	11	17	25	33	43	120	160	215	295
Reduced SSD (m)[a]	-	-	-	-	-	90	120	160	215

a. A 'one-step' reduction *may* be appropriate if sufficient features exist to restrain speed to at or below the limit. Suitable justification must be presented to HDM Team.

Table 3: SSD's for Milton Keynes Roads

4.4.23. While MFS does not differentiate between desirable and absolute values, DMRB sets out desirable and absolute values. MKCC adheres to desirable values and designers should expect to justify any divergence from these. A 'one-step' reduction may be acceptable if sufficient features exist to restrain speeds to or below the speed limit. So for example, for 120m this would be 90m. Designers must also account for gradients where these are significant.

Turning Heads

4.4.24. Streets with no through-routes must terminate with a turning head. Cul-de-sacs must provide sufficient space for service and emergency vehicles to make a three-point turn. This means that - in line with Parking Standards (Residential Design Guide, Table 1[13]) - sufficient off-street parking must be provided to prevent on street parking.

4.4.25. In addition, HGVs must be able to navigate single entrance/exit industrial estates from some industrial accesses and roads. Designers should first refer to Table 4 to identify the appropriate range of turning heads available and then select from the full specifications provided online. Although adherence to existing turning head specifications is not mandatory, designers should be mindful that meeting these requirements will ensure adherence to other mandatory requirements set out in Item 4.8.

Road/Street Type	**Type 4** Industrial Access	**Type 6** Principal Street	**Type 7** Major Street	**Type 8** Residential Street	**Type 9** Level Surface Street	**Type 10** Shared Drive	**Type 11** Shared Crossover
Compatible Turning Heads	Type 9	Type 1	Type 1	Type 1	Type 5	Type 8	Type 13
	Type 10	Type 2	Type 2	Type 2	Type 6	Type 13	Type 14
	Type 11	Type 3	Type 3	Type 3	Type 7	Type 14	Type 15
	Type 12	Type 4	Type 4	Type 4	Type 8	Type 15	Type 16
						Type 16	Type 17
						Type 17	

Table 4: Turning Heads Selection Table

4.5. Junction Geometry

4.5.1. Junctions on, or connections to, Type 1 or 2 grid roads should meet DMRB standards. If alterations to an existing junction or a new junction are needed, appropriate traffic modelling must be used to prove there will be sufficient capacity. This information - such as ARCADY/LINSIG outputs - must be provided as part of any development management submission.

4.5.2. Junctions must be within capacity for their opening and design years, and modelling undertaken in accordance with the relevant manual[28,29].

4.5.3. The minor road should meet the major road at an angle of 90 degrees and at a point where visibility is good. Otherwise, junction connections must meet the following rules:

- Junctions onto Type 1 and 2 must be 90 degrees or otherwise approval sought from our HDM Team.
- Junctions onto Types 3-5 must be between 70-90 degrees.
- Junctions onto Types 6-8 may be between 70-110 degrees where HGV traffic is minimal.
- Any Type 9 junctions that are not 90 degrees will be considered on a case-by-case basis due to the potential for pedestrians in the carriageway.

[28] Junctions 10 User Guide (Traffic Research Laboratory, 2021)
[29] LinSig3.3 Design and Assessment Tool (JCT, 2023)

4.5.4. Junctions on the inside of bends and on or near the crest of a hill must be avoided. Simple priority or 'T' junctions are the most common type and serve low to medium traffic flows very well. This type of junction is usually the most appropriate for both residential and commercial areas.

Crossroads

4.5.5. The design of the road layout should avoid situations where two minor roads emerge close together on opposite sides of a major road. Where this cannot be avoided, the design must avoid a crossroads junction.

4.5.6. Where staggered junctions are considered only right/left staggers should be provided. Guidance on minimum stagger distances for these junctions is covered in Item 4.3.

Junction Visibility Splays

4.5.7. All new priority junctions, and direct accesses and those that involve a material change must have unobstructed visibility. Designers should use visibility splays similar to those set out in Figure 17 from DMRB CD123, 3.4[30] below.

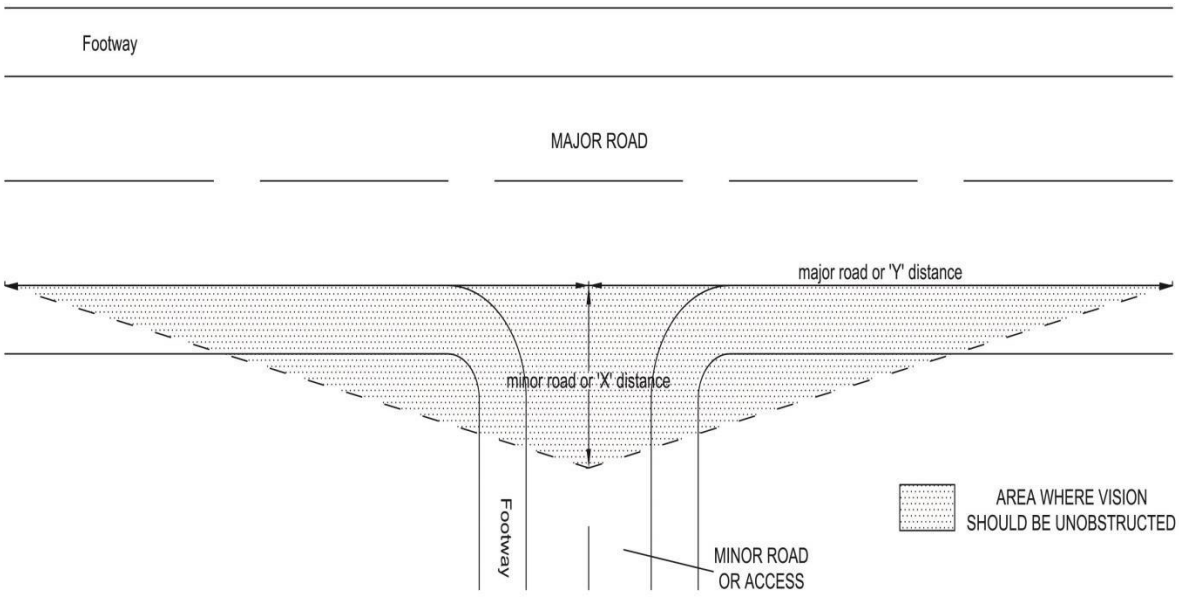


Figure 17: The formation of a traffic visibility splay (DMRB CD123, 3.4[30])

[30] Design Manual for Roads and Bridges CD123 Geometric Design of At-Grade Priority and Signal-Controlled Junctions (National Highways, 2021)

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4.5.8. The horizontal extents of both junction and access visibility splays must meet the X and Y values laid out in Table 5 and Table 6 below. Driver eye to object heights and the corresponding splays are provided in both DMRB CD123, 3.0[30] and MFS, 7.7[10]. The acceptable setback 'X' value is provided in Table 5 below.

MAJOR ROAD TYPE	MINOR ROAD TYPE	X DISTANCE (m)
1, 2	3, 5	9.0
3	4	4.5
4	4	4.5
5	6-9	4.5
6	7-10	2.4
7	8-11	2.4
8	8-11	2.4
9	9-11	2.4

Table 5: X Distance Values (Minor Road)

4.5.9. Junction visibility requirements defining the 'Y' value along the major road are also provided in Table 6 below.

85TH% SPEED (mph (kph))	SPEED LIMIT (mph)	Y DISTANCE	
		STREETS (TYPES 6-9)	ROADS (TYPES 3-5)
< 10 (16)	-	11	N/A
< 15 (24)	-	17	N/A
< 20 (32)	20	25	33
< 25 (40)	-	33	45
< 30 (48)	-	43	60
< 37 (60)	-	59	90
-	30	43	90
< 44 (70)	40	Not appropriate speed for these street types - use type 3 - 5	120
< 53 (85)	50	Not appropriate speed for these street types - use type 3 - 5	160
< 62 (100)	60	Not appropriate speed for these street types - use type 3 - 5	215
< 74 (120)	70	Not appropriate speed for these street types - use type 3 - 5	295

Table 6: Y Distance Values (Major Road)

4.5.10. Speeds of 10mph and 15mph with respective Y distances of 11.0m and 17.0m will require additional on-street features to achieve 'low speeds' (MFS, Table 7.1[10]).

Accesses

4.5.11. Vehicular accesses are not permitted within the bell mouth of any road junction. New accesses should be designed to avoid bell mouth radii and be setback a minimum of 11.0m from new junctions to provide a minimal spacing for a 10mph SSD (MFS, Table 7.1[10]).

4.5.12. Private drives and hard standings should not be constructed of loose material that may be carried into the highway, and all accesses should be designed in accordance with DMRB CD123, 4.0[30].

4.6. Speed Restraint

4.6.1. In new developments, speed restraint should be achieved through geometric design of the street layout. This will involve horizontal alignment design along with street dimensions and/or vertical elements.

4.6.2. Design elements including materials, landscaping and street furniture are covered in the Residential Design Guide[13].

Horizontal Alignment

4.6.3. The horizontal alignment of carriageway kerb lines should promote appropriate vehicle speeds. Suitable carriageway widths are set out in Item 4.3. For alignment, offsets in alignment and tight-radius bends over 45° can help reduce speeds by breaking up long, straight sections of road. Limiting values for both are pulled from Item 4.3 and shown in Table 7 and Figure 18 below:

STREET TYPE	6 (PRINCIPAL)	7 (MAJOR)	8 (RESIDENTIAL)	9 (LEVEL-SURFACE)
Maximum Straight Distance[a]	100m	100m	50m	30m
Minimum Alignment Offset	2.0m	2.0m	1.5m	1.0m

a. Between bends of at least 45° or other restraining measures.

Table 7: Maximum Street Straights

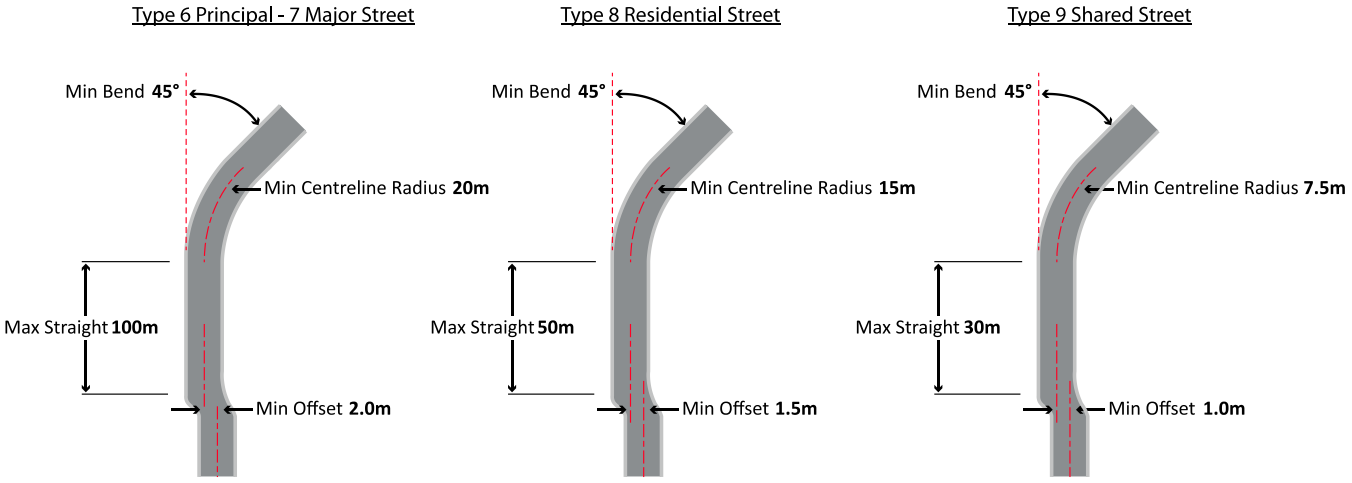


Figure 18: Diagram of Max. Straight Distance and Min. Bend Angle

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4.6.4. In cases where achieving an acceptable alignment in retrofit schemes presents significant difficulty, some horizontal traffic calming measures can be used if an alignment is constrained.

Street Dimensions

4.6.5. The careful placement of buildings adjacent to the carriageway helps to create a streetscape that reduces the ability and temptation to drive at inappropriate speeds. Reduced building-to-building distances and suitable height-to-width ratios across a street have a significant effect on vehicle speeds. Further detail can be found in MFS, 5.4[10].

4.6.6. Vertical elements such as ancillary structures, walls and fences can achieve the same effect. The impact of these features on street aesthetics and visibility must be considered carefully. The MKCC Residential Design Guide[13] gives further detail on their use.

4.7. Traffic Calming

4.7.1. For most existing streets, traffic calming features and techniques must be used in place of major carriageway adjustments. Although it is accepted that some new developments may need traffic calming elements, these should only be used to bolster speed restraint and never be used in place of good network design.

4.7.2. The use of coloured surfacing and some types of carriageway markings for traffic calming is discouraged due to their maintenance burden and poor effectiveness compared to physical features. MKCC accepts the following traffic calming elements:

Gateways:





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4.7.3. Gateways with physical measures always include village name signage to introduce drivers to the village, in addition to at least one of the following:

- Road narrowing
- Raised table or speed cushion
- Mini roundabout
- Surface treatment or rumble strip

4.7.4. Village gateways help to create a sense of place when drivers enter the village, and the physical measures are designed to slow drivers down before entry. This makes them particularly suitable for 20mph zone extents. Chicanes must not be used because they are inappropriate for bus routes.

Narrowings:

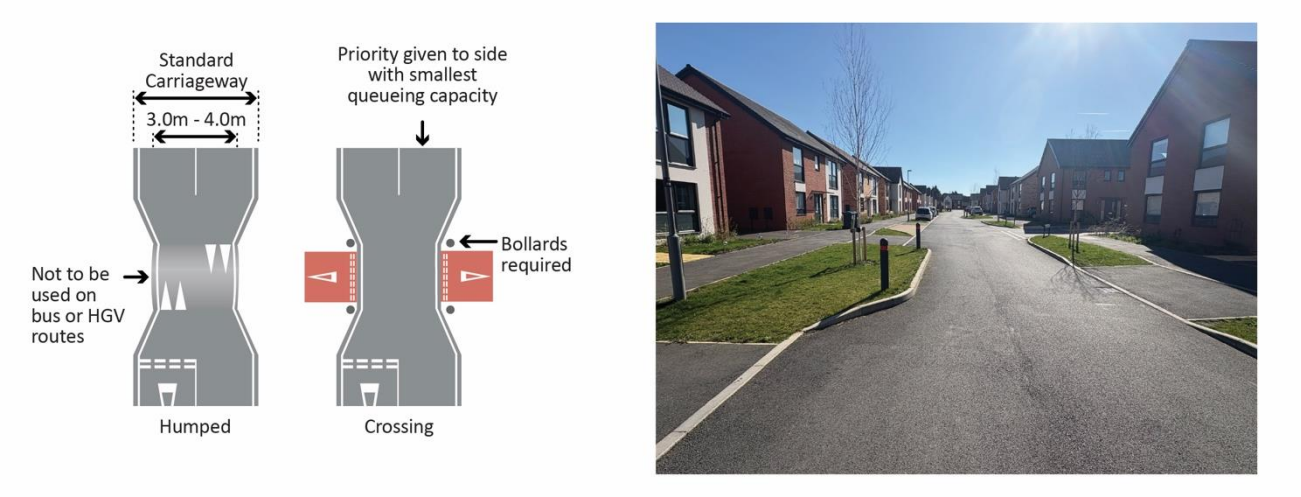


Figure 19: Narrowings Diagram/Photo

4.7.5. A narrowing of road width can be used to reduce speeds on residential roads. A narrowing can take the form of a build-out (one side only) or a pinch point (both sides). For Road/Street Types 5-8 directional priority should always be provided, and the narrowing should be located roughly in the middle of the straight, away from any junctions, bends or accesses.

4.7.6. Narrowings must include a cycle bypass or a segregated track alongside if used on any Street expected to carry cycle traffic. They may also be acceptable on long sections with slight bends.

Traffic Islands and Pedestrian Refuges:

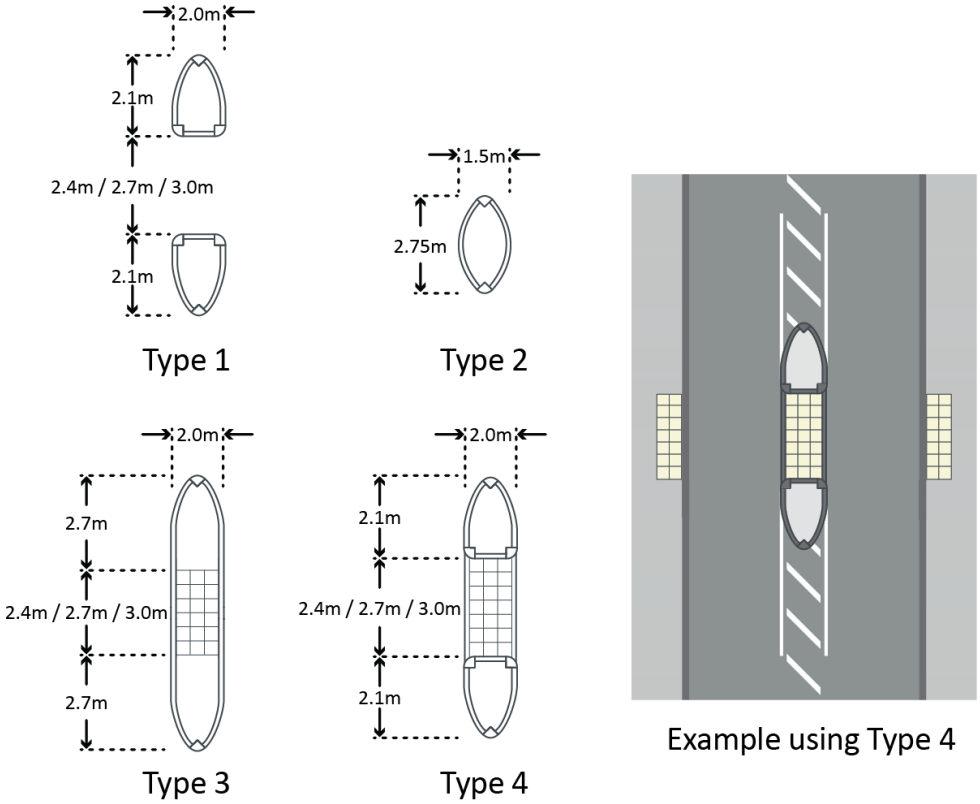


Figure 20: Traffic Islands and Refuges Diagram

4.7.7. Traffic islands and pedestrian refuges can be used to reduce available road space and so slow motorist speeds. When combined with a central hatching and road edge lines, these features can transform the feel of a road, providing consistent and uniform treatment along a route. Pedestrian refuge islands on wider roads can provide a safe place to cross when signalised controlled crossing criteria cannot be met.



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Small Radius Bends:



Figure 21: Small Radius Bends Diagram/Photo

4.7.8. Small radius kerb lines reduce excessive speeds into and out of Residential Streets. Consideration should be given to the types of vehicles using proposed junctions and appropriate vehicle swept path analysis carried out.

Overrun Areas:

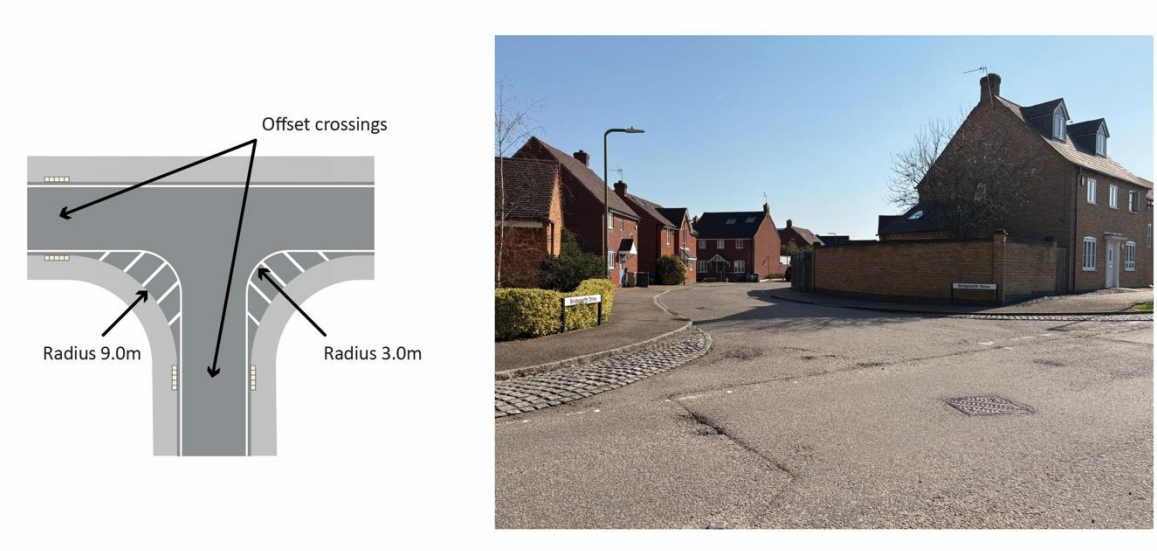


Figure 22: Overrun Areas Diagram/Photo

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4.7.9. Overrun areas are designed to visually narrow the roadway while maintaining the effective width for larger vehicles. They are most commonly used at roundabouts, narrowings and chicanes. They are also used on bends on narrow residential roads which need to maintain access for large vehicles such as refuse vehicles or HGVs. Designers must consider thoroughly how cyclists and pedestrians interact with the kerb lines when looking to cross or pass through.

False Roundabouts:



Figure 23: False Roundabouts Diagram/Photo

4.7.10. A false roundabout is a central island with no side road connections (i.e. with only two arms). This can be used to give good deflection of vehicles or break up long straight sections of road, either as a gateway feature or part of a traffic calming scheme.

Mini Roundabouts:

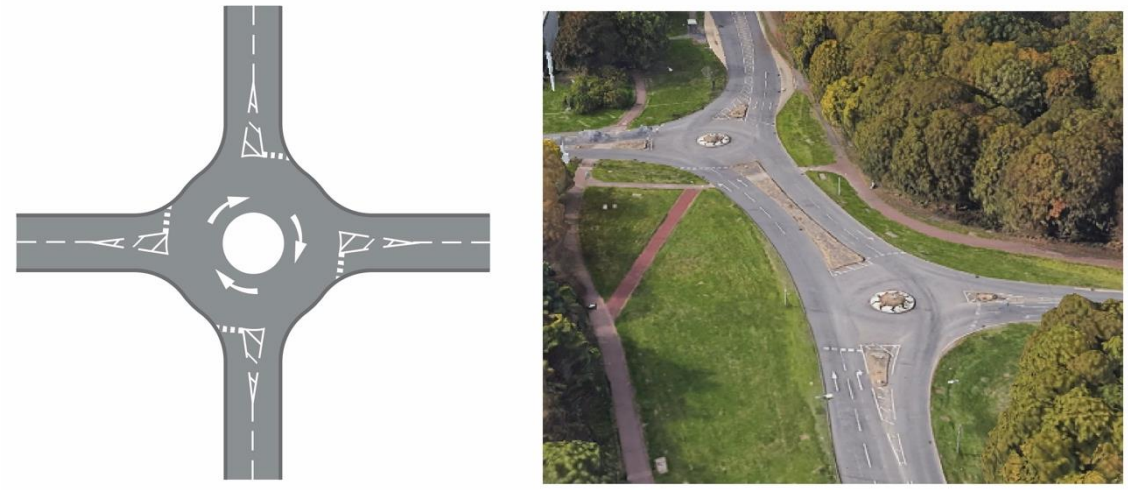


Figure 24: Mini Roundabouts Diagram/Photo

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4.7.11. Mini roundabouts are effective in a variety of situations. These include as a junction within a new development, to improve the operation of an existing junction, as part of a traffic calming scheme and as an accident remedial measure. They are not suitable on dual carriageways, roads with an 85th percentile speed above 35mph (DMRB, CD116, 2.9[31]) where there is no ability to reduce approach speeds, or for junctions with five or more arms. A mini roundabout will have an inscribed circle diameter of less than 28m and a flush or domed central button marking to TSRGD 1003.4[22].

Raised Tables:

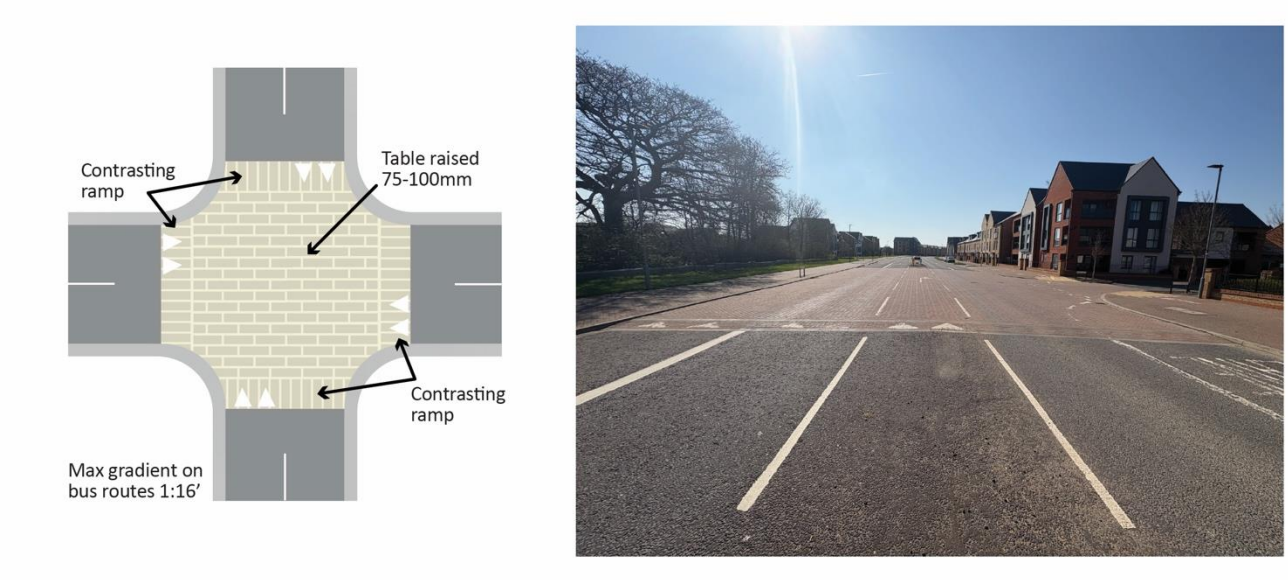


Figure 25: Raised Tables Diagram/Photo

4.7.12. Raised tables or junctions are normally used for Type 8 and 9 Streets and can also help create a safer pedestrian crossing area. They are a raised section of road covering a whole junction, with a ramp on each arm. The table will normally be around 75mm higher than the carriageway and will vary in length, although ideally tables should be a minimum of 12m long. This minimum length helps protect passenger comfort on bus routes.

4.7.13. Raised tables must use block paving in line with MKCC's Residential Design Guide[13.] Designers and developers must deploy these effectively to justify the increased cost. Guidance on active travel interactions with raised tables can be found in the Redway Guide[7].

[31] Design Manual for Roads and Bridges CD116 Design of Roundabouts (National Highways, 2023)

Surface Treatment and Rumble Strips:



Figure 26: Surface Treatment and Rumble Strips Diagram/Photo

4.7.14. Surface treatments such as block paving or rumble strips can be used to reduce vehicle speeds in association with a gateway feature. But they can cause discomfort - especially for younger, older and disabled cyclists - and so must be used sparingly.

4.7.15. Changes in surface texture can encourage lower speeds, but the skid resistance of any material used for traffic calming must be adequate for the type and speed of traffic carried. Consideration must also be given to the location of these measures, especially within residential areas, as they can increase traffic noise.

20mph Zones

4.7.16. As well as the benefits of lower vehicle speeds, 20mph zones also reduce the amount of road signs needed compared to using individual traffic calming features. A traffic calming measure must be deployed every 100m throughout 20mph zones (TSM Ch.3, 8.7.1[14]). These can take the form of a repeater sign or physical feature. Streets in a 20mph zone must be designed in line with MKCC's geometric standards set out in Item 4.3 or traffic calmed to limit speeds to 20mph. They cannot simply rely on the limit itself. Further guidance on the use of 20mph zones can be found in TSM (Ch.3, 8.7[14]).

4.7.17. New Type 7 Residential Streets without segregated cycle routes, and Types 8 and 9 Streets, must be designed to facilitate the introduction of 20mph zones. This should form part of planning proposals for new residential developments and mechanisms for introducing 20mph zones must form part of the planning approval and any associated legal agreements. Developers should note that new residential areas must achieve the required design speeds to be acceptable.

4.7.18. Where existing Type 6-9 Streets with a speed limit of 30mph are retrofit for a design speed of 20mph, this must be achieved through horizontal alignment changes in line with Item 4.3 wherever possible. Traffic calming features should be used where these horizontal alignment changes are not feasible. The implementation of a 20mph zone to a retrofit scheme will not in itself be considered as a traffic calming proposal. It must also be supported by appropriate physical design characteristics.

4.8. Highways Structures

4.8.1. Where the road layout includes highway structures such as culverts or pipes larger than 900mm, bridges or retaining walls, designers and developers must secure the approval of the highway authority's structures team. This applies both to structures within the highway and adjacent to it which may be affected.

4.8.2. Designers are advised to discuss proposals with the Engineer (Bridges and Highway Structures Team) before developing plans. The Engineer will be the Technical Approving Authority 'TAA' and oversee the compliance of all structure designs and construction details with the relevant standards and specification.

4.8.3. All queries related to technical approval should be sent to: **highwaystructures@Milton-keynes.gov.uk**

Archways and Gates

4.8.4. These accesses should provide vehicle and pedestrian visibility splays in line with the guidance set out in the preceding sections. The minimum width of archways and accesses between buildings is 3.2m (wall-to-wall) where up to three dwellings are served.

4.8.5. For accesses serving four or more dwellings, a minimum wall-to-wall width must be 5.0m. Alternatively, where such an archway or restriction is set back more than 8.0m from the adjoining carriageway and the access allows an entering vehicle to wait clear of the highway while a second vehicle exits and there is intervisibility through the archway, the width can be reduced to a minimum of 3.2m.

4.8.6. Archways that will not need to offer access to emergency or service vehicles can have a minimum vertical clearance of 2.8m. Where access is required for service, emergency or other large vehicles, the minimum vertical clearance is 5.3m.

4.8.7. Where gates are provided across a vehicular access to the public highway, they should be positioned in accordance with the dimensions set out in Table 7.

USE	SETBACK[a]
Industrial / Warehousing	20m
Small Commercial	12m
Agricultural / Equestrian	12m
Residential	6m

a. Set-back measured from edge of carriageway with gates opening into site.
- For gates opening outwards onto a footway, add gate width to set back dimension.

Table 8: Gateway Setbacks



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4.9. Servicing and Manoeuvring

4.9.1. Residential and commercial developments require servicing, and the design of road layouts and commercial premises must consider servicing needs. For residential developments these are usually restricted to refuse collections, deliveries of groceries, parcels and very occasionally larger items such as furniture or skips. Our HDM team can offer advice about servicing requirements.

4.9.2. A carefully designed road layout should meet all these needs. Where developments have special needs such as spaces for doctors, ambulances or fire tenders, these should be provided within the curtilage of the site.

4.9.3. Residential estate road layout must allow fire tenders access to within 45m of all dwellings. Access for refuse collection vehicles should be to within 25m of collection points for houses and within 9m of grouped stores with large communal bins for flats or apartments (MFS, 6.8.9[10]). Residents should not be required to walk more than 30m to the collection point (MFS, 6.8.9[10]). Designers must also make sure that collectors do not have to wheel. or walk over grass or soft surfaces or down steps. Meeting the geometric requirements and turning heads set out in Item 4.3 will help to meet these access requirements.

4.9.4. Service areas and loading/unloading bays for commercial developments should be designed in line with FTA guidance[32]. Service bays should measure 15.5m x 3.5m for articulated vehicles and 11m x 3.5m for rigid vehicles. Generally, service areas will be adequate if the manoeuvring area is the same width as the service bay length.

4.9.5. All new cul-de-sacs should terminate with loops or turning areas that allow vehicles to perform a three-point turn. The location, layout and availability of turning areas Section 278 / 38 Developments Standard Details | Milton Keynes City Council will determine how well used they are. For this reason, the layout of both residential and commercial developments should discourage parking in turning areas. This is most effectively achieved by locating accesses or visitor parking spaces adjacent to turning areas and by providing adequate parking for nearby dwellings or premises.

4.9.6. Residential layouts must allow a clear distance of 6.0m behind all car parking spaces for adequate access and to allow cars to turn. On an access road this can be provided by a 1.2m margin and a 4.8m carriageway. On Level Surface Streets and private drives, the carriageway width must be increased to 6.0m adjacent to driveways or parking spaces.

Vehicle Tracking/Swept Path Analysis

4.9.7. Vehicle tracking, also known as swept path analysis, is required for all new developments as well as retrofit developments that alter the vehicular carriageway width. The outputs of these checks must be included as part of any submission during the concept and preliminary design phases.

4.9.8. Vehicle tracking should demonstrate a clearance of 0.5m to kerbing or any vertical obstruction of any kind on either side of a swept path. There must be no overhangs of any pedestrian or cycling spaces.

[32] Guide to Truck Turning and Manoeuvring (FTA, 2016)

4.9.9. Tracking will generally be undertaken in two formats to:

- Show that design vehicles can safely traverse through the link and though junctions of a journey through a road or street.
- Confirm that design vehicles can carry out a three-point turn at a turning head where there is no through-route.

4.9.10. The design vehicles and their use cases are shown in Table 9 below.

TYPE	NAME	FIRE SERVICE TRUCK	REFUSE VEHICLE	LGV	HGV
3	Industrial Distributor	✓	✓	✓	✓
4	Industrial Access	✓	✓	✓	✓
5	Local Distributor	✓	✓	✓	✓
6	Principal Street	✓	✓	✓	
7	Major Street	✓	✓	✓	
8	Residential Street	✓	✓	✓	
9	Level Surface Street	✓	✓		

Table 9: Vehicle Tracking Design Vehicle Use Cases

4.9.11. Confirmation that the design vehicle can travel through the road or street as a 'through-route' or use a turning head is essential for all use cases. Where a turning head is provided all vehicles must be able to use it to turn around. In Streets, service vehicles should not have to reverse more than 20.0m. Consequently, cul-de-sacs longer than 20.0m must have a turning head in line with Item 4.3.

4.9.12. Fire tenders, LGVs and HGVs should follow the standard design vehicles set out in FTA guidance[32]. For refuse vehicles designers should use the MKCC specific characteristics set out in Table 10 in below.

CHARACTERISTIC	VALUE (mm)
Overall Length	11,230
Overall Width	2,550
Overall Body Height	3,500
Min. Body Ground Clearance	309
Wheelbase	5,090
Front Axle Overhang	1,685
Outer Track Width	2,210
Lock to Lock Time	4.0 - 6.0 Seconds
Calculated Turning Radius	19,650 (+500 Tolerance)

Table 10: MKCC Refuse Vehicle Characteristics[33]

[33] Waste Operational Procedures (Milton Keynes City Council, 2018)

Maintenance Responsibilities

4.9.13. MKCC reserves the right to require changes to design proposals on the basis of reducing the maintenance burden and may request commuted sums to make good the financial future of adopting or tying in to aspects of new developments.

4.10. Drainage & Flooding

4.10.1. Design of drainage assets to be adopted by MKCC must meet DMRB requirements. The overarching DMRB drainage design standard is CG501 Design of Highway Drainage Systems[34]. Section CI 2.4 identifies destinations for road runoff in order of preference:

- Ground
- Surface water body
- Surface water sewer
- Combined sewer

4.10.2. For each road section/drainage network, the most appropriate destination for road runoff must be determined and justified.

4.10.3. All SuDS (Sustainable Drainage Systems) must be designed in line with the SuDS Manual[35] and the National Standards for SuDS[36], both referenced in DMRB.

4.10.4. These standards govern the design of surface water drainage systems for new infrastructure and developments on both greenfield and brownfield sites. These standards apply to developments which include road drainage. They are not meant to be used for the trunk road network managed by National Highways. Equivalent provision for SuDS for these roads is contained in the DMRB[34].

4.10.5. The design of foul sewerage must follow Water UK's Sewerage Sector Guidance Appendix C - Design and Construction Guidance[37]. Expected minimum provisions are:

- A drainage layout plan showing proposed foul sewerage and proposed surface water sewerage including:
  - Foul sewerage details - to include house connections, carrier drains, manholes, inspection chambers, connections to existing foul sewerage or combined sewerage systems or, where applicable, package treatment plants with outfall to local watercourse.
  - Surface water details - to include gullies (double gullies at sag locations), filter drains (where used), carrier drains, manholes, channel drains, house connections, inspection chambers, connections to existing surface water sewerage or combined sewerage systems, SuDS features including soakaways, infiltration ponds, storage ponds/swales, storage tanks, flow control devices (e.g. orifice plates or hydro brakes) and outfalls to local watercourse.

[34] Design Manual for Roads and Bridges CG501 Design of Highway Drainage Systems (National Highways, 2022)
[35] The SuDS Manual (CIRIA, 2015)
[36] National Standards for Sustainable Drainage Systems (Department for Environment, Food and Rural Affairs, 2025)
[37] Sewerage Sector Guidance Appendix C – Design and Construction Guidance (Water UK, 2023)

- A Section 104 layout plan indicating:
  - Adoptable foul sewerage (including easement areas), adoptable surface water sewerage (including easement areas), adoptable road gullies (including gully outlets), private foul sewerage, private surface water sewerage, existing/adopted foul sewerage and existing/adopted surface water sewerage. For smaller schemes the drainage layout plan and Section 104 plan may be a combined drawing.
- A gully catchment plan showing:
  - The limits of the adoptable gully catchment areas (this should be coincident with the highway area for adoption by MKCC), the contributing area for each gully or double gully, proposed contours within the highway boundary and direction of flow arrows from the impermeable areas along the highway boundary. A flow arrow towards the highway boundary (both within and outside the boundary) indicates that a cut-off drain is required (e.g. channel drain).
  - If over-the-edge infiltration ditches are proposed (as an alternative to gullies), and these are to be adopted by MKCC, then ground investigation results and ditch sizing calculations are required for review/comment.
- A copy of correspondence from Anglian Water (AW) indicating their acceptance of a S104 plan.
- A copy of correspondence from AW indicating their acceptance of a S106 plan where it is proposed to connect to an existing AW manhole.
- A copy of the flood risk assessment and correspondence from the Lead Local Flood Authority (LLFA) and the Environment Agency indicating that the proposed development is acceptable in terms of flood risk and that all proposed discharges to watercourses (surface water, and where proposed, sewage treatment plant effluent) are approved.
- Where applicable, copies of approvals from all other statutory authorities identified in the flood risk assessment.

Gullies

4.10.6. The developer must provide gully spacing calculations in accordance with DMRB CD526[38]. The flow width for gullies must comply with CD 526[38]. Where a road is anticipated to have high volumes of pedestrians crossing at uncontrolled points the maximum permitted flow width is 0.5m. Wider roads with low anticipated pedestrian traffic may have a wider flow width on a scheme specific basis**.**

4.10.7. Developers are also expected to design gully layout such that:

- The area draining into each road gully meets the requirements of CD526[38]. For minor schemes a general rule of thumb is that the area draining to each gully should not exceed 150m^2. However, this must still comply with CD526[38].
- Gully spacing does not exceed 50m.
- Double gullies are provided at all low points on a concave channel profile. In this circumstance, separate connections should be made to each gully. The contributing area to double gullies should not exceed 150m^2.
- All gullies are on the upstream side of pedestrian crossings, and pedestrian friendly gully covers must be used in areas of expected pedestrian movement.
- Maximum connection length does not exceed 20m.
- Where drainage features are to be adopted by MKCC (e.g. gullies, manholes, pipes), they must meet MKCC specifications and standard drawings.
- Combined kerb drainage solutions are discouraged due to cost and maintenance burdens. However, where a developer believes these are needed, they must raise this with our HDM Team as soon as possible.

[38] Design Manual for Roads and Bridges CD526 Spacing of Road Gullies (National Highways, 2020)

Chambers

4.10.8. All adoptable manholes and catchpits must comply with the DMRB Highways Construction Details Series F[39]. Chambers must be provided at every change in gradient or direction, every change in pipe diameter and at a maximum spacing of 90m.

Flooding

4.10.9. Where LLFA or Environment Agency requirements differ from DMRB CG501[34] the designer must comply with the more onerous requirements. Please note that for drainage and SuDS approval, the LLFA is completely independent of Milton Keynes HDM in terms highway development control, highway agreements and highway adoptions.

4.10.10. Work on or near main rivers is regulated by environmental permitting regulated by the Environment Agency. Ordinary watercourses include every river, drain, stream, ditch, dyke, cuts, sluices, culverts, sewers (other than public sewer) and passages through which water flows that do not form part of main rivers. Outside of Internal Drainage Board areas, ordinary water courses are regulated by MKCC.

4.10.11. Land Drainage Consent must be secured for any enabling or permanent works to any ordinary watercourse. Planning permission does not remove the need for Land Drainage Consent. Consent must be secured prior to commencement of works.

4.10.12. Further supporting information can be found on the MKCC Flood and Water Management page online. This includes flood risk guidance covering planning permissions and sustainable drainage systems. It also includes MKCC strategic flood risk documents outlining our approach to managing flood risk.

4.11. Street Lighting

4.11.1. Street lighting is required on all new public highway areas within the city of Milton Keynes and in most instances outside these areas as well. Street lighting columns should be located at the back of footways where possible, a minimum of 0.5m from any Redway surface. They should not be located directly outside of properties or near upper windows of homes. The MKCC street light specification must be met for any lighting on the existing or proposed public highway. This can be found on the MKCC website or obtained through our HDM Team.

[39] Manual Contract for Highway Works Highway Construction Details Series F (National Highways, 2006)

4.12. Adoptions

4.12.1. Milton Keynes City Council will often take ownership of roads, streets, drainage features and open space via adoption. Technical approval and an understanding of what is to be adopted is needed before the adoption process can start.

4.12.2. Key aspects include:

- Where lighting is provided on prospectively adoptable highways it must conform to the latest MKCC Street Lighting Specification and be approved by a council lighting engineer.
- Street furniture within the public highway boundary must comply with council requirements - minimum clearances for pedestrians around and between street furniture of 1.5m and should not reduce width available to pedestrians - and be shown on drawings submitted for adoption.
- Where a sewer, or part of it, only accepts run off from public highway, the highway authority will adopt it, or part of it, in the road adoption agreement. If the sewer accepts private surface or roof water, the sewer must be adopted by the local water authority under section 104 of the Water Industry Act 1991[40]. Private (unadopted) sewers will not be accepted beneath areas that are to be adopted as public highway.
- Where visibility splays are provided at junctions of adoptable roads and existing public highways or at existing road junctions, the area contained within the splay must be adopted as part of the public highway. Similarly, forward visibility splays around bends and Redway visibility splays must also be adopted.
- The council will normally seek to adopt as public highway the frontage access to groups of six or more dwellings.
- All residential Streets (Types 6-9) are prospectively adoptable.
- Type 10 Shared Drives are not normally adoptable. But if they are requested for adoption then verges and other adoptable features such as approved drainage and street lighting will be required.

4.12.3. During the construction phase developers should notify the relevant authority(s) and the MKCC Highways Adoption team about the intended adoption of features relevant to the following legislation:

- Section 278 and/or 38 agreement (Highways Act 1980[41]) for the adoption of roads, public parking bays, footways and Redways.
- Section 104 agreement (Water Industry Act 1991[40]) for the adoption of surface and foul water sewers.
- Section 106 agreement (Town and Country Planning Act 1990[42]) for the adoption of public open space and drainage basins.

4.12.4. Developers should generally expect adoptions to be carried out in accordance with DfT guidance[43]. More specifically, MKCC provides information and an overview of its own process online.

[40] Water Industry Act (Legislation.gov.uk, 1991)
[41] Highways Act (Legislation.gov.uk, 1980)
[42] Town and Country Planning Act (Legislation.gov.uk, 1990)
[43] Highways Adoptions Advice Note (Department for Transport, 2022)

4.13. Other Design Considerations

Road Safety Audits

4.13.1. Developer's design submission should include a Stage 2 RSA, complete with designer responses closing out all raised issues. Stage 3 and 4 RSAs must be undertaken by the developer following construction. Audits will be undertaken at completion of detailed design (stage 2), immediately post-completion of the works (stage 3), and 12 months after completion of the works (stage 4).

4.13.2. Stage 1 RSAs are occasionally requested for early validation at the planning stage, often for outline applications. This is particularly relevant for those involving major junction designs, controlled pedestrian/cycle crossings and proposals which change the vertical or horizontal alignment of the existing highway.

4.13.3. Milton Keynes RSA process follows the rules set out in Design Manual for Roads and Bridges (DMRB) – GG 119 Road Safety Audit or any future revisions of the document.

Construction Design Management

4.13.4. It is the developer's responsibility to ensure that they understand and carry out their role and responsibilities as designers under the Construction Design and Management Regulations 2015 (CDM 2015). Further information is available from the Health and Safety Executive online.

Departures

4.13.5. Designs and proposals must comply with this Highway Guide and associated standards and guidance wherever possible. It is accepted that sometimes meeting standards will not be reasonably practicable, in which case a departure must be sought.

4.13.6. Where a departure is sought, full and detailed justification should be provided in the supporting documentation. Further guidance on the departure process can be found online. We recommend that discussions with the Highway Adoptions team take place before any submission of departure applications to prevent unnecessary delays.

4.13.7. Developers should be mindful that any departure or non-compliance of standards is likely to result in increased timescales and scrutiny for their application and MKCC has the right to reject applications for reasons of non-compliance.

Traffic Regulation Orders

4.13.8. Where design proposals for new or retrofit schemes require changes to existing infrastructure, new or amended Traffic Regulation Orders (TROs) may also be needed. Common examples of TROs include restricting the movements of HGVs in residential areas or implementing parking restrictions. Developers should be aware that the approval process and implementation of TROs incurs costs to the council, and this cost will be passed on to the developer. TROs go through a one-month consultation period which can delay the application process. In some cases, the application may even be rejected because of a TRO.

Emergency Accesses

4.13.9. The emergency services need fast and unobstructed access to all buildings, and road and street layouts must provide this.

- Streets that serve up to 50 houses require only a single point of access for all vehicles.
- Those serving between 50 and 100 houses should have a second point of access which can be in the form of an emergency link.
- Streets serving more than 100 houses should have two full points of access, either as a loop road or as part of a through route.

4.13.10. In line with approved document B (Building Regulation B5), access for fire tenders is required to a point not further than 45m from all parts of the ground floor of any residential building. Any road or private drive forming part of such a fire access way must be no less than 3.7m wide between kerbs, although this may reduce to 3.1m for a gateway or similar short narrowing. It should have a minimum centre line radius of 6.55 m, or 7.55m if enclosed by walls, and headroom of 3.7m.

4.13.11. The access way, including any manhole covers, must be capable of carrying a 12.5 tonne vehicle and any cul-de-sac more than 20m long must have adequate provision to turn a fire tender around. Fire access will normally be to the front of dwellings, but rear access is acceptable if it is clearly signed and dwellings are also numbered from that side.

4.13.12. Emergency access links should be a minimum of 3.7m wide and have suitable vehicle deterrent bollards at their junctions with the carriageway and/or footway. Vehicular access to dwellings will not be permitted from emergency access links and emergency links must not take access from private drives or parking areas.

4.13.13. The design of traffic calming schemes and individual features must consider the need for emergency access. Developers should be able to demonstrate that any such features will not prevent access or prejudice response times.



Heritage and Conservation Areas

4.13.14. Some Milton Keynes locations may be in designated areas of cultural heritage or conservation efforts. In these cases, it is incumbent upon developers to liaise with our HDM team as soon as possible. Further information can be found online through our Conservation and Archaeology portal.

4.13.15. Within conservation areas and areas containing listed buildings or Tree Protection Orders, some relaxation of highway requirements may be appropriate. Developers are encouraged to consult with the Highway Authority at an early stage to discuss how proposals can enhance and preserve conservation areas and promote safe operation of the highway. Options include the use of specialised or non-standard materials. Developers are encouraged to refer to technical guidance that relates specifically to conservation areas.



Carbon Usage and Waste Reduction

4.13.16. Construction accounts for a large proportion of total UK carbon emissions. A wide range of alternative materials and techniques can now be used in design and construction processes to reduce carbon consumption. Developers are encouraged to actively reduce carbon output and recycle wherever possible. They should consult with the Highways Adoptions team for advice when needed.

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