

Rhondda Cynon Taf County Borough Council



RHONDDA CYNON TAF

Access, Circulation and Parking Study



June 2007

Report no: 0001-NE02664-NER-02

Hyder 
Consulting

Rhondda Cynon Taf County Borough Council



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Date:

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1 Introduction

Hyder Consulting was commissioned by Rhondda-Cynon-Taf County Borough Council (hereafter referred to as RCT) to provide an evidence base relating to access, parking and circulation standards. This study will ultimately inform the plan making process by providing draft policies and reasoned justification for the local development plan (LDP) and detailed supplementary planning guidance (SPG) that will help deliver a consistent and expedient basis for assessing planning applications. The LDP will provide the development industry with an early and broad indication of the Council's requirements and standards that the Local Planning Authority (LPA) will expect from developments.

RCT is the second largest Unitary Authority in Wales, after Cardiff, in terms of population, with approximately 240,000 people. It covers 42,412 hectares in the centre of the South Wales coalfield, between the fringes of Cardiff and the Vale of Glamorgan to the south, and the Brecon Beacons to the north. The principal settlements are Aberdare (Cynon Valley), Llantrisant (Ely Valley), Pontypridd (Taf Valley) and Tonypany (Rhondda Valley).

The county borough was formerly dominated by coal mining and the effects of industry restructuring have been severe in the region. However, the local economy has responded by diversifying into manufacturing and service sectors, and the image of the area as an attractive place to live, work and visit is being transformed through investment and land reclamation, communications improvements, town centre regeneration and community development initiatives.

The area is diverse, comprising a mixture of urban, semi-urban and rural communities, with principal and secondary centres of population and commerce located at Aberdare, Mountain Ash, Pontypridd, Tonyrefail, Talbot Green, Treorchy, Tonypany and Porth. Recent and comprehensive programmes of land reclamation and servicing of sites have made significant areas of land available for housing, industrial and commercial development. However, the county currently shares the worst of the transport problems endemic within the Valleys sub-region.

Aims and Objectives

The aims of this report, as identified within the study brief, broadly include establishing an evidence base from which modern highway standards in relation to access, circulation and parking that will assist in meeting wider regeneration objectives, and facilitate the following:

- to provide the development industry with an early and broad indication of the requirements and standards that the Local Authority will expect from developments;
- to enable SPG to be used to update access, circulation and parking policies given the relative inflexibility of development plans; and

- to provide a more thorough outline within the LDP of the Council's likely highway requirements in an attempt to speed up the planning process by setting a much clearer framework to assess proposals

The Rhondda Cynon Taf LDP will provide for a new way of planning for the future of the County Borough. This follows major changes to the planning system which have been introduced by the Planning and Compulsory Purchase Act 2004. It sees the replacement of the old system of structure and local plans which, until the LDP is adopted, form the Development Plan for the County Borough. It is envisaged that the RCT LDP will include either policies and / or SPG that will set out the framework within which the Local Planning Authority will assess planning applications. In order to successfully complete this study it has been necessary to undertake research in respect of the following:

- to assess the robustness of the Council's existing transportation evidence base and undertake the primary research necessary to ameliorate deficiencies in relation to access, circulation and parking;
- to examine the feasibility and practicality of developing a policy for the development of town centres which seeks contributions for public car parks rather than individual provision; and
- to consider the feasibility and practicality of developing a 'Key Junctions' policy and identify those areas in which the policy will operate

It is appropriate to consider the objectives and goals outlined in the *Wales Spatial Plan* (November 2004), the SEWTA (January 2007) *Outline Regional Transport Plan* and The Rhondda Cynon Taf (January 2007) *Local Development Plan (2006-2021) Preferred Strategy* in conjunction with the aims and objectives of this study.

The Wales Transport Strategy (WTS) Consultation Document is the 'parent document' to Regional Transport Plans (RTPs) and sets out how the Welsh Assembly Government (WAG) proposes to deliver its transport duty to 2030. The WTS seeks to maximise the contribution transport can make to delivering a number of (15 in total) social, economic and environmental outcomes. The WTS Consultation Document has not been reviewed as part of this study as it is not yet available in the public domain.

Wales Spatial Plan (2004)

The Wales Spatial Plan (2004) sets out a strategy for South East Wales to strengthen and reintegrate the existing system of towns and cities so that the area functions as a coherent urban network, and can compete internationally. The Wales Spatial Plan suggests that the use of undeveloped land for housing in locations with high development pressure should be minimised, in particular to the south of and along the M4.

An effective integrated transport system is central to the effective functioning of the area, and the principal challenge is to achieve this in ways which reduce reliance on private cars, through improved public transport links. The integrated transport strategy for South East Wales will target improved bus, rail, inter-modal and park and ride services and

facilities for commuting to provide real options and reduce dependency on the car.

Outline of the Regional Transport Plan (SEWTA, 2007)

The South East Wales Transport Alliance (SEWTA) is a consortium of local authorities in south east Wales, working with partners, to improve the transport system in the area. SEWTAs core aim is to work for better co-ordinated and more effective transport for businesses in south east Wales. The vision of the RTP reflects SEWTAs core strategy of promoting a shift towards more sustainable modes of transport. The priorities documented in the RTP seek to:

- improve access to services, facilities and employment, particularly by public transport, walking and cycling;
- provide a transport system that increases the use of sustainable modes of travel;
- reduce the demand for travel;
- develop an efficient and reliable transport system with reduced levels of congestion and improved transport links within the SEWTA region and to the rest of Wales, the UK and Europe;
- ensure that land use development in south east Wales is supported by sustainable transport measures;
- make better use of the existing transport system;
- regenerate town centres, brown-field sites and local communities through appropriate transport provision;
- reduce the number and severity of road traffic casualties; and
- reduce the dominance of motor traffic on the local street scene to the benefit of residents, pedestrians and cyclists

The RCT LDP (2006-2021) Preferred Strategy

The Rhondda Cynon Taf *Local Development Plan (2006-2021) Preferred Strategy* provides a basis for meeting the economic, social and environmental needs of the area. As a general principle, the *Preferred Strategy* implies that development will be directed to locations that offer a choice of transportation. Particular importance will be placed on ensuring that development both supports and, where necessary, contributes towards the development of a modern integrated transport system.

The borough council will seek to implement transportation schemes and initiatives which will achieve sustainable regeneration, enhance the public realm, improve the economy, reduce congestion and improve road safety by:

- reducing the need to travel by private car;
- maintaining and improving accessibility for all sections of the community;
- supporting transportation schemes which benefit the economy of the county borough whilst seeking to minimise impact on the environment;

- supporting and enhancing public transport, walking and cycling provision and achieving integration of all modes of transportation; and
- minimising adverse effects of traffic and parking on local amenities and the environment as a whole

The availability of developable brownfield land in Rhondda Cynon Taf is a finite resource and it is clear that it cannot accommodate the growth requirements of the county borough. The development of brownfield and greenfield land will therefore be necessary to the strategy of the plan. It is important to note that the development and use of land throughout the county borough will be determined on the basis of the area's housing, economic and social needs, protection and enhancement of the natural and built environment, environmental capacity, prudent use of resources, transportation and infrastructure considerations, mixture of uses, high standards of design, and minimising energy consumption.

The economic development needs of Rhondda Cynon Taf will be met through the identification of some 300 hectares of land for general employment and business park use during the period 2006-2021. Emphasis will be given to the promotion of mixed use developments that promote the objectives of sustainability and environmental protection.

The LDP Preferred Strategy advises that all development proposals shall contribute to creating sustainable places, including integrated mixture of land uses, efficient use of land (especially in proximity to local amenities and public transport), high level of connectivity to existing centres by a wide range of travel modes and flexibility (in the context of changes in future requirements and circumstances).

Report Structure

The structure of the report is as follows:

- **Section 2** – Methodology
- **Section 3** – Rhondda Cynon Taf Design Guide Review
- **Section 4** – Design of Highway Access and Parking Layout
- **Section 5** – Car Parking Standards
- **Section 6** – Key Junctions Policy
- **Section 7** – A Guide to Transport Assessments
- **Section 8** – A Guide to Travel Plans
- **Section 9** – Planning Conditions and Obligations
- **Section 10** – Key Points from the Scoping Study

2 Methodology

Introduction

This chapter details the research methodology developed for this study in order to determine existing levels of access, circulation and parking within a range of differing land uses throughout the county borough.

The existing levels of access, circulation and parking have been assessed through the undertaking of extensive and relevant primary and secondary research. The research has provided a robust insight into the standards that have been applied, with particular reference to recent developments, and has revealed how closely these standards conform to current design guide recommendations. This will allow for instances of relaxations to the prescribed standards, perhaps permitted in an attempt to enhance the operational effectiveness of certain developments, to be identified.

The pertinent design philosophies and principles contained within the RCT (2000) *Residential, Industrial and Commercial Estate Roads Design Guide* (hereafter referred to as RCT design guide) have been discussed and compared with the design criteria upon which development according to land use within RCT and comparable areas throughout the UK are based.

Primary Research Programme

A substantial evidence base has been generated through investigation of a range of sites and land uses, along with variances within each development type, identified by RCT officers as representative of the existing situation in regard to access, circulation and parking of residential, commercial and industrial developments throughout the county borough.

Site Surveys

A standard proforma was produced to elicit key information in terms of site descriptions, the number and size of units, on and off-street parking provision, parking restrictions and controls, garage allocation and geometries, general geometry of access roads and footways, cycling provision, public transport accessibility and any access / circulation restrictions at each site visited.

An element of the reviewed sites included recently-built, predominantly residential, developments to ensure that the recently implemented standards can be compared with design standards for each land use based on RCT and other UK highway design guides (selected for review following discussions with RCT Planning and Transportation Officers). The surveys also assessed the level of access and parking that serves commercial and industrial estates, schools, community centres and health facilities within the county borough.

A review of existing housing estates of varying density and housing type has revealed how well they operate and whether they conform to prescribed RCT standards. An assessment of residential developments during weekday evenings (i.e. 18:00 onwards) and at weekends – at times

when a high proportion of residents are presumed to be present in their homes – allowed for the operational effectiveness of the ‘as built design’ to be determined. The rationale for surveying during weekday evenings and at weekends is that throughout a typical working week (i.e. between the hours of 09:00-17:00) the level of on- and off-street parking can be unrepresentative of the norm in residential areas as many people use their cars to travel to work in the day.

Garage Utilisation Levels

Research undertaken for the compilation of MfS confirms that garages are not always used for car parking, which this can create additional demand for on-street parking. The research revealed that, in some developments, less than half the garages are used for parking cars, and that many are used primarily as storage or have been converted to living accommodation. In determining what counts as parking and what does not, the MfS avows that whether garages count fully will need to be decided on a scheme-by-scheme basis. This will depend on factors such as the availability of other spaces (i.e. on-street parking), the availability of separate cycle parking and general storage capacity and the size of the garage. Larger garages can be used for both storage and car parking, and according to the MfS many authorities now recommend a minimum garage size of 6m by 3m.

Given that a large proportion of properties within the surveyed residential estates throughout the county borough included a single garage, a sample of 100 people were asked whether they have access to garage and whether they regularly use it for car storage purposes. The rationale for carrying out this research was to approximate what number of residents within the surveyed residential areas frequently utilise garage space, if it is provided. Furthermore, it was felt that basing garage utilisation on these assumptions would be more appropriate than asking each individual resident about whether a vehicle is regularly parked in the garage space. It is worth noting that the survey revealed that 52% of respondents have a garage within the curtilage of their property, of which 40% (i.e. 21 out of 100) regularly use it to park a vehicle.

Stakeholder Consultations

We have undertaken consultations with key stakeholders, including an RCT Fire Officer and Refuse Manager, to draw out any concerns or issues relating to gaining access and manoeuvring within residential developments in particular.

Secondary Research Programme

The rationale for the Secondary Research Programme was to extract information from relevant planning policy documents, RCT and UK best-practice design guidelines, recent planning submissions throughout the county borough, and documents (i.e. Transport Assessments and Regeneration Studies) submitted in accompaniment to planning applications. This study will also examine the feasibility and practicality of developing a policy for development in town centres that would encompass a defined hierarchical approach in securing developer contributions to off-

street public parking and assisting public transport or walking and cycling given the increasing density and congestion of urban areas throughout the county borough.

RCT Design Guidance Review

The RCT design guide provides guidance on the standard specification requirements for private residential, industrial and commercial developments throughout the county borough. The rationale for undertaking a review of the current guidance is to educe pertinent design philosophies and principles contained within the RCT design guide to allow for comparisons to be made between the design criteria upon which development schemes within the county borough and comparable areas throughout the UK (listed in the following) are based:

- Rhondda Cynon Taf (2000) Residential, Industrial and Commercial Estate Roads – Design Guide;
- South Glamorgan County Council (XXXX) County Highway Design Standards for Residential Developments;
- Gwent County Council (XXXX) Design Guide for Residential and Industrial Estate Roads;
- Caerphilly County Borough Council (2003) Residential and Industrial Developments, Highway Design Guide 1st Edition;
- Essex County Council (2005) The Essex Design Guide
- Lancashire County Council (1986) Residential Road Design;
- Cheshire County Council (1996) Design Aid: Housing, Industrial and Commercial Estate Roads;
- Devon County Council (XXXX) Residential Estates Design Guide – Highways and Footpaths; and
- Dorset County Council (2002) Highway Design Guidance for Estate Roads

Key Junctions Policy

It is becoming evident that where significant investment has taken place adjacent to major junctions or along strategic corridors throughout the county borough, the capacity of the local highway network has been affected by excessive levels of development (directly accessed from the junction).

A desktop study of 'key junctions' (i.e. accessible sites) and recent planning application submissions (i.e. 2003 to 2006) has enabled us to identify future development hotspot areas throughout the county borough. Therefore, it will be important to prioritise sites, in conjunction with the LDP growth areas (or strategic sites) that are capable of accommodating additional development without intensifying the highway capacity problems currently experienced throughout the county borough.

Transport Assessments

The following documents represent recent Transport Assessments (TAs) and Regeneration Studies that have been submitted to the Local Authority in accordance with planning applications or as strategic studies aimed at facilitating development throughout the county borough:

- Former Level Tips, Abernant Transport Assessment;
- 2nd Rhondda Hospital, Llwynypia Transport Assessment;
- Asda Tonypanydy Transport Assessment;
- Proposed Community Hospital, Mountain Ash Transport Assessment;
- Proposed Residential Development of 88 dwellings at Callwalders Yard, Llantwit Fardre;
- Proposed Residential Development at Land at Red Row, Cwmbach, Transport Statement; and
- Proposed Superstore development, Pontypridd Transport Assessment.

Regeneration Strategies

- Tonyrefail Town Centre Regeneration Strategy;
- Llantrisant Old Town Regeneration Strategy;
- Mountain Ash Town Centre Regeneration Study;
- Pontypridd Regeneration Strategy; and
- Porth Town Centre Regeneration Strategy.

Additional Documents

In addition, information has been elicited from the following relevant documents:

- Treorchy Town Centre Forum, Public Consultation Report;
- Planning Obligations Review; and
- Urban Capacity Study - Upper and Central Rhondda

3 Rhondda Cynon Taf Design Guide Review

This chapter compares the RCT (2000) *Residential, Industrial and Commercial Estate Roads Design Guide* criteria (road widths, junction sight lines, emergency access and corner radii) with the recently-released Manual for Streets (MfS, 2007) standards and a number of local authority design guides considered to go beyond traditional practice.

Residential

The latest revision of the RCT design guide was introduced to reflect the commitment of the Local Authority in reducing accident casualties by requiring developers to incorporate traffic calming principles into their design layouts. However, it is felt that the current RCT design guide places too much emphasis on accident reduction measures at the expense of innovative design.

It is widely acknowledged that rigid adherence to standards is considered counter to inspiring creativity and flexibility based on professionals exercising their judgment rather than basing everything on prescriptive standards. In the past street design has been dominated by some stakeholders at the expense of others, often resulting in unimaginatively designed streets which tend to favour motorists over other users. The recently-released MfS guidance intends to address this by encouraging a more holistic approach to street design, while assigning a higher priority to the needs of pedestrians, cyclists and public transport.

The MfS proposes that the Design Manual for Roads and Bridges (DMRB) is not an appropriate design standard for most streets, particularly those in lightly-trafficked residential and mixed-use areas. Traditionally, road hierarchies have been based on traffic capacity however MfS suggests that street character types in new residential developments should be determined by the relative importance of both their place and movement functions.

Table 3.1: *User hierarchy (taken from MfS, 2007)*

<p>Consider first</p>  <p>Consider last</p>	Pedestrians
	Cyclists
	Public transport users
	Specialist service vehicles (e.g. emergency services, waste, etc.)
	Other motor traffic

The MfS recommends that the design of a residential scheme should follow the hierarchy shown in Table 3.1, whereby pedestrians are considered first in the design process. The hierarchy set out in Table 3.1 is not meant to be rigidly applied and does not necessarily mean that it is always more important to provide for pedestrians than it is for the other modes. However,

they should at least be considered first, followed by consideration for the others in the order given. This will help to ensure that the street will serve all of its users in a balanced way.

Planning Policy Wales Technical Advice Note 18: Transport (TAN 18) proposes that streets have five principle functions; place, movement, access, parking and utilities. The design of new residential streets should be considered in the context of the particular locations, with carriageway widths (and other design / street specification criteria, as listed in Table 3.2) appropriate to the particular context and the street character. The MfS proposes that street-related design elements to consider include:

- the function of the street and its position in the Place and Movement hierarchy;
- the principal dimension of streets;
- junctions and types of traffic calming; and
- location and standards for on-and off-street parking, including car parks and parking courts, and related specifications

Table 3.2: Design criteria and street specification (taken from MfS, 2007)

Criteria	Street Specification		
	Standard Design	Variation 1 (One-sided parking)	Variation 2 (Variable Kerb)
Design Speeds			
Speed Limit	20 mph (at entrance)		
Control Speed	20 mph (internally)		
Street dimensions and character			
Minimum carriageway width	5.5 m		
Footway	2.0-3.0 m on each side		
Cycle way	No - Parallel routes provided on other streets		
Verge	No		
Private strip	2.0 m		
Direct vehicular access to properties	Yes		
Plot Boundary Treatment	2.0 m private area to building line with up to 1.0 m encroachment 0.9-1.1 m railing on plot boundary with footway		
Maximum number of properties served	Not restricted		
Public Transport			
Bus access	No		
Street design details			
Pull out strip	No		
Traffic calming	Features at 60 m-80 m c/c, parking, trees, formal crossings		Non parallel kerbs, variations in planting/ building lines, parking
Vehicle swept path to be accommodated	Removals/refuse vehicles enter and leave using own side of road only (assuming 20 mph)		Refuse vehicle passing car on street
On street parking	Yes, both sides, 2.0 m wide	Yes, one side, 2.0 m wide	Yes, one or both sides, informal
Gradients (footways)	1:15 Maximum, footway to follow carriageway		
Maximum forward visibility	33 m, 20 m (measured 1.0m out from kerb)		
Junction sightlines (x/y)	2.4 m/33 m		
Junction spacing-same side/other side	60 m/30 m		
Junction radii	4 m		

It is strongly recommended by the MfS that local authorities review their standards and guidance to embrace the principles of MfS. Table 3.3 provides an overview of a number of 'best practice' local authority residential design guides in comparison with MfS and RCT design guide criteria. Table 3.3 details any instances where local authorities have ventured away from suggested MfS standards, whilst also highlighting areas where RCT design guide standards can be relaxed or altered in order to achieve a more liveable street design.

Table 3.3: MfS versus RCT and other Local Authority design guide standards

Themes	Design aspects	Manual for Streets (2007)	Caerphilly CBC (2003)	Dorset County Council (2002)	Essex County Council (2005)	Lancashire CC (1986)	Rhondda Cynon Taf (2000)
Road width	Main road	5.5m	6.5m	5.5 – 7.3m	6.75 – 7.3m	6.75m	*7.3m
	Minor road	-	6.5m	5.6 – 7.0m	4.8m	6.0m (200-400 dwel)	6.75m
	Shared road	-	-	4.5m (+2 x 0.5m)	6.5m	-	5.5m
	Up to 50 dwellings	-	-	-	-	3.0m	5.5m
Footway widths		2-3m on each side	2.0m	2.0m	2.0m	1.8m	2.0m
Junctions	X dimension	2.4m	4.5 – 9.0m	2.4 – 9.0m (2m)	2.0 – 6.0m	4.5m	2.4 – 9.0m
	Y dimension	33m	33 – 90m	33 – 90m	33 – 90m	30 – 90m	60 – 90m
Emergency access	Access road widths	5m	-	-	Ref to MfS standards	-	-
Corner radii		4m	4 – 6m	6m min	6m min	4.2 – 10m	-

* where a bus route is not anticipated, a width of either 6.75m or 6.0m may be approved, subject to capacity requirements (para 3.2.2 pg 7)

Visibility Standards

The visibility provided along a link will affect the speed at which drivers choose to travel. Therefore the prevailing traffic speed can be influenced by the design of the environment. Visibilities are measured horizontally and vertically and should be checked at junctions and along the street.

Stopping sight distance (SSD) is defined as the minimum distance that drivers need to be able to see ahead of themselves, in order to stop if confronted by a hazard. SSD is usually related to the actual (for existing streets) or design (for new streets) 85th percentile wet weather speed of vehicles on the major link.

Table 3.4: Recommended Stopping Sight Distances (SSDs, taken from MfS)

Where road traffic speed known: (85th percentile wet weather)												
Observed traffic speed (kph)		120	100	85	70	60	50					
(mph)		75	62	53	44	37	30					
SSD (metres)		295	215	160	120	90	70					
Where road traffic speed not known:												
Speed limit (mph)		70	60	50	40	30	20					
SSD (metres)		295	215	160	120	90*	45*					
*Includes an allowance for motorists travelling at 10 kph above the speed limit												
85th percentile wet weather speed	(kph)	60	50	48	45	40	32	30	25	24	20	16
	(mph)	37	31	30	28	25	20	19	16	15	12	10
SSD (metres)		56	43	40	36	31	22	20	16	15	12	9

Visibility splays at priority junctions and crossroads enable drivers and other road users to see one another at points of conflict. The MfS proposes that a minimum x-distance of 2.4m should normally be used, as this represents a reasonable maximum distance between the front of the car and the driver’s eye. Using an x-distance in excess of 2.4m is not generally required in built-up areas or other areas in circumstances when junction capacity is not a relevant consideration. Longer x-distances are not safety critical, but do enable drivers to look for gaps as they approach the junction. Requirements for y-distance should be based on the SSD criteria included in Table 3.4, which details recommended values for SSD on streets in built-up areas.

Parking Standards and Layout

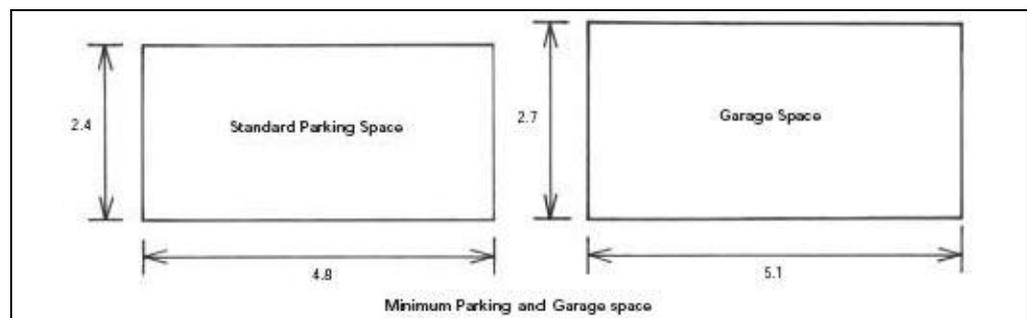
The RCT design guide asserts that parking requirements are assessed according to the traffic generated by the type of development and should accord with the South East Wales Transportation Forum (September 2001) Addendum to South Wales Parking Guidelines (1993). The MfS suggests that in determining maximum parking standards for new development, regard should be given to:

- public transport accessibility and opportunities or proposals for enhancement;
- targets and opportunities for walking and cycling;
- objectives for economic development including tourism;
- the availability in the general area of safe public on- and off-street parking provision; and

- potential for neighbouring or mixed use developments sharing parking spaces, for example at different times of the day or week

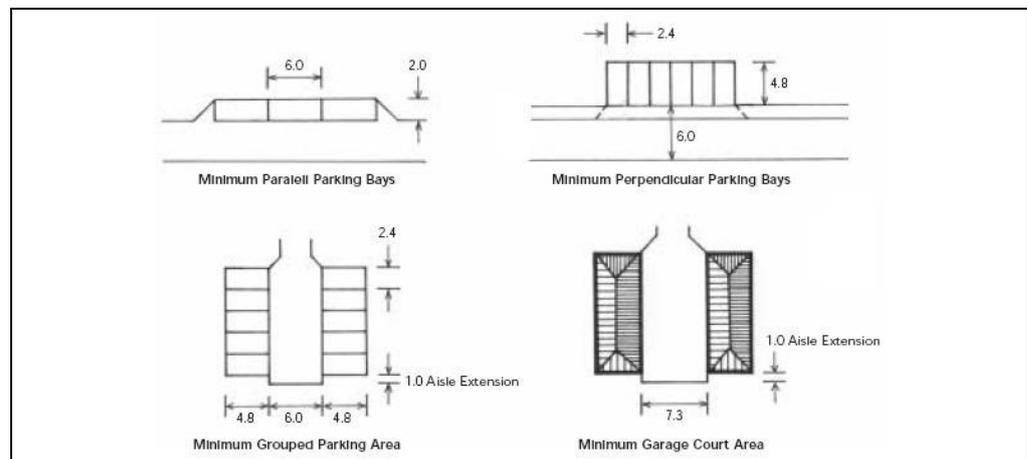
An obvious omission from the RCT guidance on parking layouts associated with residential developments relates to the allocation, siting and dimensions of garages. The RCT design guide refers to domestic garages in the context of possible conversion to habitable living space and the requirement for an additional car parking space to be provided within the cartilage of individual properties. The only diagrammatic representation included in the RCT design guide is the required layout and associated geometries of group parking bays for cars parked alongside the highway.

Figure 3.2: Standard parking and garage space dimensions (Dorset, 2002)



The Dorset County Council (2002) Highway Guidelines for Estate Roads provides comprehensive diagrammatic representations of minimum permissible geometries of parking bays, grouped parking areas and garage forecourt areas, as shown in Figures 3.1 and 3.2 respectively.

Figure 3.1: Parking bays and garage court area dimensions (Dorset, 2002)



It is important to note that the recommended parking layout design for residential developments outlined in the RCT design guide are largely consistent with the suggested parking layouts and dimensions for residential developments within comparable areas throughout the UK.

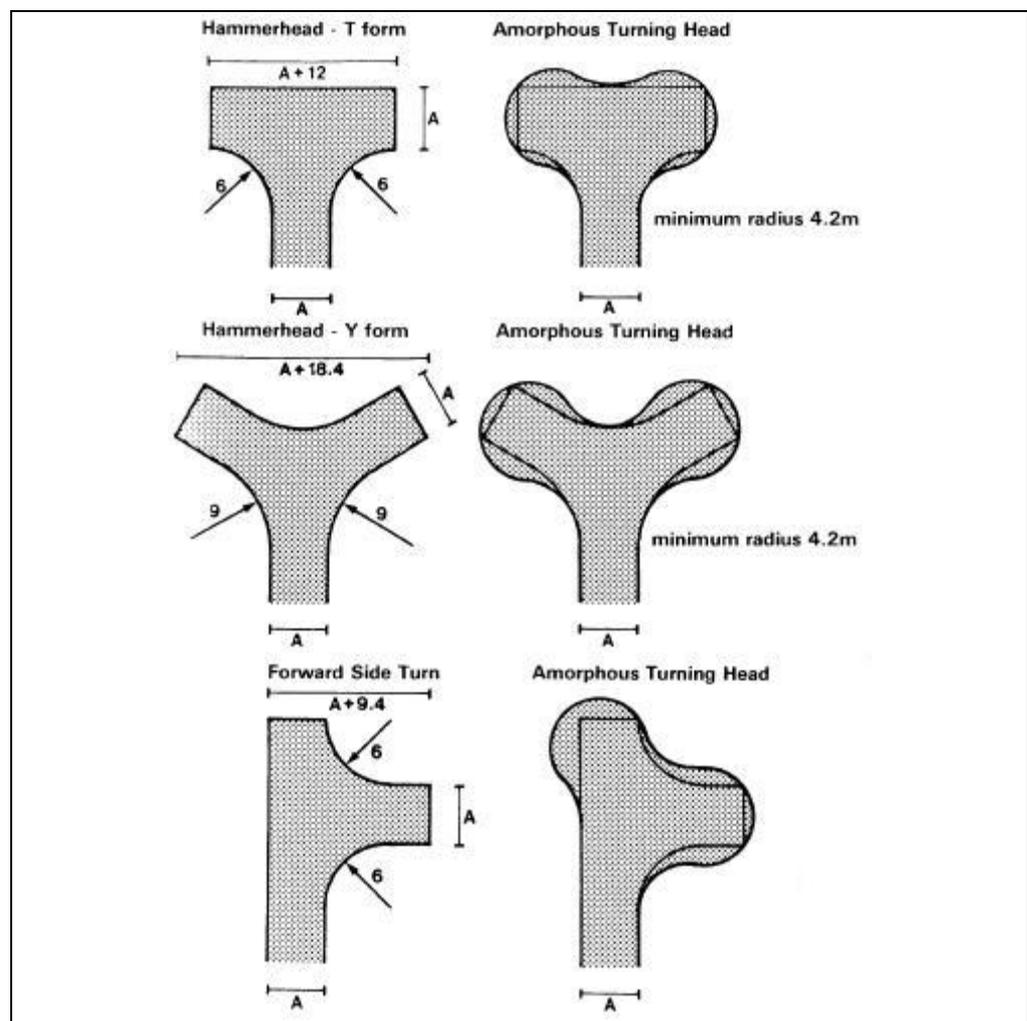
The MfS suggests that off-street parking bays (laid out as a rectangle) should measure at least 4.8m long by 2.4m wide for the vehicle, along with additional space to accommodate disabled users. The MfS recommends

that, in the absence of any specific local policy, 5% of residential car-parking spaces should be designated for use by disabled people. A higher percentage is likely to be necessary where there are proportionately more older residents.

Emergency service vehicle access / Refuse turning points

The requirements for emergency vehicles are generally dictated by the fire service requirements. There should be a minimum carriageway width of 3.7m between kerbs and if any authority or developer wishes to reduce the running carriageway width to below 3.7m, they should consult the local Fire Safety Officer (MfS, para 6.7.3).

Figure 3.3: Minimum turning head dimensions (Lancashire CC, 1986)



It is common for new residential developments to make adequate provision for safe and convenient maneuvering and turning of vehicles, based on the type and frequency which could be expected to use the roads. However, the RCT design guide does not take account of designing for refuse turning points and emergency service vehicles. Figure 3.3 provides examples of the typical amorphous minimum turning head dimensions ('A' = minimum

width for road type) included in the Lancashire County Council (1986) Residential Road Design Guide.

The MfS suggests that the design of local roads should accommodate service vehicles without allowing their requirements to dominate the layout. For cul-de-sacs longer than 20m, a turning area should be provided to cater for vehicles that will regularly need to enter the street (MfS, para 6.8.3).

The need to provide suitable opportunities for the storage and collection of waste is a major consideration in the design of buildings, site layouts and individual streets. A minimum street width of 5m is recommended to accommodate waste collection vehicles, but smaller widths are acceptable where on-street parking is discouraged (MfS, para 6.8.7).

Traffic calming measures

Research carried out in preparation of MfS found that reductions in forward visibility are associated with reduced driving speeds (MfS, para 7.4.4). Moreover, the MfS advocates that, for residential streets, a maximum design speed of 20mph should normally be an objective so that pedestrian activity is not displaced (MfS, para 6.3.19). The MfS indicates that evidence from traffic-calming schemes suggests that speed-controlling features are required at intervals of no more than 70m in order to achieve speeds of 20mph or less (MfS, para 7.4.3).

The design of new streets should be considered in the context of the particular location. Carriageway widths should be appropriate to the particular context and the street character. Streets should be designed to control vehicle speeds naturally rather than having to rely on traffic calming measures that involve vertical deflection. (TAN 18, para 5.10). Tightening corner radii and reducing carriageway widths, whilst permitting large vehicles to use the whole road to turn if their frequency is low, is an additional means of increasing pedestrian safety. In addition, that traffic calming can be enhanced through the strategic placing of on-street parking provision.

The RCT design guide advocates that residential road layouts are designed in a way that will keep traffic to the recommended speeds for the appropriate classification of the road. The current RCT design guide suggests that the principles of traffic calming are being introduced and that there are advantages to developers if 20mph speed limit zones were introduced within an area, in terms of the ability to successfully market the new housing. Despite reference to the implementation of 20mph speed limit zones it is not stated what measures could be introduced within new residential developments throughout RCT to achieve slower vehicle speeds within residential areas.

In terms of Local Housing Estate Distributor Roads, the RCT design guide recommends that the road alignment should be designed to restrict vehicle speeds to less than 30mph through the use of short lengths of road which are either straight or gently curved, interspersed with frequent bends of a severity commensurate with the maintenance of speeds of less than 30mph. There is a general presumption against designs that include a

predominance of raised traffic calming features, although it is suggested that the use of other features (e.g. carriageway narrowing or additional methods of reducing speed) may be agreed with RCT and incorporated into the design.

Home Zones

Home Zones aim to change the function of a street, whereas traffic calming still allows motor traffic to dominate the street. Although 20mph zones are a proven measure in reducing accidents, they do little to improve the quality of the street environment. It is worth noting that the RCT design guide contains minimal guidance on how the built form (i.e. street furniture, materials, signage and markings) can be used to influence the design and safety of road layouts.

The Essex Design Guide promotes Home Zone design as a successful means of incorporating the built form and local character of an area into the overall street layout. It is suggested that the Local Authority considers the implementation of Home Zone designs, where appropriate, to deliver an environment where motorists do not perceive that they have priority over any other users of the space. Appropriate measures can ensure vehicles cannot practically proceed at speeds much faster than walking pace, sustainable transport modes are both enabled and encouraged, requirements for parking are balanced with other design considerations and access is maintained for service vehicles.

Public transport

The RCT design guide refers to provisions for servicing new developments by bus, quantifies the need for a bus service and makes reference to designing for the bus. The MfS claims that streets on bus routes should not generally be less than 6m wide (although this could be reduced on short sections with good inter-visibility between opposing flows).

The RCT design guide advises that developers consult with the Local Authority and local bus operators at the beginning of the planning process in the event that the development layout design would need to accommodate bus movement, bus shelters, timetable information / type, laybys and the location of bus stops. Moreover, the RCT design guide makes reference to the provision of “bus only” links to provide a comprehensive network of routes between distributor and approach roads, whilst discouraging through-movement (para 2.2.1).

In future it may be appropriate for particularly large developments that generate high passenger numbers, and which are located at key points on the road network, to provide a public-transport interchange with comprehensive facilities. Examples of developments and locations might include major retail parks, hospitals, business parks, significant new housing estates, extensions to an existing major development where it will help to encourage greater use of public transport, developments at locations where bus routes intersect and where major corridors throughout the county borough intersect.

New or improved public transport provision has the potential to provide alternatives to private vehicle use and to change existing travel demands. Moreover, new park and ride (P&R) schemes could assist in maximising the opportunities presented by bus interchanges. Park and ride sites, where car users can meet and leave cars (and continue the journey in a shared vehicle), is an example where sustainability benefits are gained through reducing single occupancy journeys.

Footpaths and cycleways

The MfS advocates that there should not be a maximum width for footways, although it suggests that in lightly used streets (such as those with a purely residential function) the minimum unobstructed width for pedestrians should be generally 2m. The MfS suggests that footway widths should be varied between different streets to take account of pedestrian volumes and composition; streets where people walk in groups or near schools or shops, for example, require wider footways (MfS, para 6.3.23). It is therefore suggested that new development provides (or allows for) pedestrian and cycle connections to other nearby or proposed facilities.

The RCT design guide indicates that 2.0m wide footways on either side of the carriageway will be required within new residential developments. In exceptional cases (i.e. if only one footway is required) a 2.5m wide verge should be provided on the other side of the carriageway, and footways located outside schools or similar community facilities should measure at least 3.0m in width in areas where the public may congregate. It is advised that pedestrian links should be strategically sited to serve local facilities and services, such as bus stops and schools. When footpaths emerge on a local housing distributor road or onto the general road network, facilities to ensure safe crossing movements should be considered.

The MfS advocates that cyclists should generally be accommodated on the carriageway, although in areas with low traffic volumes and speeds, there should not be any need for dedicated cycle lanes on the street (MfS, para 6.4.1). The RCT design guide promotes the provision of cycle facilities within new developments in accordance with the Sustrans National Cycle Network Guidelines. It is recommended that cycleways measure 2.5m in width, with associated lighting and natural surveillance. In addition, shared facilities for both pedestrians and cyclists (measuring 3.0m) are also encouraged. It is worth noting that the recommended layout and provision of footway and cycle facilities associated with new residential developments in the RCT design guide is consistent with the *'best practice'* design guides.

Industrial and Commercial Estates

The sections of the RCT design guide assigned to the design of industrial and commercial estates make reference to a number of design philosophies, road hierarchies and standards, and road construction requirements for these land uses throughout the borough.

Table 3.5: Standards for Industrial and Commercial Estate Roads

	Approach road	Access road	Cul de sac
Speed (mph)	60	50	40
Carriageway width (m)	7.3	7.3	7.3
Maximum gradient (%)	10	10	12
Minimum centre line radius (m)	90	75	60
Kerb radius junction (m)	15	15	15
Footway width (m)	2.0m	2.0m	2.0m
Minimum visibility splay (m)	X 4.5m	X 4.5m	X 4.5m

The RCT design guide suggests that all industrial and commercial estate roads should measure at least 7.3m wide and include 2m wide footways and minimum junction radii of 15m. In terms of visibility splays, the same requirements for residential development will apply, with the 'x' distance in all cases measuring a minimum of 4.5m. Despite reference to the design of industrial and commercial estate roads with peak hour vehicle flows and pedestrians in mind, the guidance predominantly relates to design and construction-based criteria.

Parking requirements for industrial and commercial estates are assessed according to the traffic generated by the type of development, and the required parking standards are set out in the South Wales Counties Parking Guidelines (1993).

Summary

The latest revision of the RCT design guide was introduced to reflect an increased commitment to reducing accident casualties by requiring developers to incorporate traffic-calming principles into designs. Additional requirements include design for disabled persons, pedestrians and cyclists, and bus penetration where appropriate.

This document has been prepared in conjunction with TAN 18 (Transport) and Manual for Streets (2007), which replaces Design Bulletin 32 and provides technical guidance on street design. It is widely acknowledged that the MfS gives planners, urban designers, highway engineers and conservation officers a new mandate to work together on creative and

imaginative street design that will improve the quality of life for everyone. MfS represents a move from an approach based on standards to one that encourages innovation and judgement. The MfS proposes that many of the criteria routinely applied in street design are based on questionable or outdated practice, and revisions to key geometric design criteria is required to allow streets to be designed as places in their own right while ensuring that road safety is maintained.

The design principles and criteria contained within the RCT design guide are largely consistent with MfS and other '*best practice*' standards, although a notable proportion of the document details specifications for highway works, roads and street lighting, and guidance notes for prospective developers. Moreover, the priority that the guide places on sections relating to residential estate design follows an illogical structure (i.e. Section 4: Highways in Conservation areas before Section 5: Provisions for Servicing New Developments by bus) and should be reviewed and re-structured.

The RCT design guide lacks diagrammatic representations of infrastructure and design requirements throughout. It is worth noting that despite reference to 20mph zones there is no mention of recognised measures to increase pedestrian safety (i.e. through Home Zone design principles). The RCT design guide would also benefit from a section on Designing out Crime. Reference material could be gained from the Designing Out Crime Association (DOCA) at [Introduction to Designing Out Crime Association](#).

The content and format of any future version of the RCT design guide should incorporate the simplicity, clarity and style of the current Essex Design Guide. This would feature a stand-alone design guide document with a separate appendix for detailed road design and other standard engineering specifications. The stand alone document would place greater emphasis of designing for public transport penetration, relaxing radii etc in accordance with Home Zone principles. Changes of this nature would make for a more user-friendly document and bring the important and emotive issues that should help to reduce the reliance on the car to the forefront of the designer/developer thought process.

The RCT design guide does however make reference to a requirement for developers to provide facilities for disabled persons and cyclists and to make provision for buses to penetrate residential areas (para 1.2.1, pg 1). The RCT design guide also encourages developers to create layouts that have a distinctive character in their built environment, whilst achieving a safe environment for pedestrians, cyclists and motor vehicles (para 1.2.3, pg 1). Furthermore, it is desirable that road layouts are now produced which will keep traffic to recommended speeds for the appropriate classification of the road, and the design guide make reference to the advantages of 20mph speed limit zones (para 1.2.4).

4 Design of Highway Access and Parking Layout

This chapter explores the operational effectiveness of current RCT design standards as applied to access roads and car parking layouts associated with residential, commercial, office and industrial developments throughout the county borough.

Introduction

The MfS suggests that carriageway widths should be appropriate for the particular context and uses of the street. Key factors to take into account include the volume of vehicular traffic and pedestrian activity, the traffic composition, parking distribution (i.e. on or off-street), the design speed (recommended to be 20mph or less in residential areas), the curvature of street bends and any intention to include one-way streets.

The MfS supports the introduction of smaller corner radii with restricted sight lines and is recommended as a means of facilitating slower and more careful movement for vehicles, while reducing distances for pedestrians to cross roads. Streets should be designed to accommodate a range of vehicles from private cars, with frequent access requirements, to larger vehicles such as delivery vans and lorries, needing less frequent access. However, meeting the needs of drivers in residential streets should not be to the detriment of pedestrians, cyclists and public transport users. The aim should be to achieve a harmonious mix of user types (MfS, para 6.6.1).

Primary Research Findings

An evidence base into the design of highway access and parking layout was amassed through the undertaking of site visits to a range of sites and land uses, which also included variances within each development type. The information recorded at each site included a general site description, the number (and size) of units, on and off-street parking provision, parking restrictions and controls, garage allocation and geometries, general geometry of access roads and footways, cycling provision, public transport accessibility and any access / circulation restrictions at each site visited. The general findings of the site visits are outlined in the following, with detailed survey results detailed in Appendix A.

Residential Estates

The residential sites identified for investigation included developments of varying density and housing type, and include the Duffryn Dowlais Estate, a Barratt Homes development at Church Village; the Maes y Gobaith Estate, a Llanmoor Homes development at Llanharan, and; the Housing Association dwellings at Ashdown Court, Cylfynydd. The housing composition of these developments ranges from 2/3 bed linked dwellings to 4/5 bed detached properties, although the actual housing type is largely uniform within each residential development. This ensures consistency and continuity in terms of household design.

Table 4.1: Observed geometries and standards within Residential Estates

Dev Name	No. of units	Parking	No. of garages	Access rd width	Footway width	Distance to public tran.
Duffryn Dowlais	349	663	367	7.3m	1.85m	~500m
Maes y Gobaith	243	370	188	7.3m	1.9m	~500m
Ashdown Court	21	36	0	5.5m	1.7m	~250m

The reviewed residential developments are all recently-built (i.e. completed within the last 3 years) and, as such, the observed standards are reflective of current local authority highway design standards and requirements. Pedestrian footways were generally observed to be to standard (i.e. 1.8m in width) and are present on both sides of the carriageway to linkages to the wider pedestrian network and bus stops that are generally within 500m of each residential development. Despite sufficient provision for pedestrians it was noted that cycling infrastructure (i.e. cycle paths) had not been installed at any of the residential sites surveyed.

The junction and forward visibility at access and egress points to each residential development is deemed sufficient to allow drivers to see pedestrians or traffic prior to pulling out of a junction (or driveway). The visibility splays at the assessed residential developments ranged from 90m in each direction at the Station Road / Coed Dowlais priority junction access / egress point to the Duffryn Dowlais estate; 60m in each direction at the Silverhill Close / Ashdown Court priority junction access / egress point to the Silverhill Close (Housing Association) development, and; 40m in each direction at the A473 Bridgend Road / St Peters Avenue roundabout access to the Maes y Gobaith estate. Whilst the ranges in visibility vary between 40-90m, these sites have been treated in their own merit and depend on the character and nature of the main road.

The use of traffic calming features (i.e. raised plateaus) or carriageway narrowing as a means of reducing vehicle speeds had not been implemented in any of the residential sites visited. However, the Local Housing Estate Distributor Roads serving the residential generally incorporated the use of short lengths of either straight or gently curved road interspersed with frequent bends of a severity commensurate with the maintenance of speeds of less than 30mph.

Commercial Estates

Commercial estates are, by their very nature, areas where people are employed and, as such, Commercial Estate Roads and general highway infrastructure should therefore provide safe and easy access for all modes of transport, particularly heavy goods and public transport vehicles. With

walking and cycling being actively encouraged, it is important to ensure that the interests of pedestrians and cyclists are provided for and safeguarded.

Table 4.2: Observed geometries and standards within Commercial Estates

Dev Name	Parking type and size (m)	No. parking spaces	Parking restrictions	Major rd width (m)	Footway width (m)	Dist. to public tran.
Lloyds TSB Call Centre	Parallel (2.4 x 4.8m)	436	Double yellow on periphery	7.3m	1.8m	50m
GMEX Financial	Parallel (2.4 x 4.8m)	179	None	7.3m	1.8m	~300m
Navigation House	Parallel (2.4 x 4.8m)	88	None	7.3m	1.8m	>500m
AGK UK Ltd	Parallel (2.4 x 4.8m)	47	None	7.3m	1.8m	>700m
Job Centre Plus	Parallel (2.4 x 4.6m)	23	On-street parking	5.5m	1.8m	~300m

Prioritisation of commercial sites for survey by RCT officers include the Lloyds TSB Call Centre (Bridgend), GMEX Financial Services (Parc Nantgarw), Navigation House (Innovation Centre, Abercynon), AKG UK Ltd (Parc Eirin, North West of Tonyrefail) and the Job Centre Plus (Porth). These sites vary in terms of accessibility from the principal highway network, proximity to urban centres, provision of public transport terminals, and provision of walking and cycling infrastructure, as shown in Table 4.2.

Lloyds TSB Call Centre (Bridgend)

The Lloyds TSB Call Centre is located close to the M4 Junction 35 which represents the convergence point of a number of principal routes that ultimately serve regional settlements as well as valley communities. The building is served by 436 parking spaces (measuring 2.4 x 4.8m) which were observed to be approximately 80% utilised at the time of the site visit (09:30). The allocation of parking is considered generous, and is likely to be in excess of 1 space per 30-40m² (as per South Wales Parking Standards) given the size of the building. However, it is worth noting that call centre employees often work shift patterns which necessitates a high level of parking requirement.

Parking restrictions, denoted by double yellow lines, are in place on the extremities of the site and at the time of the site visit overspill parking was not apparent due to the availability of parking spaces. In addition, footways measuring 1.8m are present on both sides of the carriageway accommodate pedestrian movements to a bus stop located adjacent to the site, which could represent a viable alternative to private car travel.

GMEX Financial Services (Parc Nantgarw)

GMEX Financial Services is located within Parc Nantgarw and is accessible via a single point of access that forms a priority junction with Heol Y Gamlas. The Heol Y Gamlas carriageway is 7.3m wide, with 1.8m footways on either side, and provides access to a number of other commercial premises. The Heol Y Gamlas / Site Access Road priority junction affords visibility splays of 90m in each direction in addition to a forward visibility in excess of 90m.

The building is served by 179 parallel parking spaces (measuring 2.4 x 4.8m) which were observed to be 71% utilised at the time of the site visit (10:30). The parking layout associated with the site is to standard and the allocation of spaces sufficiently accommodates parking demand, although a number of vehicles were observed to park in designated delivery bays or in areas assigned to facilitate pedestrian access to the building from the wider pedestrian network.

Despite the absence of parking restrictions (i.e. double yellow lines) within the confines and periphery of the site overspill parking was not seen to be an issue due to the availability of parking spaces within the site. In addition, footways measuring 1.8m are present on both sides of the external carriageway, which accommodates pedestrian movements to a bus stop located on Heol Crochendy, approximately 300m from the site.

Navigation House (Valleys Innovation Centre, Abercynon)

Navigation House is located on the Valleys Innovation Centre site at Abercynon, and is accessible via a single point of access that forms a priority junction with Martin's Terrace. The Martin's Terrace carriageway is 7.3m wide, with 1.8m footways on both sides.

The building is served by 88 parallel parking spaces (measuring 2.4 x 4.8m) which were observed to be 93% utilised at the time of the site visit (11:30). The parking layout associated with the site is to standard, however a total of 16 vehicles were observed to park outside designated parking spaces with the confines of the site. In addition to the internal car park overspill (16 vehicles) 11 vehicles were observed to park illegally at and close to the Martin's Terrace / Site Access Road priority junction. This overspill parking has the effect of severely compromising the visibility of vehicles exiting the Navigation House site. Despite the obvious car park overspill problems, it is important to note that refuse vehicle access is not compromised.

AGK UK Ltd (Parc Eirin, North West of Tonyrefail)

AGK UK Ltd is located within Parc Eirin, north west of Tonyrefail, and is accessible via a single point of access that forms a priority junction with the Commercial Estate Road (CER) that penetrates the site. The CER carriageway is 7.3m wide, with 1.8m footways on either side, and provides access to additional premises located on the Parc Eirin site. The Commercial Estate Road / Site Access Road priority junction affords visibility splays of 30m and 50m to the left and right respectively, with a forward visibility of approximately 70m. It is worth noting that the visibility of

vehicles exiting the AGK UK Ltd car park is compromised by a hedge that limits the left visibility to 30m.

The nearest bus stop (Stagecoach 153 service) is located on Mountain View, approximately 600m from the Parc Eirin site. However, it is important to note that pedestrian movements between the Parc Eirin site and the Mountain View bus stop are unlikely to occur due to the absence of pedestrian footways adjoining the carriageway.

The building is served by 47 parallel parking spaces (measuring 2.4 x 4.8m) which were observed to be 96% utilised at the time of the site visit (15:30). The parking layout associated with the site is to standard, however a total of 3 vehicles were observed to park outside designated parking spaces with the confines of the site. In addition to the internal car park overspill (3 vehicles) 18 vehicles were observed to park illegally at and close to the Commercial Estate Road / Site Access Road priority junction. This overspill parking has the effect of reducing the Commercial Estate Road carriageway width to the extent that the passing of two vehicles cannot be achieved.

Job Centre Plus (Porth Town Centre)

The Job Centre Plus building is located on Hannah Street (Porth), with pedestrian access only permitted via a frontage entrance. A one-way system has been implemented along Hannah Street which represents the main retail area within Porth. Footways measuring 1.8m in width are provided on both sides of the Hannah Street carriageway, and the one-way system in operation has resulted in a narrowing of the carriageway to 5.5m to accommodate on-street parking on the western side of the carriageway.

Parking provision along Hannah Street affords 23 on-street parking spaces, all of which were utilised at the time of the site visit (15:00). In addition, a total of 4 delivery / loading bays are sited along Hannah Street, all of which were also fully utilised at the time of the site visit. Parking restrictions along Hannah Street apply between 0800 and 1800 (mon-sat), and patrons are entitled to a 1-hour stay with no return. Double yellow lines have been installed on the eastern side of the Hannah Street carriageway, and 2 vehicles were observed to be illegally parked.

In addition to the on-street parking allocation on Hannah Street a free public car park located to the rear of the Job Centre Plus building is accessible via a one-way access point from Hannah Street. This public car park provides patrons of Porth Town Centre with 31 (including 3 disabled) parallel parking spaces which were observed to be fully utilised at the time of the site visit (15:00). The layout of the public car park is to standard, however 3 vehicles were observed to park outside the 31 designated parking spaces. In addition, twenty residents-only parking spaces are provided along West Taf Street, sixteen of which were occupied during the time of the site visit.

Summary

The site visits revealed that Navigation House (Valleys Innovation Centre, Abercynon) and AGK UK Ltd (Parc Eirin, North West Tonyrefail) currently

experience the most notable problems in terms of access, circulation and parking. A high degree of parking utilisation was observed to result in overspill parking at or close to Distributor Road / Access Road priority junctions that had the effect of compromising visibility and safety for vehicles (shown in Photos 1 and 2) at the respective locations.

Photos 1 & 2: *Compromised visibility at Distributor Road / Access Road priority junctions serving Navigation House (left) and AGK UK Ltd (right)*



The occurrence of parking on internal Access Roads was prevalent within certain some of the Commercial Estates visited, however vehicle movements were not compromised and provision for emergency and refuse vehicles to access and manoeuvre within the confines of the sites was maintained. In addition, the layout of parking bays associated with each commercial unit surveyed it to standard (i.e. 2.4m x 4.8m) which facilitates the free passage and movement of all vehicle types within each site.

It is worth noting that planning applications have been submitted for the development of additional commercial units at the Valleys Innovation Centre and Parc Eirin sites respectively, which has the potential to further compound the parking overspill problems already encountered at both locations. Indeed, the parking overspill observed to occur on Distributor Roads that surround a Commercial Business Park in Cardiff (shown in photos 3 and 4) provides an insight into the overspill problems that could prevail in the future on the aforementioned sites.

Photos 3 & 4: *Access and circulation problems resulting from parking overspill onto Commercial Estate Distributor Roads, Cardiff*



The RCT design guide currently recommends minimum Commercial Estate Road (CER) carriageway widths of 7.3m (with 2m wide footways) and junction radii measuring a minimum of 15m. However, it is proposed that a narrowing of Commercial Estate Distributor Roads (to 6.1m) will prohibit parking overspill and ensure the free-flow of vehicles throughout future Commercial Estates. It is suggested that all carriageway narrowing should be accompanied by stringent parking control / enforcement measures. The issue of suitable parking enforcement measures in locations away from town centres (i.e. where regular patrols by wardens may be unrealistic) will therefore require additional consideration.

The narrowing of Commercial Estate Distributor Roads could be implemented in conjunction with a widening of internal Access Roads to accommodate on-street parking in suitable locations (i.e. away from junctions). The introduction of parking restrictions (i.e. double yellow lines with enforcement) would increase visibilities (and safety) at and around Distributor Road / Access Road priority junctions. Furthermore, it is recommended that kerb radii at junctions should measure 12m at commercial vehicle accesses (i.e. business parks) and 10.5m in urban areas of high pedestrian movement. Footway widths of 1.8m would generally be acceptable.

This research has considered the operational requirements of public transport providers in Rhondda Cynon Taf and it is apparent that frequent public transport services throughout each weekday and at weekends with routes to local residential, recreational and shopping areas and other public transport interchanges, are not within a reasonable walking distance (i.e. 400m maximum) of the Navigation House (Valleys Innovation Centre, Abercynon) or AGK UK Ltd (Parc Eirin, North West Tonyrefail) units.

Travel Plans should be submitted alongside planning applications that are likely to have significant transport implications. Given that access to public transport services is considered essential to reduce the reliance on the motorcar as a means of travel, design proposals for any future development on these and other commercial sites should incorporate the necessary infrastructure needed to address sustainable travel modes (i.e. footpaths and cycle track links including road crossings, bus lanes, stops and shelters, bus only gates etc). In addition, it was noted that there were no allocated spaces for shared car trips which should be addressed in an attempt to reduce the number of single occupancy vehicle trips.

Industrial Estates

It is considered essential in the interests of highway and pedestrian safety that Industrial Estate Roads (IER) can accommodate the manoeuvres of the vehicles that use them. The normal permissible width of heavy goods vehicles (HGVs) is 2.5m, and therefore to permit sufficient clearance to the edge of carriageway and between opposing traffic flows all two-way industrial estate roads should have an unobstructed minimum width of 7.3m for minor IER's and 10.0m for major IER's, with local widening on bends when necessary.

Table 4.3: Observed geometries and standards within Industrial Estates

Dev Name	Parking type and size	No. parking spaces	Restrictions	Major rd width	Footway width	Dist. to public tran.
Riverside Plastics	Echelon (2.8 x 6.0m)	22	Double yellow lines in site	10.0m	1.8m	30m
Ribbons Ltd	Parallel (2.6 x 5.0m)	22	None	7.3m	1.8m	>700m

Riverside Plastics (Treforest Industrial Estate)

Riverside Plastics is located within Treforest Industrial Estate and is ultimately accessible via a priority junction with The Willowford, a 7.3m wide carriageway with 1.8m footways on either side that provide access to a number of additional commercial and industrial premises and the wider pedestrian network. The Willowford forms a priority with A4054 Main Road, a 10m wide carriageway with 1.8m footways on either side that represents the principle route through Treforest Industrial Estate.

The A4054 Main Road represents the main distributor road through Treforest Industrial Estate and currently encounters problems associated with parked cars despite the high degree of public transport penetration. The nearest bus stop is located on the northern side of the A4054 Main Avenue carriageway (i.e. opposite the Riverside Plastics building), with bus services 18, 19, 132, X5 and X6 that provide a high level of public transport accessibility to local and regional centres. The site is adjoined by a traffic-free cycleway, however cycle parking is not provided within the vicinity of the Riverside Plastics building. The Willowford / A4054 Main Road junction affords visibility splays of >90m in both directions, with a forward visibility of >100m.

The building is served by 22 echelon parking spaces (Measuring 2.8 x 6.0m) which were observed to be 95% utilised at the time of the site visit (10:30). The parking layout associated with the site is to standard and appears to sufficiently accommodate parking demand. Despite parking restrictions (double yellow lines) prohibiting parking at the front of the building two vehicles were observed to park in designated delivery bays.

Ribbons Ltd (Cae Mawr Industrial Estate, Treorchy)

Ribbons Ltd is located on the Cae Mawr Industrial Estate at Treorchy, and is ultimately accessible via a priority junction with the Industrial Estate Road, a 7.1m wide carriageway with 1.8m footways on either side that provide access to a number of additional commercial and industrial premises and the wider pedestrian network.

The Industrial Estate Road forms a priority with A4058 High Street, a 7.3m wide carriageway with 1.8m footways on either side that represents a principle route to and through Treorchy. The Industrial Estate Road / A4058 High Street priority junction affords visibility splays of approximately 50m in both directions, with a forward visibility of approximately 70m. The nearest bus stop to the Ribbons Ltd unit is located on the western side of A4058 High Street, approximately 700m from the Ribbons Ltd building with Stagecoach operating services 120 and 130.

The building is served by 22 parallel parking spaces (Measuring 2.6 x 5.0m) which were observed to be 64% utilised at the time of the site visit (11:30). The parking layout associated with the site is to standard and the allocation of spaces appears to sufficiently accommodate parking demand. It is worth noting that there was no evidence of overspill parking from the Ribbons Ltd building or from nearby premises, and there was ample space for the manoeuvring of emergency and refuse vehicles within confines of the site.

Summary

The site visits revealed that the Industrial Estates surveyed provide sufficient access, circulation and parking provision for all road users and vehicle types. Consultations with key stakeholders, including an RCT Fire Officer (Alison Kibblewhite, South Wales Fire Brigade) and a Local Refuse Operation Manager (Paul Uren), identified issues relating to gaining access and manoeuvring within developments of differing land uses throughout RCT.

It was reported that access and manoeuvring of emergency service vehicles can be problematic in residential developments, particularly in areas that predominantly include traditional terraced houses. In addition, in some instances traffic calming via chicanes had prohibited the path of vehicles and speed cushions are generally not favoured as they reduce response times. It is important to note that refuse vehicles have no problem manoeuvring in dedicated turning areas / heads, particularly in new residential estates throughout the county borough. However, refuse (and emergency service) vehicle access along terraced streets is often prohibited when parked vehicles adjoin both sides of the carriageway, as the minimum permissible passing width (i.e. 3.65m) of a refuse vehicle cannot be accommodated. Moreover, illegally-parked vehicles, particularly within the Cynon Valley, often restrict refuse vehicle movements within residential and commercial estates.

Issues to be considered in the SPG

From the work undertaken to date, the following are some of the areas that the SPG should consider the following salient issues:

General

- examine parking levels in special circumstances (e.g. brownfield regeneration sites) in close proximity to residential areas to ensure parking overspill does not ensue;
- ensure design proposals for all development types consider the necessary infrastructure needed to promote sustainable transport (i.e. footpath and cycle tracks, road crossings, bus stops and shelters, bus only gates etc);
- consider, through consultation (and partnership) with the bus companies, a means of assisting the efficiency and quality of the bus services by investment in bus priorities, information systems and improved bus terminals and stops where appropriate;
- encourage the location of development near other related uses to encourage multi-purpose trips;
- where a number of sites are to be developed in close proximity, bus, walk and cycle provision should be considered for the area as a whole

Residential

- ensure new residential developments are connected to other residential developments and nearby settlements by footways and public transport in a sustainable fashion;
- developers should be able to demonstrate that the development will facilitate access by new residents to public transport stops, local shops and facilities by walking and cycling;
- Home Zone design principles, that incorporate a tightening of corner radii and reduced carriageway widths, as a means of lowering vehicle speeds and creating pedestrian-friendly environments throughout new residential developments;
- the inclusion of a garage for car storage as part of a residential dwelling should be on the basis that there is sufficient space for the intended purpose;

Community

- highway designs that incorporate 20mph speed restrictions and clearly-defined designed drop-off and collection points outside and close to community facilities (i.e. new schools)

Commercial

- reducing kerb radii (15m is currently recommended) to 12m at commercial vehicle accesses (i.e. business parks) and 10.5m in urban areas of high pedestrian movement could help to prevent on-street parking and congestion;

- narrowing distributor roads that provide access to business parks from 7.3m (current minimum) to 6.1m could also help to prevent on-street parking;
- all carriageway narrowing should be accompanied by stringent parking control / enforcement measures. The issue of suitable parking enforcement in locations away from town centres (i.e. where regular patrols by wardens may be unrealistic) will therefore require additional consideration;
- widening internal access roads to accommodate on-street parking along sections that would not compromise access, circulation and safety would help to combat parking on the surrounding distributor roads;
- introduce appropriate traffic and waiting orders that enforce no parking on footways and consider the provision of on-street parking for visitors within business parks;
- public transport provision from the first occupation the site with good links to the pedestrian environment

Industrial

- encourage developments that generate significant freight and commercial movements to locate close to roads designed and managed as traffic distributors

5 Car Parking Standards

The county borough exhibits a wide range of social and economic circumstances that necessitates a flexible approach to the setting of maximum parking levels at a local level. However, it is essential that the setting of parking standards takes account of location land-use types and accessibility. This chapter considers parking standards that apply to residential, office, industrial, retail and town centre, places of entertainment, community and educational establishments throughout the county borough and the UK.

The South Wales Parking Guidelines (1993 & 2001 Addendum)

The South Wales Parking Guidelines (1993 & 2001 Addendum) provide a guide to parking requirements according to land use and type of development. The application of parking guidelines is intended to help reduce traffic growth, reduce reliance on the car and encourage the use of alternative means of travel. These objectives are balanced against the need to limit on-street parking and, in turn, congestion, danger and visual intrusion, and limit any harmful impact on urban regeneration and competitiveness throughout the region.

In assessing the parking requirements, the planning authority will need to take into account a number of factors in relation to the development and its location. These are listed below, however it should be noted that some of these factors are outside direct planning control:

- the service provided by the public transport system;
- the provision of works buses or the extent of car pooling;
- the relative proportion of male/female employment or the local catchment of labour (i.e. within walking distance);
- the existing and possible future congestion in streets adjacent to the development; and
- the provision of public car parking space in the vicinity of grouped car parks on industrial estates

The above guidelines are divided into central areas and non-central areas. The central area includes the principal shopping and business area, characterised by groups of multiple stores and local branches of national companies (e.g. Pontypridd). Non central areas encompass all built-up and rural areas, and the full operational standard will normally be expected and the non-operational standard for employees vehicles and, in certain cases for visitors.

The non-operational parking guidelines for non-residential developments constitute maximum parking provision, in line with Planning Policy Wales (March 2002) and the Addendum to the South Wales Parking Guidelines (2001). It should be noted that only operational parking guidelines are applied in Central Area, as non-operational parking will be provided in public car parks or in limited waiting on-street areas.

Planning Policy Wales (2002)

Planning Policy Wales (March 2002) sets out the planning policies as they apply in Wales. It includes guidance on car parking provision (paras 8.4.1 – 8.4.6), which is viewed as a ‘major influence on the choice of means of transport and the pattern of development.’ It outlines that local authorities should ensure new developments provide lower levels of parking as minimum parking standards are no longer seen as appropriate. It also encourages local authorities to collaborate with neighbouring authorities when considering parking issues in order to establish maximum levels of parking for broad classes of development, together with a threshold size of development above which such levels will apply (para 8.4.3.). The importance of conducting travel assessments is also identified as they can ‘provide the basis for negotiation on schemes, including the levels of parking’ (para 8.7.2).

Technical Advice Note 18: Transport (2007)

Planning Policy Wales Technical Advice Note 18: Transport (TAN 18) should be read in conjunction with Planning Policy Wales (2002) which sets out the land use planning policies of the Welsh Assembly Government.

TAN 18 suggests that a co-ordinated approach to parking provision should be pursued at both regional and local levels. Regional parking frameworks should be developed as part of the Regional Transport Plan (RTP) and the development of strategies of the corresponding development plans. The frameworks should be based on robust evidence to ensure a sound approach to addressing demand management whilst being sensitive to local needs and differences in accessibility.

TAN 18 recommends that LPAs should use the regional framework as a common starting point and then identify parking issues of a local nature to be addressed in the LDP, including any justification for departing from the regional framework. Moreover, local parking strategies have a role setting maximum parking standards within the parameters set by the regional framework, or a default role if regional maxima are not set. The full range of issues local strategies could address are:

- maximum parking standards;
- the need for new parking provision for the public;
- balancing on and off site parking provision and managing the effects of displaced or ‘over-spill’ parking;
- planning obligations relating to parking management and provision;
- local disability and cycle parking standards; and
- parking design / dimensions

Development plans should include policy relating to how the parking strategy will be applied to development, providing the link to any SPG, and where necessary, indicating any spatial differences in parking standards.

TAN 18 suggests that maximum car parking standards should be used at regional and local levels as a form of demand management. It is very

important to note that TAN 18 asserts that **turning maximum standards into minimum standards will not necessarily be appropriate**. Therefore evidence based on the likely effects of different parking levels for each land use should be considered, including consideration of the relative locations of land uses and their consequent accessibility.

Required parking for those with disabilities should be fully specified in any adopted parking strategy in terms of space dimensions and proportions of the total number of spaces.

In determining maximum parking standards for new development, regard should be given to:

- public transport accessibility and opportunities or proposals for enhancement;
- targets and opportunities for walking and cycling;
- objectives for economic development including tourism;
- the availability in the general area of safe public on- and off-street parking provision; and
- potential for neighbouring or mixed use developments sharing spaces, for example at different times of the day or week

It is suggested that parking charges may be used as an instrument to encourage the use of alternative modes, and to target particular forms of travel for restraint, such as commuter journeys. Parking charges and enforcement of parking restrictions should not appear as policies in development plans unless they relate to the use of planning obligations. However, charging and enforcement can be included in the reasoned justification in support of land-use policies and proposals for the management of traffic. They should be incorporated with any local parking strategy that is adopted as SPG.

TAN 18 stresses that maximum parking standards should not be applied so rigidly that they become minimum standards. Maximum standards should allow developers the discretion to reduce parking levels. However, a particular concern with reduce on-site parking is the potential for problems associated with 'over-spill' parking.

Local planning authorities when developing the local strategy or applicants when undertaking a transport assessment should assess the extent of existing on-street parking pressures and the impact of new development. Where on street space is at a premium, local planning authorities could seek contributions from developers towards the implementation of on-street parking controls or refuse permission for developments where despite controlled parking, unacceptable road safety or congestion issues will probably remain.

Primary Research Findings

Gaining an understanding of parking standards associated with a range of land uses throughout the county borough was achieved through recording on and off-street parking provision, parking utilisation levels and parking restrictions in place at each of the surveyed sites. The general findings of the site visits in the context of residential, commercial and industrial estates

are outlined in the following, with comprehensive survey results detailed in Appendix A.

Parking provision within residential estates was observed to predominantly include off-street hardstanding spaces, with the average allocation per dwelling ranging from 2 parking spaces within the Duffryn Dowlais Estate to 1.7 and 1.5 parking spaces allocated to properties on the Silver Hill Close and Maes y Gobaith housing estates respectively. In addition to the allocation of hardstanding parking provision, dwellings within the Duffryn Dowlais and Maes y Gobaith estates generally include a single garage space within the curtilage of each individual property.

An assessment of the residential developments during weekday evenings and at weekends revealed that the level of parking allocated to individual dwellings throughout each development is more than adequate given the prevalence of non-utilised spaces. Despite the lack of parking restrictions on either internal or external roads in close proximity to the respective residential sites on-street parking was observed to be negligible and vehicles that did park on-street were not deemed to compromise access to properties or potential access for emergency or refuse vehicles.

Parking provision within commercial and industrial estates is generally to standard although, despite the level of parking allocation generally satisfying demand, there were instances where parking overspill had the effect of compromising visibility and safety at and around Distributor Road / Access Road priority junctions. It is suggested that overspill parking in certain locations could be addressed by prohibiting parking alongside Commercial Estate Distributor Roads through carriageway narrowing and introducing enforced parking restrictions (i.e. double yellow lines) at or close to junctions. It should be noted that parking shortages relating to business parks may be related to standards in office space per person. Originally the standards for rental were somewhere close to 16sqft per person but with increasing prices and pressure for floor space densities have increased – e.g call centers.

The issue of parking enforcement in locations away from town centres (i.e. where regular patrols by wardens may be unrealistic) will require additional consideration.

It is worth noting that the significant trip generations associated with Talbot Green Retail Park emanate from a change of use from initial proposals for bulky good outlets to a predominance of comparative retail units. This has resulted in exceptional demand for parking on the site which in turn has a major impact on parking guidelines.

Issues to be considered in the SPG

From the work undertaken to date, the following are some of the parking-related issues that the SPG should consider:

General

- **turning MAXIMUM parking standards into MINIMUM standards will not necessarily be appropriate.** The LPA should request evidence based on the likely effects of different parking levels for each land use should be considered, including consideration of the relative locations of land uses and their consequent accessibility;
- a site's location and its relative accessibility should inform guidance on maximum standards and the potential lifestyle of occupants should be considered, both at the forward planning and development control stages;
- the formulation of guidance related to the safety implications (e.g. obstruction of visibilities by on-street parked cars) if levels of parking are likely to be exceeded should be explored;
- the maximum allocation of parking provision should be clearly defined and should reflect the geographical area (i.e. town centre / out of town) and access to alternative modes of transport (i.e. public transport);
- in the event that maximum standards do not provide sufficient space for the generated number of units, shared spaces and improvements to public transport should be considered;
- promoting dual use of parking spaces with provision related to different land uses at different times of the day;
- developments that generate significant travel demands should be encouraged to locate where public transport, walking and cycling accessibility is maximised; and
- seek a reduction in standards for all developments in locations easily accessible by non-car modes, higher densities and / or sensitive character

Residential

- maximum parking standards should not be applied so rigidly that they become minimum standards. Maximum standards should allow developers the discretion to reduce parking levels without associated 'over-spill' parking problems;
- some car free housing development may be appropriate in locations with good walking, cycling and public transport links and in areas where parking is controlled;
- review the relevance (i.e. fitness for purpose) of garages in terms of their use as a parking space; and
- consider developing parking standards for multiple occupancy dwellings (i.e. student halls and converted flats);

Commercial

- on-street town centre parking should be reviewed and time limits should be imposed (on a location basis) to provide adequate turnover to promote commercial viability, and off-street parking should be utilised for longer stay parking;
- explore categorising parking requirements for food takeaways and consider allowing for a relaxation of parking enforcements in certain areas (at certain times, i.e. evening hours) that relate to these specific land uses;
- consider the impact of a change in use from bulky goods to comparative retailing (i.e. Talbot Green) in the context of increased trip rates from the latter land use

Industrial

- on major Industrial Estates (e.g Treforest) parking is not such an issue and, as such, the SPG should consider contributions to enhancing public transport provision;
- the SPG needs to identify areas where commuted sums should be paid

Hierarchical Approach

This section explores the feasibility and practicality of developing a policy for development in town centres which seeks contributions for public car parks rather than individual provision.

The Rhondda Cynon Taf *Local Development Plan (2006-2021) Preferred Strategy* sets out the hierarchy of town centres throughout the county borough. The LDP development strategy will seek to promote sustainable regeneration for the county borough as a whole. The strategy area will be divided into two distinct parts; Northern Strategy Area and Southern Strategy Area.

For the purposes of the LDP the northern strategy area will comprise the settlements of Tonypany, Porth, Treorchy, Treherbert, Ferndale, Tylorstown, Mountain Ash, Aberdare and Hirwaun. The southern strategy area will comprise the settlements of Pontypridd, Tonyrefail, Llantrisant, Church Village and Llanharan. Within these areas the strategy will recognise the important role principal towns and key settlements play in providing services of both local and county importance.

A number of recent regeneration studies in these areas make reference to parking strategies as a key element that will assist the future regeneration of town centres and, as such, it is within these areas that a framework and structure for securing developer contributions that are mutually understood is required.

The Tonyrefail Town Centre Regeneration Strategy (Draft Report) sets the context for new development opportunities that will create a thriving and vibrant town centre and satisfy the requirements of an expanding population in the area. It is reported that many local residents and businesses are concerned by the lack of car parking provision which frequently results in parked cars on the main streets and further contributes

to the congestion in the town centre. In response there is a strong need for parking provision for users of the town centre, and a strategy outlines five options for parking provision in the town centre.

The Mountain Ash Regeneration Study promotes the development of retail facilities that will attract additional shoppers and also increase the average length of stay in the town. Adequate car parking is therefore essential, and a new town centre car park is proposed to the east of the station in addition to a proposed food store that could provide dual use for town centre shoppers. Likewise, the Pontypridd Regeneration Strategy focuses on car parking provision within the town and highlights that the Taf Street Car park, the nearest to the town centre, often becomes congested during the peak hours. Peripheral car parks located at Goods Yard and off Sardis Road are often fully utilised throughout the day despite poor pedestrian links to the town centre. It is worth noting that proposals are in place for additional central area parking facilities at Angharad Walk (project 1) and St Catherine's Corner Car Park (project 6), which would facilitate an evaluation of the current parking pricing policy (so the most convenient parking is priced at a premium to encourage longer stays at the other car parks).

The Pontypridd Regeneration Strategy study suggests that sustainable transport should be promoted in Pontypridd in conjunction with a comprehensive parking strategy that would facilitate a transition from surface-level to multi-storey parking within the town. It is reported that the land currently used for surface level parking offers an opportunity for higher density development (i.e. at Angharad Walk). It is further suggested that multi-storey car parking should be self-financing although charges will need to be balanced and reflective of pricing policies in competing centres.

It is important to note that where parking cannot be provided on site, it has been customary for 'commuted payments' to be made to local authorities for the supply of off-street parking. A policy for development throughout the county borough should seek developer contributions to measures that would assist public transport or walking and cycling instead of funding parking. This could be achieved through SPG.

Issues to be considered in the SPG

From the work undertaken to date, the following are some of the issues that the SPG should consider in the context of securing contributions for public car parks rather than individual provision:

- consider the application of a contributions methodology for all proposals likely to result in a net increase in movement secured via Section 106 agreements. The methodology would relate directly to occupancy levels, so where alternative occupancy levels are more appropriate these should be considered;
- enhancements should be carried out in close proximity to the development site, but improvements at more strategic locations

should also be considered; and

- concessions should be made in respect of affordable or keyworker housing to reflect the potential for lower levels of movement generated by these types of development

6 Key Junctions Policy

TAN 18 indicates that developments in the vicinity of trunk roads and local roads of strategic importance, or their junctions, can add significantly to local traffic movements and reduce the effectiveness of the road network. TAN 18 calls for planning authorities to identify these through routes as corridors for movement adjacent to which development will be resisted.

This chapter considers the feasibility and practicality of developing a key junction and strategic corridor policy to identify areas capable of accommodating additional development and those areas where development should be restricted or resisted on the grounds that the operational capacity of the local highway network would be severely compromised.

Existing Highway Network

Improvement to highway links between valley communities and the main trunk routes of the A470 and M4 has put virtually all communities within half an hour of the M4. However, areas of Rhondda Cynon Taf continue to share the worst of the transport problems endemic within the Valleys sub-region. The topography and settlement pattern of the Valleys region gives rise to major transport issues, particularly in terms of accessibility which has implications for the attraction and retention of industry.

A total of 1179km of the Authority's roads are single carriageways, and the strong urban nature of the local highway network means that many residential streets form a large part of the principal highway network.

A poor level of service on the highway network has an adverse effect on public transport and the result is that many buses get caught up in queues of traffic and therefore become delayed, putting off potential public transport users. It is worth noting that without good public transport connections it will be more difficult to attract employment to the valleys area, with development tending to concentrate along the M4 corridor instead.

Development Hotspots

There are numerous areas, termed 'hotspots', throughout the county that have been earmarked for large-scale development in forthcoming years. It is important to note that the drive for economic growth, especially in the Valleys, will increase traffic levels overall and so further consideration of transport and infrastructure improvements will be required. The settlements to the north of the M4 along A473, A468 and A472 represent deprived communities that could be a focus for economic regeneration, the redevelopment of 'brownfield' land and enhancement of public transport links to core centres (i.e. Pontypridd and Talbot Green).

It is suggested that development in hotspot areas should be considered in the context of the existing and future capacity of the local highway network, and the impact that additional development will have on a number of key

junctions and strategic corridors linking these junctions with other key settlements. It is worth noting that highway operations and performance locally are greatly influenced by the location and type of land use development that takes place adjacent to the network (e.g. retail parks, business parks, major housing developments).

Development within hotspot areas should not be approached in a piecemeal fashion, which would typically involve a traffic study for a particular development that is unlikely to support or warrant improvements because of the likely small percentage impact in terms of incremental traffic volume increases with each additional development. Moreover, developing on each arm of key junctions should be given serious consideration, and future policy should ensure that development of this fashion is mixed-use in nature. It is suggested that introducing a strategic policy in the short-term would help to relieve or at the very least, pay for improvements. An inability to consider the cumulative impact of development on this basis is likely to result in the same problems being experienced on networks and junctions at the hotspot areas as the capacity problems experienced on existing highway networks throughout the borough.

It is suggested that applications for development in hotspot areas identified in the LDP should contribute to a fund for strategic transport corridor and junction studies, infrastructure improvements and public transport enhancements to minimise traffic growth within the county borough. This will ensure that the road systems in the area will be developed, with sufficient capacity, to accommodate the extra traffic generated by these developments, whilst also maximising the economic regeneration benefits of these developments. Moreover, such an approach will ensure that the last developments within designated areas do not have to absorb the cost of mitigation measures / capacity improvement schemes, or that capacity of the transport system is not oversaturated prior to the commencement of additional development.

Summary

The capacity of the transport systems serving new developments features highly in the site selection process of potential occupiers, and locational decisions will often take into account the potential for making the best use of the existing transportation network. Therefore, it is important to note that national traffic forecasts suggest road traffic in south-east Wales, without control, will increase by approximately 20% over the next 15 years. Areas where significant congestion occurs throughout RCT (i.e. in towns and at groups of junctions) include the A473 Church Village / Tonteg area, Pontypridd town centre, Porth, Treorchy, the A473 and A4119 corridors near Talbot Green, and at a number of interchanges with the A470.

TAN 18 is principally driven by sustainability objectives that aim to ensure new development is located where there is, or will be, good access by public transport, walking and cycling thereby minimising the need for travel. The location of new residential development has a significant influence on travel patterns as the majority of trips start or finish at home. It should therefore be a key aim of the LDP to identify residential sites that are

accessible to jobs, shops and services by modes other than the car and where public transport services have the existing or planned capacity to absorb future development.

The location of major travel generating uses including employment, education, shopping and leisure can significantly influence the number and length of journeys, journey mode and the potential for multi-purpose trips. Development plans should seek wherever possible to identify locations for such developments, which offer genuine and easy access by a range of transport modes. Major generators of travel demand should be allocated in cities, town and district centres and near public transport interchanges, as a means to reduce car dependency and increase social inclusion by ensuring that development is accessible by public transport for those without access to a car.

Finally, TAN 18 calls for local authorities to identify corridors where development should be resisted given that the extra traffic generated by a proposed development may bring forward the need for transport improvement in the vicinity of the scheme, and beyond.

Issues to be considered in the SPG

From the work undertaken to date, the following are some of the issues that the SPG should consider in the context of developing a key junction and strategic corridor policy to identify areas capable (and incapable) of accommodating additional future development:

- in congested areas, development should fund strategic corridor studies to ensure that the wider implications of that development are mitigated against;
- future development should be prohibited on every arm of key junctions to ensure that future capacity problems do not ensue and where development is permitted it should be mixed use (i.e. commercial, residential) in order to balance traffic flows;
- development should be concentrated where it will serve the needs of existing settlements and make best use of the existing transport system;
- higher density development should encompass mixed-uses and be proximate to existing main transport routes, bus and train stations to promote the development of public transport;
- future development that does not rely upon the strategic road network for commuting trips should be promoted;
- a more decentralised approach to employment location in order to minimise overall private car mileage in areas without strong functional linkages to larger settlements should be considered; and
- inclusion of Stage 1 Safety Audit before planning is agreed to ensure junctions can safely accommodate all movements associated with the development

7 A Guide to Transport Assessments

It is recommended that all local authorities have available information on the standards they expect developers to follow and, as such, this chapter will outline the criteria governing when an assessment should be made, the areas it should cover and the issues that should be considered.

Introduction

Transport Assessments (TAs) have the capability to provide a basis for negotiation, which may include improving public transport access or ensuring a Travel Plan accompanies the submission. The local authority (RCT) currently requires TAs to be compliant with prevailing policies at national, regional and local levels. Moreover, Glamorgan Engineering Consultancy (GEC) compiled a TA assessment checklist on behalf of the local authority to ensure that TA reviews are as comprehensive as needed.

TAN 18 provides guidance relating to when and where a TA is required. According to TAN 18, Transport Assessment should clearly set out what the impact of a proposed development, or redevelopment, are likely to be so that they are easily understood. It should be based on the person and freight trips generated by the development and include analysis of potential effects on existing movement patterns. The output of the TA should be a Transport Implementation Strategy (TIS) that addresses relevant transport objectives for the site, guided by the development plan and the issues identified in the analysis of person movements.

The aims of undertaking the TA and producing a TIS are to:

- understand the transport impacts of the development;
- clearly communicate the impacts to assist the decision making process;
- demonstrate the development is sited in a location that will produce a desired and predicted output (for example, in terms of target modal split);
- mitigate negative transport impacts through the design process and secured through planning conditions or obligations;
- maximise the accessibility of the development by non-car modes; and
- contribute to relevant development plan and RTP objectives relating to accessibility of services and modal share

TAN 18 encourages developers to submit TAs to accompany planning applications for major developments, along with enough information necessary to assess the suitability of an application in terms of travel demand and impact. A TA should therefore represent a comprehensive and consistent review of all the potential transport impacts of a proposed development or redevelopment, with an agreed plan to reduce any adverse consequences. Covering access by all modes, the purpose of a TA is to provide information to enable decision-makers to understand how the proposed development is likely to function in transport terms.

The local authority acknowledges that the Department for Transport's (DfT, 2007) *Guidance on Transport Assessment* provides sufficient scope on undertaking an assessment of the potential implications of development proposals on the entire transport system, including the public transport system (buses, rail and trams), the Strategic Road Network (SRN), local highways and footways. It is however important to note that the DfT guidance applies to England only and not Wales.

Document Review Findings

A review of a sample of TAs and Regeneration Strategies supplied by RCT provide a summary of the size, nature and potential impact on the local highway network of proposed developments throughout the county. The reviewed documents include submissions for residential, hospital and retail developments. It is worth noting that a third of the TAs reviewed make no reference to car parking provision or designing for the movement of emergency service and refuse vehicles. Additional issues pertaining to each site are outlined in the following.

A Transport Assessment submitted in accordance with the proposed residential development of 88 dwellings at Cadwalladers Yard, Llantwit Fardre makes reference to the inability of the local highway network to accommodate additional traffic associated with the development. However, it is reported that the Church Village Bypass will relieve the A473 where it passes through Llantwit Fardre (including Tattenham Corner), Church Village and Tonteg of 50% of the existing traffic.

A Transport Assessment submitted in support of a proposed superstore development adjacent to the A470 / Brown Lennox grade-separated junction (Pontypridd) suggests that the junction currently operates within capacity, although congestion and queuing often occurs at the Bridge Street interchange as a direct result of capacity limitations to junctions within the town centre (not the junction itself). Further analysis reports that if traffic exits onto Bridge Street, the junction has sufficient capacity to accommodate both the existing traffic demand and the traffic generated from the proposed development. Following discussions with RCT the target maximum level (including staff provision) for parking provision was set at 1 space per 10m².

A Guide to Transport Assessments

This section provides guidance on how to establish a common TA methodology as part of the planning and development control process. The purpose of the guide is to assist developers in the preparation of TAs and to provide a broad overview of the procedures which developers and their consultants need to follow, and the issues that should be addressed in submissions. Adherence to the established procedures will also help to reduce delays in the planning process by clarifying the level of detail required for the TA.

This guide should be used alongside guidance on Travel Plans, and the Local Authority needs to have confidence in the TA and Travel Plan to

ensure sites allocated for development are as sustainable as possible and have an acceptable highway impact. The guidance below sets out the *minimum standards* for TAs that will be acceptable to the Council.

Background and Contents

The council requires TAs to be compliant with prevailing policies at national, regional and local levels. These include the Rhondda Cynon Taf Local Plan, the Rhondda Cynon Taf Local Transport Plan and the Draft Technical Advice Note 18 Transport Issues that should be covered in TAs are discussed below:

- existing situation;
- proposed development;
- trip generation, distribution and mode share;
- traffic impact; and
- recommended measures

TAs should be secured for developments (including extensions or changes of use) that generate significant levels of movement or are likely to have significant effects on existing patterns of movement. The following table sets out suggested thresholds above which TA should be required, except where planning authorities set out in SPG different 'scale of development' triggers that are locally sensitive, or where they highlight particular locations in the plan area where the transport network is particularly sensitive and consequently thresholds for requirement assessments will be lower. Appendix B provides an example of what the TA document should contain.

Table 9.1: Suggested thresholds above which TAs will be required

USE	Threshold
Food retail	> 1,000m ² gross floor area
Non-food retail	> 1,000m ² gross floor area
Cinemas and conference facilities	> 1,000m ² gross floor area
Leisure facilities	> 1,000m ² gross floor area
Business	> 2,500m ² gross floor area
Industry	> 5,000m ² gross floor area
Distribution and warehousing	> 10,000m ² gross floor area
Hospitals	> 2,500m ² gross floor area
Higher and further education	> 2,500m ² gross floor area
Schools	All new schools (see D5 below)
Stadia	> 1,500 seats
Housing	> 100 dwellings
Hotels	> 1,000m ² gross floor area

The format of a TA should be set out to address the issues set out in the ensuing sections:

Existing Conditions

This section of the TA should concisely document the site location, its current usage, planning history, access and egress points and the local highway network.

Public Transport

The availability and provision of bus and train infrastructure and services in the vicinity of the site should be assessed. An assessment should detail the number of services, standard and frequency of provision. The TA should identify the walking distance from public transport nodes (i.e. IHT prescribed distances), and the likely potential for linked trips.

Pedestrian and Cyclist Facilities

All existing facilities for pedestrians and cyclists should be identified, described and located on accompanying plans and figures. To encourage sustainable travel, the potential for walk and cycle trips should be assessed in line with the prescribed guidelines included in the IHT Guidelines for Journeys by Foot (2000).

Base Year Traffic Flow

The validation of any assumptions derived with a TA will depend on the robustness of the Base Year (existing) traffic data. This data should be collected for the current year (existing) and should be collated for the correct time periods associated with types of developments. It is however worth noting that data for the current year could be replaced with recent traffic data if agreed by the Council.

For residential and commercial development for example, weekday base year data for an AM (07:30-09:30) and PM (16:00-18:00) peak time periods will suffice, whereas for a retail development, the background data should cover the AM and PM peak periods together with an inter peak (12:00-14:00) for the development.

Traffic assessments associated with proposed retail developments should assess weekday and weekend (Saturday) peak periods. Data should be collected in 15 minute time intervals over a 2 hour period. Data collected during the weekday should ideally be gathered between Tuesday-Thursday, outside school and bank holidays. In addition, consideration should be given to seasonality of traffic data i.e. surveys undertaken between June-August and December-January should be compared with traffic data for neutral months. This comparison enables the effects of summer holidays and the Christmas period etc to be understood within the traffic data.

Accident Analysis

The assessment should provide an analysis of traffic-related accidents around the site for the preceding 5 years. Where safety deficiencies in the network are identified, the extent to which any additional traffic may exacerbate existing problems should be assessed. Consideration should be given to any perceived safety problems resulting from the current or proposed use of the site.

Personal Injury Accident (PIA) data is available from Glamorgan Engineering Consultancy upon request. The safety of potential users of the site should be considered, such as the effect of the development on natural surveillance and use of traffic calming measures.

Proposed Development

This section should cover a detailed description of the proposed development, along with a description and justification for the defined TA study area. A plan showing both the site location and the study area should be provided.

Details of the proposed development i.e. proposed access to the site and the scale of development will allow for the accurate trip generation figures to be calculated.

The proposed development should detail the level of car parking provision within the site based on maximum standards set, as outlined within the South Wales parking standards.

In addition the proposed development should outline how it will improve upon the existing infrastructure i.e. improvements to public transport, cyclist and pedestrian facilities (e.g. crossings and signage).

It is intended that the SPG will include clear guidance on how the study area (in the context of the development proposal) should be defined.

Trip Generation, Distribution and Modal Share

Trip Generation

Given the lack of robust data sets for Wales with TRICS it is recommended that forecast trip generations are derived from traffic surveys relating to similar developments. The traffic surveys should correspond with the peak hours of the day and should be calculated on a *per dwelling* or *per 100m²* basis. The TRICS database should be used as a fallback method only and the relevant dataset should be included within the corresponding appendices.

The methodology for using other assumptions including parking, traffic, directing trips or cross visitation trips need to be clearly defined.

Committed Developments

Recently consented applications in the area, which will themselves, have traffic generations should be considered if they impact on the highway network in the vicinity of the proposed development. Details of forecast

traffic flows from proximate developments can be viewed within the planning department of RCT.

Trip Distribution

Trip distributions should be based on sound principles i.e. population distributions or known travel to work patterns. Alternatives include the same percentage distribution on the existing main road traffic or preferably the same patterns of distribution of traffic from comparable developments.

Mode Share

All developments must contribute to and reinforce current national planning policy objectives, and must provide a greater scope for non-car modes of travel, inline with sustainable development. The TA should outline evidence of such opportunities in detail and from this project predicted trip rates by other modes.

It is worth noting that mode share calculations need to be challenging in their emphasis on sustainable modes, but must remain realistic. This should be supported by an assessment of the accessibility of the site by public transport, walk and cycle modes.

Traffic Impact

The Council would need to be sure that development traffic would not have an unacceptable impact on highway links and junctions. Issues from the scope of this exercise should be discussed with the relevant officers within RCT to establish what junctions need to be assessed.

Traffic conditions at the proposed site access and existing junctions within the assessment area would be required. Traffic counts should be undertaken by the developer in the area of the site and on other relevant roads, as required. Council Officers should assist in the identification of appropriate count sites.

Where there is likely to be a material increase in traffic on certain routes, assessments should be undertaken to ensure that existing link and junction arrangements further from the site can operate satisfactorily with the increase in traffic. In the event that alterations to links or junctions are necessary, scale drawings of the designs should be included in the TA (preferably at 1:500 scale or larger).

Assessment Year and Traffic Growth

An assessment year is the nominated year of assessment as defined by the development in the TA and should be pre-agreed with RCT and represent a worst-case scenario.

The impact from all developments should be considered with a number of timescales to reflect both the short and longer-term impacts on the highway network. New function designs, for instance, should be developed to cater

for future traffic growth and not just traffic growth in the immediate timeframe. As such the assessment should cover the following:

- Opening Year (year of completion);
- Design Year (15 years after opening); and
- Other (e.g. 10 years with explanation of phasing)

Base year traffic flows should be adopted accordingly and trips arising from the development should then be added to the Opening or Design Year. The traffic growth should be agreed with RCT in advance and depending on the location of the site, should be calculated using low, medium or high NRTF (National Road Traffic Forecast) adjusted by Tempo or local ATC data. The methodology should be clearly defined within the TA.

Operational Assessment of Junctions

Detailed forecasts of the impact of the road network traffic generated as a result of the proposed development, within the context of the forecast traffic flows previously generated must be covered in the TA.

The scope of the operational assessment of junctions within the vicinity of the proposed development should be agreed with officers from RCT.

The capacity assessment of junctions should be undertaken using recognised software, for example:

- ARCADY for roundabouts;
- PICADY for priority junctions / cross roads / staggered junctions;
- OSCADY or LINSIG for traffic controlled junctions; or
- TRANSYT for priority / signal controlled junctions in close proximity .i.e. linked.

For new complex networks e.g. motoring / trunk road interchanges, the impact of traffic from the proposed development should be explored through micro-simulation modelling e.g. PARAMICS or VISSM.

Heavy Vehicles

The issue of access by refuse / delivery / commercial vehicles, particularly HGVs should be addressed for all developments. Details of manoeuvring, turning and swept path analysis should be provided.

Safety Audits

For all highway works (including new junctions) associated with gaining access to development a Stage 1 Road Safety Audit should accompany a planning application. The Stage 1 Safety Audit would relate to the preliminary design for the junction and would be undertaken by a qualified Road Safety Audit Engineer, independent from the designer. This would enable the Local Authority to determine at a very early stage whether or not the proposed works are satisfactory.

Other

The TA should incorporate all relevant output from the assessments, including input parameters, in the appendix. The above should enable the identification of any highway works required to mitigate against the impact of the development, the degree of developer funding needed to facilitate these and formulation of suitable Section 106 agreements, or similar. It should be noted that the Council might require a contribution for future works to mitigate against the cumulative impact of forthcoming developments in a given area.

Transport Implementation Strategy

The transport assessment process should include the production of a 'Transport Implementation Strategy' (TIS) for the development. This should set objectives and targets relating to managing travel demand for the development and set out the infrastructure, demand management measures and financial contributions necessary to achieve them. The TIS should set a framework for monitoring the objectives and targets, including the future modal split of transport to the development sites.

In general TAs should, as a minimum, provide information on the likely modal split of journeys to and from the site. The TIS should detail the measures proposed to improve access by public transport, walking and cycling and reduce the number and impacts of motorised journeys associated with the proposal.

The monitoring and enforcement of TISs is an important element that should be achieved through the appropriate use of planning conditions and obligations. The TIS resulting from the TA process are intended to incorporate all the components of a travel plan and ensure these are integrated with design elements of the new development. Joint travel plans can be part of a TIS, and both travel plans and TISs should set out proposals for the delivery of more sustainable travel patterns.

Recommended Measures

Appropriate measures would be needed to ensure a restraint in car use. Car parking should be within the maximum levels recommended in the Local Development Plan and should be well within these levels in locations where public transport, cycling and walking represent feasible alternatives.

A TA should promote accessibility by all modes of travel in particular public transport, walking and cycling, assess the likely travel behaviour or travel pattern to and from the proposed site and develop appropriate measures to influence travel behaviour.

The TA should demonstrate how the need for parking has been minimised in the development and car parking is provided in accordance with the maximum standards set out in the adopted parking guidelines. This would help towards reducing an over-reliance on the car and promoting sustainable travel.

Disabled parking and delivery/ loading and unloading bays must also be accounted for. Additionally, off-site parking provisions and controls should

also be included in the TA. Measures including staff parking permits, high occupancy parking spaces, controls on parking for employees living within a defined distance of the site and workplace parking charges should be seriously considered.

Developers should note the land use cost of parking provision, and should not underestimate the business value of parking spaces kept free through staff and visitors using alternative modes. The business benefits of improved employee health through increased levels of walking and cycling are also important.

Measures to improve pedestrian and cycle facilities on and off site, such as new signage provision or improved lighting need to be considered. Incorporating links into the existing cycle network may be considered for larger sites. Cycle parking should be provided in accordance with the minimum standards set out in the parking guidelines to ensure the provision of adequate secure parking. Showers and lockers should also be provided.

It is also suggested that the assumptions made within the TA with regards to trip generation, distributions and operational capacity are reviewed 6 months after opening or after full occupation in order to check the validity of the initial cost. Funding for this exercise could be obtained from the developer as part of the planning application. A review of the findings could be used for the release of funds under the Section 106 from the developer should they be required. Further investigation into this idea is required, particularly with respect to ring fencing funding at the start of a development in order to undertake reviews of the transportation impacts 6 months after opening.

The TA should consider the requirement for a Travel Plan.

RCT should reserve the right to impose mode share targets, and penalties for non-achievement with Transport Assessment commitments. Where there is a risk that staff and visitor parking may impact on nearby streets, a contribution towards enforcement may be appropriate.

Checklist

The prompt processing of TA can only occur if the requirements set out above are addressed. Incomplete or inaccurate information would cause inevitable delays in dealing with applications. A checklist could be provided, which would be used by the developers to ensure that everything expected by RCT has been covered in their TA submission.

Further Information

Contact details should be provided if developers require further information.

Issues to be considered in the SPG

- issuing of TA guidance to prospective developers following scoping

meeting or initial liaison with planning officer. The content of the transport information supporting the application must cover the all of the issues covered within the guidance as a **MINIMUM**;

- undertake a review of TA assumptions 6 months after occupation with ring-fenced contributions in place, should infrastructure improvements be necessary;
- minimal requirements of a Stage 1 Road Safety Audit (undertaken independent of the design) for all applications requiring new junctions etc

8 A Guide to Travel Plans

It is becoming increasingly common to find that a Travel Plan is required to support a planning application for new development proposals. As such, this chapter explores the types of development for which a Travel Plan is suitable, the size of that development and the transportation measures that should be considered. In addition, criteria covering the circumstances in which the various measures should be considered and the establishment of modal shift targets, where appropriate, are specified.

The Assembly Government wishes to promote the widespread adoption of travel plans by businesses, schools, hospitals, tourist attractions and other significant travel-generating uses. As such, this document is intended to provide clear and concise guidance to support the Travel Plan process in RCT. It sets out background information about the use and benefits of Travel Plans, details what should be expected from developers and / or organisations in putting together their proposals and highlights the range of support, advice and best practice available from RCT and other bodies. It is intended that this will ensure greater consistency with the preparation and content of Travel Plans, particularly where these are required to accompany planning applications.

Background

Travel Plans form an important part of the Government's integrated transport strategy. They can provide employers with an effective tool to enable them to take a more pro-active role in dealing with the impact of increasing traffic congestion and related parking problems. These are increasingly seen as a cause for concern in today's business environment and subsequently Local Authorities are called upon to encourage the take-up of such plans through partnership with the business sector, which has become a formal requirement of the planning process for many new development proposals throughout the United Kingdom.

As a matter of priority, any organisation, or developer, who may be required to prepare a Travel Plan to accompany a development proposal should contact RCT at the earliest opportunity. This will help ensure that they are following the right steps and to confirm that any documents that need to be produced are acceptable to the Planning and / or Highway Authority. Indeed, SEWTA have designated Travel Plan Coordinators, with roles in assisting new development and maximising the potential benefits from collaborative Travel Plans, car sharing databases etc.

Travel Plans – a definition

A Travel Plan is best defined as a package of measures that effectively manages an organisation's transport needs and impacts with an emphasis on reducing the amount of single occupancy car trips. Each individual Travel Plan is unique, and should reflect the characteristics, specific problems and issues, as well as opportunities, for an organisation or site depending on location, size and activity.

For most companies this is essentially dealing with commuter trips. However, an effective Travel Plan could also address business travel, the needs of visitors and clients, fleet operations and deliveries. Significantly, the adoption of such initiatives have increasingly been able to demonstrate proven business benefits arising from cost or efficiency savings.

Why should a Travel Plan be Prepared?

The SEWTA (January 2007) *Outline Regional Transport Plan* contains targets to restrain traffic growth, support increased use of alternatives to the car and encourage the take up of Travel Plans. They are an important demand management option if RCT is to meet these demanding targets and associated performance indicators.

Travel Plans should be submitted alongside planning applications which are likely to have significant transport implications. However, depending on circumstances, it can sometimes be more appropriate to require the travel plan to be produced when the site is in operation rather than at planning application stage, as the applicant often is not the end user (i.e. occupier of the development). Thresholds for major developments comprising jobs, shopping, leisure and services are set out below along with maximum parking standards:

Table 8.1: *Travel Plan requirements according to maximum parking thresholds*

<i>Use</i>	<i>Threshold from and above which standard applies (gross floorspace)</i>	<i>National Maximum Parking Standard 1 space per sq metre of gross floorspace unless otherwise stated</i>
Food retail	1000 m ²	1 space per 14 m ²
Non food retail	1000 m ²	1 space per 20 m ²
Cinemas and conference facilities	1000 m ²	1 space per 5 seats
D2 (other than cinemas, conference facilities and stadia)	1000 m ²	1 space per 22 m ²
B1 Including offices	2500 m ²	1 space per 30 m ²
Higher & Further Education	2500 m ²	1 space per 2 staf + 1 space per 15 students
Stadia	1500 seats	1 space per 15 seats

There should be no minimum parking standards for development other than parking for disabled people, and parking levels should be applied as a maximum throughout the county however, more rigorous standards can be

adopted where appropriate. It is important to note that these parking standards are currently being reviewed on behalf of SEWTA and will cover south east Wales.

In addition to major developments, the use of Travel Plans can be requested for:

- smaller developments which may generate significant amounts of travel in, or near to, air quality management areas, and in other locations where there are local initiatives or targets set out in the development plan or LTP for the reduction of road traffic or the promotion of alternative modes. This particularly applies to offices, industry, health and education uses;
- where a Travel Plan would help address a particular local traffic problem associated with a planning application, which might otherwise have to be refused on local traffic grounds; and

However, unacceptable development should never be permitted just because of the existence of a Travel Plan

The role of the Local Planning Authority

The weight to be given to a Travel Plan in a planning decision will be influenced by the extent to which it materially affects the acceptability of the development proposed and the degree to which it can be lawfully secured. Under certain circumstances some or all of a Travel Plan may be made binding, either through conditions attached to a planning permission, or through a related planning obligation.

Depending on such circumstances, conditions attached to a planning approval may be enforceable against any developer who implements that permission and any subsequent occupiers of the property.

Conditions or obligations may also be applied in situations where the end user is unknown. Examples of work undertaken in Surrey highlights the insertion of clauses within Section 106 Agreements. These include:

- ***Developers Covenant:*** The Developer shall provide a Travel Plan for the approval of the County Highway Authority and implement the approved plan prior to or upon occupation of the development;
- ***Definition Clause within the Recitals of the Deed:*** The expression “the developer” shall include any successors in title and assigns, in respect of all or part of the development; and
- ***Covenants:*** The developer shall annex a copy of the completed Section 106 Agreement to any contract for sale or lease, for all or part of the development, and shall expressly bring to the attention of any purchaser or lease the obligation therein. The developer shall inform the County Highway Authority of the identity of purchasers and lease holders of the development within one month of any signed contract

It is noted that many forms of development are built speculatively and have no end user, at least in the short term. When an end user has been identified then it is far easier to develop a Travel Plan based on staff home locations etc and specific to that particular business. Research should be

undertaken into how Travel Plan conditions are imposed on speculative developments with no end user and how these are signed up to and adhered to by the eventual occupant.

Travel Plans – Voluntary take up

It should be remembered that there are many examples where Travel Plans are being developed on a voluntary basis. These tend to fall into two distinctive categories – (i) responding to specific onsite or operational problems and (ii) leading by example.

- onsite operational problems – These are most commonly found where organisations are responding to the impact of traffic congestion and / or parking pressures. They are often the result of a sound business based evaluation; and
- leading by example – Local authorities are called upon to secure the widespread take up of Travel Plans. To lead by example, the Government has introduced such plans for all of its own Departments and Agencies. Local Authorities, along with hospitals, are also expected to introduce such strategies. A NHS Executive Control Assurance Standard sets out the requirement for all NHS sites to adopt Travel Plans

What is required?

Where Travel Plans are required as part of the planning process they can be expected to fall into two formats:

- where a development is taking place at an existing site, or to accompany a complete relocation, and where there will be no net increase in the workforce, a full Travel Plan needs to be prepared. Issues that need to be covered are set out below; and
- where the application is for a new or speculative development, or for a major expansion at an existing site which will include a significant increase in the workforce, a timetable of appropriate activities and processes needs to be agreed with the local planning authority. The finalised Travel Plan can only be agreed in response to analysis of a completed staff travel survey and associated research. Key dates for agreed actions and any enforcement issues will be carefully negotiated and set out within conditions or obligations

The Process

- As each Travel Plan is unique there is no standard format or model for preparing and implementing content. Realistic objectives ensure focus and direction, and specific objectives for each individual Travel Plan should be set out clearly. The main objectives of Travel Plans generally include the following:
 - improve accessibility for sustainable travel modes;
 - encourage flexibility in staff by providing transport choice;
 - minimise the need to travel;

- encourage the use of alternative modes of transport to single car occupancy car use;
- reduce the impact of staff travel on the local environment; and
- promote sustainability without being anti-car;

What should a Travel Plan include?

A successful method of communicating the requirements of a Travel Plan is to provide employers and developers with a comprehensive and detailed source of information to assist the planning, research, preparation and implementation of Travel Plans. A document of this nature should include details of the written material required to prepare a Plan, such as the following:

- **Background information on your organisation's site(s)** - location, numbers of people etc;
- **Objectives** - identify what you are trying to achieve from your Travel Plan;
- **Scope of the Plan** - identify the travel elements of your organisation's business activity which it is addressing;
- **Actions** - identify the proposed actions/ measures for achieving your stated objectives;
- **Marketing** - identify how you will market the Plan and the elements contained within it;
- **Targets** - identify targets to determine whether your objectives are being achieved;
- **Monitoring** - identify how you will monitor the effectiveness of your Travel Plan, what will be monitored and who will be responsible for monitoring; and
- **Dissemination** - people will want to share in the success of the plan and will want to know what the results are

Furthermore, a "good" Travel Plan will:

- have senior management support - therefore full commitment must be demonstrated;
- be based on current travel patterns - you will need to carry out a site assessment, Staff Travel Survey, and audits to identify current travel behaviour and to find out what people would be prepared to do.
- have clear objectives - the objectives must provide focus and direction, link with environmental initiatives and explain the benefits for the individual, the department, the environment and the community;
- include an adequate budget for its development and implementation;
- include a comprehensive package of measures ('carrots' and 'sticks') - introduce incentives first, but disincentives are likely to be needed to bring about change. Not everyone's travel behaviour is the same so

you will need to ensure that a range of measures are provided to appeal to as many people as possible;

- have staff time allocated - a co-ordinator should be appointed to drive the plan forward;
- have staff involvement - all employees should be involved and staff/visitors with particular mobility needs should be recognized;
- include extensive marketing - both of the Travel Plan itself and of specific measures.
- set clear targets - with specific dates for their achievement; and
- establish monitoring procedures - identify who will be responsible for monitoring, when the monitoring will occur, what will be measured and how the results will be disseminated and fed into the review process

Finally, it should be noted that, for many organisations, introducing a Travel Plan may mark a change in existing company culture and reliance upon the car. The Travel Plan must take this into account and staff will need to be assured that this is not anti-car (some people have no alternative to using a car) but is a means of providing more choice of travel options. It is also stressed that even small changes from individuals will help.

The role of the South East Wales Transport Alliance (SEWTA)

The local authority recognises the benefits that Travel Plans can contribute to meeting the RTP objectives. Advice can soon be sought from SEWTA travel plan co-ordinators to help clarify and confirm what should be included in preparing a Travel Plan. It is suggested that the following advice should be made available (at a variety of levels):

- preliminary site audits and company profiles;
- staff travel questionnaire design;
- GIS mapping of employees home locations;
- staff travel data analysis and interpretation;
- associated research;
- recommendations on Travel Plan strategies; and
- establish deadlines for meeting the targets in the short term (up to one year), medium term (1 to 3 years) and long term (more than three years)

SEWTA have developed (and subsequently manage) a local car-sharing scheme (available via the sewtacarshare.com website).

Issues to be considered in the SPG

- the issuing of Travel Plan guidance to prospective developers following scoping meeting or initial liaison with planning officer. The content of the Travel Plan information supporting the application must cover the all of the issues covered within the guidance as a

MINIMUM;

- the local authority will be responsible for setting targets for reducing the overall level of traffic or the rate of growth in the level of traffic where appropriate. through
- the local authority will be responsible for promoting transport choices that are safe and accessible, and encourage the location of a wide range of facilities at the local level so that they are accessible on foot or by bicycle;
- undertake a review of Travel Plan assumptions 6 months after occupation with ring-fenced contributions in place, should infrastructure improvements be necessary; and
- consideration to wider application of Travel Plans through Transport Management Associations and Business Improvement Districts

9 Planning Conditions and Obligations

The chapter reviews and builds upon the work already undertaken for the Council in respect of planning obligations. In particular, consideration has been given to the advantages and disadvantages of developer contributions (commuted payments) as opposed to specific remedial works being carried out (off and on site) that may be required.

Introduction

Planning conditions may legitimately be imposed on the grant of planning permission to secure transport measures and facilities as part of the proposed development. TAN 18 suggests that planning authorities may use planning obligations to secure improvements in roads, walking and cycling and public transport, whether as a result of a proposal on its own or cumulatively with other proposals and where such improvements would be likely to influence travel patterns, either on their own or as part of a package of measures. All conditions must be clearly justified and be in accordance with the policy tests.

The principal guidance on planning obligations in Wales is set out in Circular 1/97, which emphasises the positive role of obligations in securing appropriate facilities that would otherwise make a development unacceptable. For the vast majority of planning decisions, local planning authorities rely on planning conditions as the principal tool for controlling development. However, in situations where land and property interests are not within the site boundary, (e.g. the provision of off-site facilities) planning authorities rely on planning obligations to control or regulate the development or to secure financial contributions. In the small percentage of planning decisions where a planning obligation is needed, planning obligations are a legitimate and effective planning instrument that ensures the proper functioning of the planning system, particularly in:

- regulating development;
- providing more effective development control enforcement;
- achieving broader planning objectives;
- delivering required physical infrastructure;
- securing the provision of necessary community facilities;
- providing ways of conducting resource management; and
- offering ways of securing conflict resolution

The Rhondda Cynon Taf *Local Development Plan (2006-2021) Preferred Strategy* suggests that the impact of developments on local community infrastructure will need to be addressed by appropriate on site provision or contributions to off site improvements. Planning obligations will be sought to secure the necessary physical, social, economic and environmental infrastructure related to the development.

Such requirements may include affordable housing, highways (i.e. new access roads or improved junction layouts) and public transport improvements or extra car parking facilities. Similarly, the provision of community facilities, e.g. reasonable amounts of small areas of open space, social, educational, recreational or sporting facilities, may be acceptable. Further examples of appropriate planning obligations include ensuring an acceptable balance of uses in mixed-use developments, securing an element of affordable or special needs housing (in a larger development) and offsetting the loss of or impact on a resource present on the site.

It is important to note that the Addendum (2001) to South Wales Parking Guidelines states that commuted payments for parking are no longer required following the induction of maximum parking standards. Instead it is suggested that contributions should be made towards improvements that would encourage the use of sustainable modes of transport.

Table 9.1: Advantages and disadvantages of commuted sums policies

Advantages	Disadvantages
Securing appropriate facilities to ensure development is feasible	A lack of specific requirements by the planning authority at an early stage;
Can enable dual use of parking provision	Clear requirements by the planning authority;
Can make more economical use of land	A lack of openness and transparency of the negotiations
Gives greater control in operation in transport policies	An inability to obtain fair contributions towards facilities when several developments are proposed
The local authority will have full control of off-street parking provision	
The local authority will be able to implement its policies without the hindrance of large numbers of PNR spaces	

Background

Consultant Capita Symonds recently undertook a Planning Obligations Review to identify good practice in operation, procedure and negotiation of planning obligations. It was reported that RCT has failed to assign sufficient recognition to the extent of the contribution which new development could make to infrastructure and other facilities. RCT's current policy framework for the application of planning obligations currently varies depending on which former local authority (pre-1996 local government reorganisation) the development is proposed in. This results in a fragmented approach that is not simple for the developer or Local Authority Officers to understand.

The Planning Obligations Review undertaken by Capita Symonds inferred that the local authority's current policy framework for the application of planning obligations lacks the necessary robustness and simplicity, and as such many opportunities for the association of planning obligations with planning applications are lost. Salient issues reported upon relate to obligations for which contributions should be sought where they are not at present (i.e. contributions towards public transport improvements and public car parking) and the fact that small developments need to be included within the planning obligations process as some developers purposefully design their developments below the specified thresholds to avoid paying contributions.

A more standardised policy framework that clearly specifies the intentions of the Local Authority is required to ensure that developers meet the cost of the impact of new development on local services and infrastructure. The following sections examine alternative systems for planning obligations, along with two alternative local tax systems.

Section 106 Toolkit

The Local Planning Authority, in conjunction with other Local Planning Authorities in South East Wales, has commissioned a 'Planning Obligations Toolkit'. This toolkit will be used by the Planning Contributions Manager to determine the impact of planning contributions, and abnormal costs, on the viability of a proposed development as part of the Section 106 negotiations. It is therefore expected that an 'open book' approach to negotiations will be supported by developers in order that planning obligations can be secured at appropriate levels, whilst ensuring that the development remains equitable. Any financial information supplied by a developer as part of this 'open book' process will be considered as being 'information supplied commercially in confidence'.

Highway and Infrastructure Provision

Welsh Office Circular 13/97 (Planning Obligations) identifies (para B10) that if appropriate contributions may be sought towards new access roads, improved junction layouts, extra car parking facilities, new/improved rail/bus stations, park and ride schemes, improved bus services, and improved measures for cyclists and pedestrians both on, and where necessary off, the development site.

The Local Planning Authority will require contributions from any development, regardless of size or type, where there is a requirement to improve existing, or construct new, highway infrastructure, either in order to provide safe access to a new development, or, as a result of the additional traffic impact associated with the development. This contribution would be required in addition to contributions to other travel modes such as public transport provision, cycle routes, or footpaths.

Residential and Employee Travel Plans

Planning Policy Wales identifies (Paragraph 8.7.1) that when determining a planning application for development that has transport implications, local planning authorities should take into account the willingness of a developer to promote travel by public transport, walking or cycling, or to provide infrastructure or measures to manage traffic and overcome transport objections to the proposed development.

Paragraph 8.7.5 of PPW (2002) states that planning obligations may also be used in appropriate circumstances to secure off-site improvements in public transport, walking and cycling, where such measures are likely to influence travel patterns to and from the development site.

Developers will be required to produce a Travel Plan where Traffic Impact Assessments (TIAs) identify that a proposed development could have a detrimental impact upon travel movements on the existing highway network. The Travel Plan will need to identify what measures will be implemented by the developer to overcome any detrimental impact through promoting sustainable integrated transport solutions that will reduce the reliance on the private car. The objective of the travel plan will be to achieve at least a 10% modal shift in travel behaviour of the occupiers of the site. The Travel Plan obligation will require occupiers of development to undertake a staff/resident travel survey and implement and monitor a staff/resident travel plan. The Travel Plan should include the provision of up to date information about public transport services, timetables, and opportunities for car sharing (e.g. via a car share website). However additional measures may also be sought, including provision of designated car share parking spaces, discount vouchers/passes for public transport, or financial contributions toward shuttle buses and park and ride schemes.

Impact Fees

Impact fees have been advocated by the development industry as a method of overcoming the uncertainties of the existing planning obligation system. The principle of an impact fee system is that a schedule of fees is established for different land use types and these fees are payable for a variety of infrastructure facilities in lieu of a planning obligation.

Impact fee systems are not generally seen as a betterment tax but rather as a more structured means of assessing financial contributions. The impact fee system is a cost-based system, with fees based upon the cost of providing a prescribed set of infrastructure using an agreed method for modeling costs, with assumptions being made regarding the extent of the burden to be covered by each land use type. The full costs of provision are then averaged across both housing and other non-housing being developed on a per capita or equivalent basis for particular types of infrastructure. This approach seems to be particularly appropriate where large urban expansions are planned and could be suitable for the opportunity areas identified in the LDPs.

A study (Lane, 2002) commissioned to report on Planning Obligations in London advocates that replacing planning obligations with impact fees

would provide certainty with the cost fixed in advance of an application leading to an increase in transparency and speed. Impact fees also offer a means of ensuring that developers face a defined range of wider costs which their proposals impose, rather than just site-specific items. In addition, they can be used to support broader policy objectives or local preferences for development. Finally, impact fees can be levied on small developments in a way that is impracticable for individually negotiated planning obligations. This helps to overcome the problem of cumulative impact.

The research carried out by Oxford Brookes University for the DETR discusses five different types of impact fees that may be feasible in the UK:

- flat-rate charge varied by land use type and levied on a fixed basis throughout an area or region. This would be a simple system and be clear to developers of charges to be levied;
- site-specific charge, not in accordance with general principles. The best known is the rational nexus test applied in the US where charges are levied to meet the cost of meeting a public investment plan;
- site-specific charge, set in accordance with detailed planning criteria linked to the site. The paper suggests this would be appropriate for small scale works and mirrors the practice in some local authorities under S.106;
- project-based charge, set on a fixed basis for different land use types within what might be called a "programmed development area". This is also a practice of some local authorities. An advantage of the system is that the costs to the developer are known in advance; and
- project based charge, set on the basis of negotiation. This is similar to the previous option but without the certainty provided by a fixed basis of charges

Land Value Taxation

Planning obligations have the effect of reducing the amount a landowner will receive for a site or rather the amount the developer is prepared to pay for the land but is not a form of property tax. There is no reason why an LVT policy could not operate alongside planning obligations and within the current planning system generally. It is also argued that LVT also strengthens the planning system, because it would tend to lead to development occurring where it is designated, there being an ongoing annual cost attached to failure to develop a site in accordance with the LDP. This would encourage the development of empty sites, helping the local economy by creating jobs or homes. In contrast, the current system of planning obligations places no financial burden on developers until development occurs; yet the benefit accrues, by way of collateral value of sites, from the start of negotiations with the planning authority.

Local Tax Re-investment Programme

The government's Green Paper on local government finance (DETR, 2000) proposed a LTRP that would allow Local Authorities to retain for a specified period any increases in business rates and council tax yield in a defined

area. This would encourage regeneration in the area, as the funds raised would be spent on projects and improved services that would be of benefit to the area concerned.

A scheme of this nature would be particularly beneficial in areas of low land value where it will not be possible to fund infrastructure through planning obligations. The advantage of the system is that, as an area improves, (probably mainly due to public investment in the first instance) then those who get the benefit would also pay higher taxes. As the scheme develops the funds raised would be ring fenced to the area and thus provide for further improvements.

The government proposes that local authorities should have discretion to determine the types, sizes and location of development on which the tariff would be charged. Also local authorities would have discretion about how receipts from the tariff are spent. Both types of discretion would be subject to national policy guidance. It is envisaged that the tariff system will widen the range of developments subject to a planning obligation.

The government envisages that the tariff levels would be set through SPGs on a cost per gross floorspace basis for both commercial and residential development, on a cost per dwelling basis for residential development and gross floorspace for commercial, as a proportion of development value or finally, through some combination of these. It is suggested that some locations would attract higher tariffs than others (e.g. greenfield sites compared with brownfield sites) and that very small developments might be exempt from the tariff.

Contributions Methodology

Chichester District Council (2004) require developers to provide or contribute towards the costs of infrastructure and other measures which are necessary to mitigate the impact of commercial and residential developments and to ensure that new development is accessible by sustainable transport. The contributions methodology devised by Chichester District Council ensures that contributions are calculated in a manner that is fair, consistent and transparent.

An infrastructure contribution (£650) in respect of each occupant or employee provided with a parking space and a sustainable transport contribution (£325) is required in respect of each occupant or employee not provided with a parking space. Further, the two elements of the contribution can be combined to mitigate the impact of movement generated by a new development. The differential between the two elements is set to encourage development in more accessible areas – more accessible locations will require lower levels of parking and hence a lower level of contribution.

Table 9.2: Developer contributions to commercial and residential developments (Chichester District Council, 2004)

Use Class	Floorspace (sqm)(A)	Sqm per employee (B)	No. of employees (C = A/B)	Parking Provision (D)	Sustainable access cont. (C-D) x £325	Infra cont. (D x £650)	Total cont.
COMMERCIAL DEVELOPMENT EXAMPLE							
B1 office	1,000	21	48	33	£4,875	£21,450	£26,325
B2 Indust	1,000	37	27	25	£850	£16,250	£16,900
B8 w/hsng	1,000	47	21	10	£3,575	£6,500	£10,075
RESIDENTIAL DEVELOPMENT EXAMPLE							
Number of units (A)	Occupancy per unit (B)	Total access (C = A x B)	Parking provision (D)	Sustainable access cont. (C-D) x £325	Infra cont. (D x £650)	Total cont.	
5 x 1 bed units	1.5	8	5	£975	£3,250	£4,225	
5 x 2 bed units	2.5	13	5	£2,600	£3,250	£5,850	
5 x 3 bed units	2.5	13	10	£975	£6,500	£7,475	
5 x 4 bed units	2.8	14	15	-	£9,750	£9,750	

Special Planning Obligations

In order to determine the scale of traffic problems created by additional developments and identify appropriate amelioration measures Capita Symonds recently carried out a traffic modelling exercise within Caerphilly County Borough (CCB) to quantify the economic impact of the additional development in areas proposed by the UDP Inspector. In response to the housing industry requiring more land for housing in the most attractive places to build new houses, CCB recently adopted a proposal to seek a payment of £5,000 per dwelling for new housing in areas that were allocated for limited new housing development in the deposit UDP. The adopted contributions policy is such that a payment of £5,000 per dwelling will be requested where there is evidence of a need to improve certain infrastructure and other local facilities before any significant development can take place.

Summary

The Local Authority (RCT) considers that the use of planning obligations is acceptable in order to secure funding for appropriate and necessary improvements to accessibility. However, a Planning Obligations Review undertaken by Capita Symonds on behalf of the local authority demonstrated that the Council's current policy framework for the application

of planning obligations lacks the necessary robustness and simplicity, and as such many opportunities for the association of planning obligations with planning applications are lost. Moreover, a failure to assign sufficient recognition to the extent of the contribution which new development could make to infrastructure and other facilities has resulted in a policy framework that is not simple for the developer or Local Authority Officers to use.

In major development areas, such as the opportunity areas identified in the LDP, the pooling approach to the provision of all required infrastructure would be appropriate. It is suggested that the levels of contributions required would depend on the size and form of the development and the nature, location, extent and use of existing facilities towards which contributions are sought. For example, development within major centres (e.g. Pontypridd) may be required to contribute towards a wide range of works reflecting different issues, which relate to movement in the town centre. However, calculations should be set at a level that does not discourage development and must be sensitive to the existing conditions.

It is suggested that the extra trips generated by a proposed development should bring forward the need for transport improvements in the vicinity of the scheme, or beyond. To the extent that highway improvement works are necessary to enable a proposed development to go ahead, conditions should be imposed on the permission, making its commencement / occupation subject to completion of those highway works. It is however suggested that in certain areas where development is being encouraged but there is low demand, the contribution could be waived.

It is essential that a more consistent approach to planning obligations policy and practice is achieved. A more flexible system is required that could include the pooling of contributions towards a package of measures required by the cumulative impact of development proposals in an area and also the ability to provide a facility in other areas of RCT. This could be achieved through the development of a more standardised policy framework that clearly specifies the intentions of the Local Authority to ensure that developers meet the cost of the impact of new development on local services and infrastructure. As this guidance is supplementary to the Local Plan the following recommendations have the potential to clarify with certainty the likely level of contributions required.

Issues to be considered in the SPG

- future development plans should set out where the Local Authority is likely to seek planning obligations so that local people and developers have some indication of what is expected;
- in certain areas where development is being encouraged but there is low demand, the contribution could be waived.
- infrastructure improvements beyond the ability of a single development should be considered (i.e. pooled contributions);

- where street space is at a premium, the local planning authority should seek contributions from developers towards the implementation of on-street parking controls or refuse permission for developments where, despite controlled parking, unacceptable road safety or congestion issues will probably remain;
- maximum parking standards mean it is inappropriate for commuted sums to be required in lieu of reduced levels of parking at a site without establishing what harm would be caused by lower provision of parking;
- structural policies in local plans should provide an improved framework and lead to a better understanding of what needs to be achieved in securing sustainable development;
- criteria for setting tariffs for developer contributions should be clearly defined and should be reflective of forecast development activity by type for each area for which a tariff is to be set. There may be a case for increasing the tariff if there are exceptional infrastructure costs to be met;
- consider the possibility of pooling contributions to fund major infrastructure as part of a sub-regional growth or regeneration strategy;
- charging should be applied through a pre-defined charge per dwelling or through guidance to the developer on the potential contribution for a specified obligation; and
- consideration given towards a premium for contributions relating to Greenfield development with relaxations on brownfield land;

10 Key Points from the Scoping Study

Hyder Consulting was commissioned by Rhondda Cynon Taf County Borough Council to provide an evidence base relating to access, parking and circulation that will inform the plan making process and allow the development of policies and / or supplementary planning guidance (SPG) to deliver a consistent and practical basis for assessing planning applications.

In line with the brief we have identified areas for further consideration for inclusion within SPG. These have been summarised at the end of each chapter and some key areas / issues are outline below.

- the design of new residential streets should be considered in the context of particular locations, with carriageway widths appropriate to the street character;
- streets should be designed to control vehicle speeds naturally rather than having to rely on traffic calming measures that involve vertical deflection;
- the introduction of smaller corner radii with restricted sight lines is recommended by the MfS as a means of facilitating slower and more careful movement for vehicles, while reducing distances for pedestrians to cross roads;
- examine parking levels in special circumstances (e.g. brownfield regeneration sites) in close proximity to residential areas to ensure parking overspill does not ensue;
- ensure design proposals for all development types consider the necessary infrastructure needed to promote sustainable transport;
- encourage the location of development near other related uses to encourage multi-purpose trips;
- where a number of sites are to be developed in close proximity to one another, bus, walk and cycle provision should be considered for the area as a whole;
- Home Zone design principles, that incorporate a tightening of corner radii and reduced carriageway widths, as a means of lowering vehicle speeds and creating pedestrian-friendly environments throughout new residential developments;
- narrowing distributor roads that provide access to business parks from 7.3m (current minimum) to 6.1m to prevent on-street parking. Consider widening internal access roads to accommodate on-street parking along sections that would not compromise access, circulation and safety;
- all carriageway narrowing should be accompanied by stringent parking control / enforcement measures. The issue of suitable parking enforcement in locations away from town centres (i.e. where regular patrols by wardens may be unrealistic) will therefore

require additional consideration;

- **turning MAXIMUM parking standards into MINIMUM standards will not necessarily be appropriate.** The LPA should request evidence based on the likely effects of different parking levels for each land use should be considered, including consideration of the relative locations of land uses and their consequent accessibility;
- the formulation of guidance related to the safety implications (e.g. obstruction of visibilities by on-street parked cars) if levels of parking are likely to be exceeded should be explored;
- in the event that maximum standards do not provide sufficient space for the generated number of units, shared spaces and improvements to public transport should be considered. In addition, consider dual use of parking spaces, whereby the provision to be made is related to different land uses at different times of the day;
- on major industrial estates (e.g. Treforest) parking is not such an issue and as such the SPG should consider contributions to enhancing public transport provision;
- consider the application of a contributions methodology for all proposals likely to result in a net increase in movement secured via Section 106 agreements. The methodology relates directly to occupancy levels, so where alternative occupancy levels are more appropriate these should be considered;
- in congested areas, development should fund strategic corridor studies to ensure that the wider implications of that development are mitigated against;
- future development should be prohibited on every arm of key junctions to ensure that future capacity problems do not ensue and where development is permitted it should be mixed use (i.e. commercial, residential) in order to balance traffic flows;
- a more decentralised approach to employment location in order to minimise overall private car mileage in areas without strong functional linkages to larger settlements should be considered;
- issuing of TA guidance to prospective developers following scoping meeting or initial liaison with planning officer. The content of the transport information supporting the application must cover the all of the issues covered within the guidance as a **MINIMUM**;
- review of TA assumptions within 6 months after occupation with ring-fenced contributions in place, should infrastructure improvements be necessary;
- inclusion of Stage 1 Road Safety Audit before planning is agreed to ensure junctions can safely accommodate all movements associated with the development
- consideration to wider application of Travel Plans through Transport Management Associations and Business Improvement Districts;
- criteria for setting tariffs for developer contributions should be

clearly defined in SPG and should be reflective of forecast development activity by type for each area in which a tariff is to be set. There may be a case for increasing the tariff if there are exceptional infrastructure costs to be met

- in certain areas where development is being encouraged but there is low demand, the contribution could be waived; and
- infrastructure improvements beyond the ability of a single development should be considered (i.e. pooled contributions)

Appendix A

Site visit proforma

Appendix B

The Transport Assessment Process (TAN 18 Guidance)