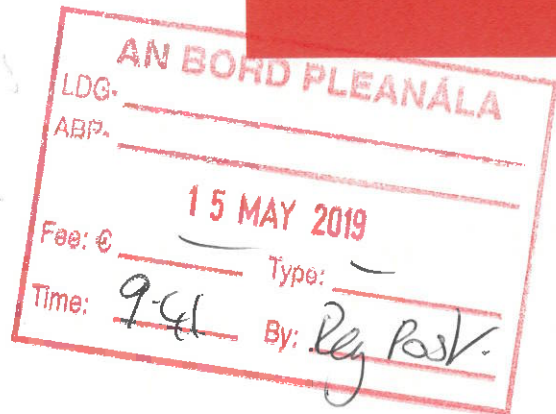


**By Registered Post**  
The Secretary  
An Bord Pleanála  
64 Marlborough Street  
Dublin 1  
D01 V902

**Also sent via E-mail:**  
[bord@pleanala.ie](mailto:bord@pleanala.ie)



our ref: LC/SD/RER002096

your ref: ABP-304204-19

14 May 2019

**Re: Alleged Unauthorised Development**  
**Premises: Polonez, Ground Floor of Unit at Pullamore, Dublin Road, Cavan**  
**Our client: Tempside Limited trading as Polonez**

Dear Sirs,

We refer to your letter dated 17 April 2019 to our client, Tempside Limited trading as Polonez, in respect of the above property and the Section 5 referral made to you by Cavan County Council.

Please now find enclosed response to this letter on behalf of our client which has been prepared by Mr Simon Clear, planning expert together with a traffic safety report prepared by Dr. Martin Rogers.

We await your response in respect of this matter, and should you have any queries, please do not hesitate to contact Lorraine Compton or Shane Dunlop on 01 – 234 2678.

Yours faithfully,

**COMPTON SOLICITORS**

Encl.



30 Pembroke Street Upper  
Dublin 2, Ireland  
DX: 109 047 Fitzwilliam

T: +353 1 234 2678  
E: [info@comptonsolicitors.ie](mailto:info@comptonsolicitors.ie)  
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**Principal** Lorraine Compton  
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Joy Compton  
Fiona Tonge



**SIMON CLEAR & ASSOCIATES  
PLANNING AND DEVELOPMENT  
CONSULTANTS**

The Secretary,  
An Bord Pleanála,  
64 Marlborough Street,  
Dublin 1

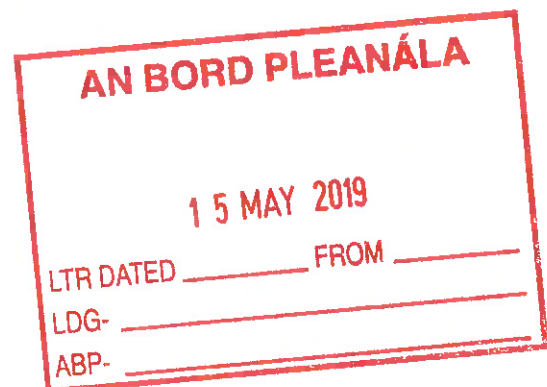
13 May 2019

**Re. Section 5 Request from Cavan County Council in respect of Polonez,  
Pollamore Near, Dublin Road, Cavan**

**Your Ref. ABP-304204-19**

Dear Sir/Madam,

I refer to your letter of 17 April 2019 addressed to Tempside Limited enclosing documentation submitted by Cavan County Council to An Bord Pleanála in respect of the above premises. I have been requested by Tempside Limited to respond to your letter.



Simon Clear B.A. Dip. T.P. MIPI

Darran Quaile B.A. MRUP MSc BLUP MIPI

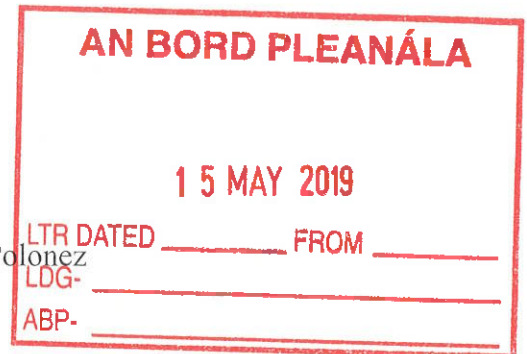
3 TERENCE ROAD WEST,  
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## Procedural Issues

The documentation submitted by Cavan County Council (CCC) to An Bord Pleanála (ABP) comprises a brief cover letter and 13 enclosures. The cover letter sets out the question posed by CCC and lists the 13 enclosures, which can be grouped under the following headings:-

1. Maps and Photographs
2. Planning Decisions
3. Enforcement documents relating to a previous use
4. Enforcement documents relating to the current use by Polonez



The requirements for a valid referral are set out in Section 127(1) of the Planning & Development Act, 2000 (as amended) and under subsection (d) shall:-

*(d) state in full the grounds of appeal or referral and the reasons, considerations and arguments on which they are based,*

Section 127(2)(a) provides that *“an appeal or referral which does not comply with the requirements of subsection (1) shall be invalid”*.

Neither the letter nor any of the accompanying documentation state the grounds for the reference nor the ‘reasons, considerations and arguments’ upon which the reference was based.

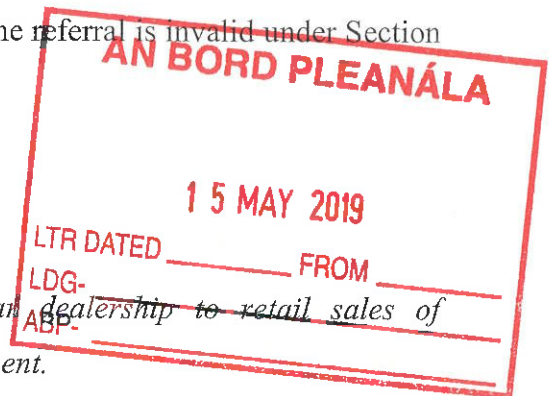
The matter of compliance with Section 127(1)(d) was considered by the High Court in *Heatons Limited & Offaly County Council [2013] IEHC 261*. In that case, the Planning Authority enclosed a letter, cheque, site map and a copy of relevant permissions. The Council also drew attention to a number of other cases, but did not otherwise elaborate or comment. The court quashed the reference for non-compliance with Section 127(1)(d). The Judgement states:- *“One could perhaps infer from both the terms of the letter and the accompanying documentation what issues actually subtended the reference, but even this would require some degree of supposition on the part of the Board”*. The judgement goes on to state that the omissions were prejudicial to Heatons, who *“might well have been placed at a disadvantage in dealing with such a laconic and uninformative reference”*.

In relation to the current case, the documents submitted by Cavan County Council would require both ABP and my client to rely on inference and supposition. The documentation does not comply with Section 127(1)(d) and therefore the referral is invalid under Section 127(2)(a).

### The Question

The question posed by Cavan County Council is:-

*To ascertain whether change of use from car dealership to retail sales of convenience goods is or is not exempted development.*



There are fundamental errors in the question posed. As set out in correspondence to CCC from this office, the car dealership ceased operation in September 2007. In February 2008, the front part of the building became occupied by a carpet and furniture retailer (Paddy McDonald). This use continued until October 2010. From February 2011 to December 2012 the front unit was occupied by Damien Walsh, Kitchens and Bedrooms and fitted furniture. From January 2014 to September 2017 the unit was occupied by Performance Fuels and feeds, retail pet shop, equestrian and pet supplies.

The question posed by the Planning Authority suggests the unit changed directly from a car dealership to convenience shop. Such a question is inappropriate as it ignores the intervening history of retail use established since 2008. The question posed has no basis in fact and the referral should be rejected.

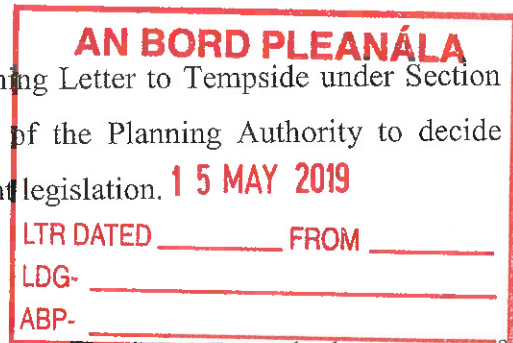
### Section 5 and Enforcement

It is evident from the documentation submitted to ABP that the premises is subject to ongoing enforcement proceedings. The Planning Authority's cover letter to ABP uses the enforcement reference numbering system used on the Warning Letter and other correspondence to Tempside (Enf 18-092). In this regard Cavan County Council is seeking to use Section 5(4) of the Planning & Development Act, 2000 to place an enforcement file before An Bord Pleanala for determination. The Planning Authority has mis-used the particular section of the planning legislation. An Bord Pleanala has no jurisdiction or function to determine the matter placed before it by the planning authority.

The relationship between enforcement and Section 5 was considered by the Courts in the above mentioned Heaton's case and also in *Roadstone Provinces Ltd. v An Bord Pleanála* [2008] IEHC 210. In the latter case, Justice Finlay Geoghegan said:-

*"The respondent has no jurisdiction on a reference under s.5 (4) of the Act to determine what is or is not "unauthorised development". It may only determine what is or is not "development". Hence, a planning authority, such as the notice party, cannot refer a question under s.5 (4) as to whether the works or proposed works or use constitutes unauthorised works or use and hence unauthorised development. Determination of what is or is not "unauthorised development" will most likely be determined by the courts where a dispute arises on an application under s.160 of the Act."*

The Planning Authority has already issued a Warning Letter to Tempside under Section 152 of the Act. It is entirely in the jurisdiction of the Planning Authority to decide whether or not to proceed further under enforcement legislation.



### **Planning Permission Condition**

The Planning Authority appears to be seeking to rely on Condition 7 attached to a grant of permission made in July 2007. The Development Management Guidelines for Planning Authorities were put into effect in June 2007. Chapter 7 deals with Drafting Planning Conditions/Reasons for Refusal. It is clear from the Guidelines that the advice contained therein applies to development management by ABP as well as planning authorities.

Paragraph 7.3.2 requires that conditions attached to planning permissions should be relevant to planning, indicating as follows: -

*Unless the requirements of a condition are directly related to the development to be permitted, the condition may be ultra vires and unenforceable. Section 34(4)(a) of the Planning Act gives power to impose a condition regulating the development or use of adjoining etc. land, but such land must be under the control of the applicant and the condition must be "expedient for the purposes of or in connection with the development authorised by the permission". Moreover, where a condition requires the carrying out of works, or regulates the use of land, its*

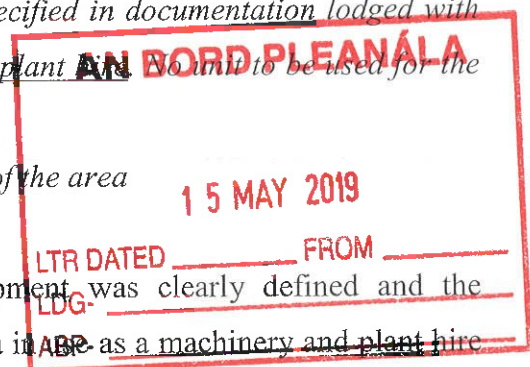
*requirements must be connected with the development permitted on the land to which the planning application relates.*

Therefore, the first issue to assess in relation to a condition of this type is whether it was legitimately imposed in the first place and whether the later interpretation of its import by the planning authority or ABP would be reasonable and in accordance with the Development Management Guidelines.

The full wording of Condition 7 of Ref. 07/1980 states:-

*Use of the premises to be confined to use specified in documentation lodged with the planning authority i.e. as machinery and plant ~~hire~~ to be used for the sale of convenience foods [emphasis added]*

*Reason: In order to safeguard the amenities of the area*



Analysing the condition, the area of the development was clearly defined and the application was for retention of use of a defined area in ~~ABP~~ as a machinery and plant hire premises. While the overall site was outlined for the purposes of the application, as it included a junction arrangement, the condition must be expedient for the purposes of or in connection with the development authorised by the permission, i.e. the retention of the machinery and plant hire business established in the workshop. Controlling activity outside the subject premises was not expedient for the purposes of or in connection with the development authorised and any purported restriction outside the confines or intent of the planning application for retention is illegitimate and subject to challenge. The reason given for the attachment of the condition is uninformative.

Secondly, the Planning Authority letter of 21<sup>st</sup> February 2019 to Compton Solicitors refers to planning Ref. 07/1980 and quotes part of Condition 7 as follows: -“*No unit to be used for the sale of convenience foods*”.

The development subject to Ref. 07/1980, as described in the statutory notices, is as follows:-

*To retain change of use of workshop unit granted under PL Reg. No. 99/1401 to machinery and plant hire (Cavan Hire) unit, and permission to retain entrances as constructed.*

The permitted car sales showroom still existed in the front part of the building at the time of making the application and it was not part of, or subject to, the planning application or the permission for retention. The planning drawings submitted with the application (copy enclosed) clearly identified the extent of the premises for which retention of change of use was sought. The planning fee was calculated and paid based on the floor area of the unit for which retention permission was sought. The Planning Officer's Report was clear in its description of the proposed development.

The full wording of Condition 7 of Ref. 07/1980 states:-

*Use of the premises to be confined to use specified in documentation lodged with the planning authority i.e. as machinery and plant hire. No unit to be used for the sale of convenience foods [emphasis added]*

*Reason: In order to safeguard the amenities of the area*

Planning conditions must be interpreted in their complete form and in the context of the development as described in the planning application (Treacy v An Bord Pleanala and also the decision of the Supreme Court in 2016 in Lanigan v Barry and South Tipperary County Council dealing with the proper interpretation of a planning permission).

In this case, the application was for retention of a particular use within part of the building and for retention of entrances. In specifying the particular uses granted, machinery and plant hire, it is clear that the condition relates to the part of the premises for which retention was sought. It is wrong to suggest that Condition 7 '*relates to the overall site*'.

### **Planning History and Occupancy of Unit**

The building within which the retail unit in question is located was originally granted under Ref. 99/1401, which provided for *a serviced dealership unit with associated site works and signage*.

The building was occupied by Cavan Daewoo as a main dealership from August 2000 to September 2007.

Under Ref. 07/1980 retention permission was granted for change of use of the rear half of the building to machinery and plant hire (Cavan Hire).

In February 2008, the front part of the building became occupied by a carpet and furniture retailer (Paddy McDonald). This use continued until October 2010.

From February 2011 to December 2012 the front unit was occupied by Damien Walsh, Kitchens and Bedrooms and fitted furniture.

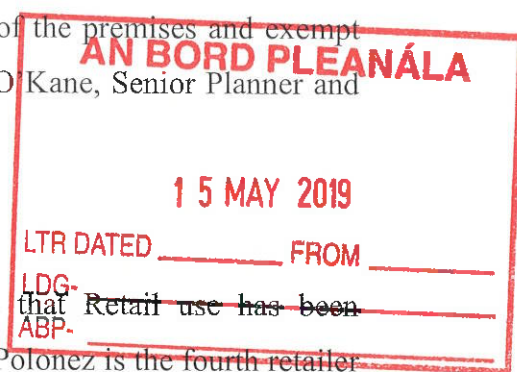
From January 2014 to September 2017 the unit was occupied by Performance Fuels and feeds, retail pet shop, equestrian and pet supplies.

As is set out later, the initial change of use from motor sales to retail was exempted development under Article 6, Class 14 of Part 1 of Schedule 2. The recent occupation of the unit by Polonez represents a continuation of a legally established retail use, in this case, most recently, from pet shop to convenience shop. It is a change of use within a class of use as allowed under Article 10 Class 1 of Part 4 of Schedule 2 being 'use as a shop'. Article 9 restrictions on exemption cannot be applied to Article 10 development.

Please note that in 2014, Cavan County Council confirmed in respect of a complaint that the retail use was legally established within the subject part of the premises and exempt under Class 14, as indicated in the letter signed by Nicholas O Kane, Senior Planner and dated 9<sup>th</sup> April 2019 and as submitted to ABP.

#### **Established Retail Use**

Having regard to the occupancy of the unit it is evident that Retail use has been established since February 2008, a period of almost 11 years. Polonez is the fourth retailer to occupy the unit within that period.



The February 2008 change of use from car dealership to retail was exempted development under Article 6 of the Planning & Development Regulations, 2001 (as amended). Article 6 states:-



*Subject to article 9, development of a class specified in column 1 of Part 1 of Schedule 2 shall be exempted development for the purposes of the Act, provided that such development complies with the conditions and limitations specified in column 2 of the said Part 1 opposite the mention of that class in the said column*

Class 14 of Part 1 of Schedule 2 of the Exempted Development Regulations provides for the following exemption: - *development consisting of a change of use from use for the sale or leasing or display for sale or leasing of motor vehicles, to use as a shop.*

Article 9 sets out the restrictions on Article 6 exemptions.

The Planning Authority was entitled to consider the Article 9 restrictions on exemption at the time the change of use from motor sales to shop occurred in 2008. It is evident that none of the restrictions on exemption were considered to apply over the decade of established retail use.

#### **Article 10 Changes of Use**

As the retail use was established in 2008, subsequent changes of use must be considered under **Article 10(1)** of the Planning & Development Act, 2001 (as amended) which states:

Changes of use.	10.	(1)	Development which consists of a change of use within any one of the classes of use specified in Part 4 of Schedule 2. shall be exempted development for the purposes of the Act, provided that the development, if carried out would not—  (a) involve the carrying out of any works other than works which are exempted development.  (b) contravene a condition attached to a permission under the Act.  (c) be inconsistent with any use specified or included in such a permission, or  (d) be a development where the existing use is an unauthorised use, save where such change of use consists of the resumption of a use which is not unauthorised and which has not been abandoned.
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The recent change of use is a change of use within the Class 1 category of use, which is 'use as a shop'. 'This is not a material change of use.

The definition of 'shop' from the Planning & Development Regulations 2001 (as amended) is included in Appendix 1 of this response.

Article 10(2)(b) sets out certain uses that cannot be exempt under Article 10 including:-

*(vii) as a retail supermarket, the total net retail sales space of which exceeds 3,500 square metres in the greater Dublin Area and 3,000 square metres in the remainder of the State.*

The Polonez convenience store is a shop which has a gross floor area of c.370m<sup>2</sup>. It does not exceed the threshold to constitute a supermarket.

#### **Article 9**

It is our understanding that provisions of Article 9, restrictions in relation to traffic hazard, may have been considered by the Planning Authority in respect of the use of the unit by Polonez. An Bord Pleanála is reminded that restrictions on exemption under Article 9 apply only to exemptions under Article 6 i.e. exemptions described in Column 1 of Part 1 of Parts 1, 2 and 3 of Schedule 2 of the Planning & Development Regulations, 2001 (as amended). Article 9 refers specifically to and is restricted to Article 6 exemptions.

Article 9 restrictions cannot be applied to Article 10 changes of use, which are separately referenced and dealt with under Article 10 and the sub-articles (1-5 inclusive). The nature and scale of use at Pollamore is not in breach of any of the sub-articles in Article 10.

Notwithstanding this, please refer to the report prepared by Dr. Martin Rogers traffic consultant, who confirms that a traffic hazard or obstruction to road users could not occur in the local context.

## Summary and Conclusion

The referral is invalid as it does not comply with the requirements of Section 127(1)(d) of the Planning & Development Act, 2000 (as amended).

The question posed by the Planning Authority has no basis in fact, as there was no change of use from car dealership to retail sale of convenience goods.

The Planning Authority has sought to use the Section 5 process to place an enforcement file before An Bord Pleanála. An Bord Pleanála has no jurisdiction or function in relation to enforcement.

Retail use has been legally established since 2008. The initial change of use from motor sales to retail was exempted development under Article 6, Class 14 of Part 1 of Schedule 2. The Planning Authority was entitled to consider Article 9 restrictions on exemption at that time but has found no reason to do so for a period in excess of 10 years.

The recent occupation of the unit by Polonez represents a continuation of a legally established retail use, in this case from pet shop to convenience shop. It is a change of use within a class of use as allowed under Article 10 Class 1 of Part 4 of Schedule 2 being '*use as a shop*' and is not a material change of use.

Article 9 restrictions on exemption cannot be applied to Article 10 exempted development.

The shop is of a size that falls well below the limit of 3,000m<sup>2</sup> for a supermarket under Article 10(2)(b)(vii).

**Request**

It is requested that ABP should dismiss this request for declaration from Cavan County Council for failing to meet the legal requirement for such procedures. There is no material change of use of the premises.

Yours sincerely,



Simon Clear

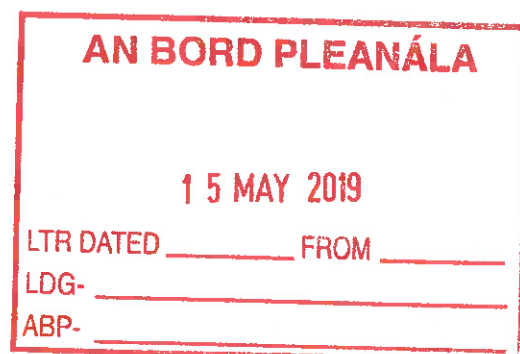
# Alleged Unauthorised Development at Dublin Road, Pollamore Near, Cavan, County Dublin

Report on safety and efficiency of traffic movements  
at entrance to subject site: Rebuttal of inference of  
traffic hazard

Client: Tempside Ltd.

Dr Martin Rogers  
Transport Planning Professional  
Chartered Town Planner and Chartered Engineer

May 2019



**Martin Rogers Consulting Ltd**

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## APPENDICES

APPENDIX 1 – TRICS DATA FOR DISCOUNT STORE SITES

APPENDIX 2 – DMURS – DESIGN SPEED ESTIMATION

APPENDIX 3 – DMURS – REQUIRED SIGHTLINES AND VISIBILITY SPLAYS

APPENDIX 4 – DMURS - REQUIRED WIDTHS FOR LOCAL, LINK AND ARTERIAL ROADS

APPENDIX 5 – PHOTOS OF AVAILABLE SIGHTLINES AND LANE WIDTHS AT POLONEZ SITE

## 1.0 BACKGROUND TO REPORT

### 1.1 PURPOSE

A Warning Letter dated 21st December 2018 has been issued by Cavan County Council to Tempside Limited, Unit 1 Cloverhill Industrial Estate, Station Road, Clondaikin, Dublin 22 in relation to an alleged unauthorized development at Dublin Road, Pollamore Near, Cavan, County Cavan.

As part of the response by Tempside Ltd to the issuing of the Warning Letter, Dr Martin Rogers, Transport Planning Professional, has been commissioned to address traffic issues associated with the subject site, in order to demonstrate the safety and efficiency of traffic movements into and out of the car parking area at the subject site.

Tempside Ltd believes that the necessity to demonstrate the safety and efficiency of traffic movements generated at the subject site arises from the decision by Cavan County Council on the withdrawn application which contained the following draft reason for refusal:

'On the basis of the information submitted, the Planning authority is not satisfied that the development would not result in the creation of a traffic hazard by reason of additional traffic onto the public road.'

The objective of this report is to demonstrate that traffic movements at the vehicular entrance to the subject site are both safe and efficient, on the basis that:

- The volume of traffic movements generated by the development use is light, thus in no way impairing the efficiency of traffic movements along the R212 Dublin Road, and
- The geometry and layout of the junction is compliant with all relevant design standards, resulting in the light generated traffic movements take place in a safe manner, minimising the likelihood that the movement of other road users would be in any way impaired by traffic into and out of the Polonez development.

Figure 1.1 indicates the location of the subject site.

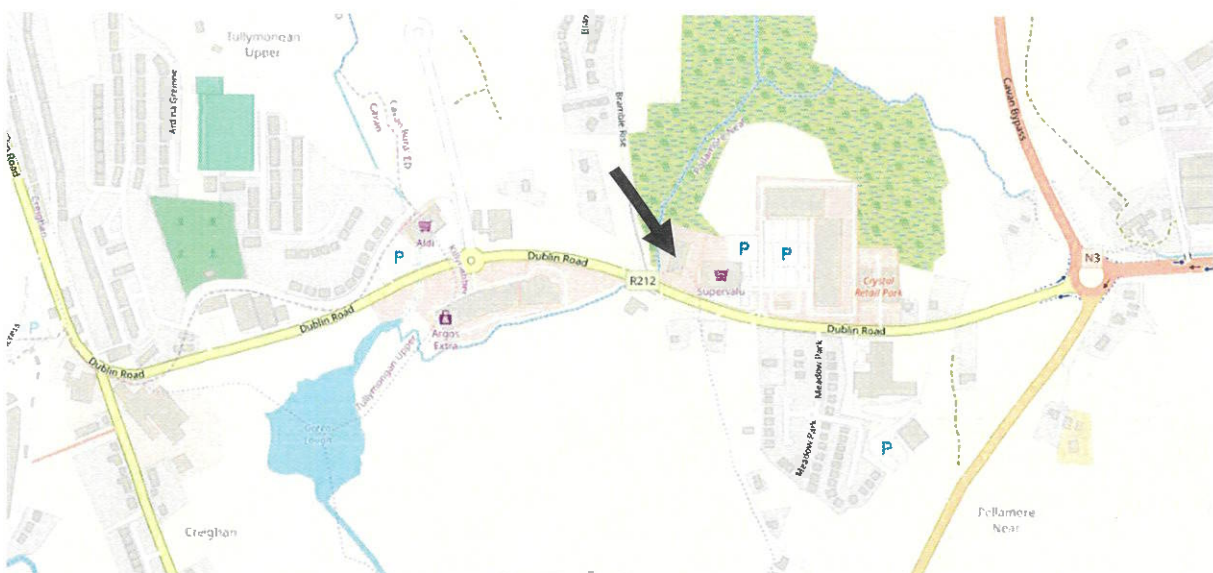


Figure 1-1: Site location map

## 1.2 CONTENTS OF THE REPORT

Section 2 defines the concept of Level of Service for a highway, with a high level of service denoting a safe and efficiently working highway link and very low likelihood of traffic hazard and a low level of service indicating a congested network with high vehicle-to-vehicle conflict and consequent heightened likelihood of traffic hazard.

This concept will be used to classify the movement of vehicles accessing the R212 Dublin Road from the subject site.

Section 3 uses the TRICS database to determine typical peak hour and daily volumes of traffic generated by speciality food outlets of the type in existence at the subject site. This analysis will demonstrate the low volumes generated at the Polonez site and thus incident on the R212 Dublin Road.

Section 4 of this report confirms that the Design Manual for Urban Roads and Streets, rather than the Design Manual for Roads and Bridges, is the relevant standard in relation to critical geometric road parameters at the subject site and details the required sight distances and road widths required under DMURS.

Section 5 demonstrates that available sightlines considerably in excess of the minimum requirements are available to drivers accessing the subject site, and that road widths are compliant with the requirements of DMURS.

Section 6 proposes that the low volumes of traffic generated by the Polonez site, allied to the good geometric characteristics of the local road network in the proximity of the site demonstrates that there is a high Level of Service pertaining for vehicular movements into and out of the Polonez site, and thus contends that there is a very low likelihood of traffic hazard occurring as a result of vehicular movement into and out of the Polonez development.

## 2.0 THE CONCEPT OF 'LEVEL OF SERVICE' AND ITS RELATIONSHIP TO TRAFFIC HAZARD

The 'level of service' approach, involves establishing, from the perspective of the road user, the quality of service delivered by a highway at a given rate of vehicular flow per lane of traffic.

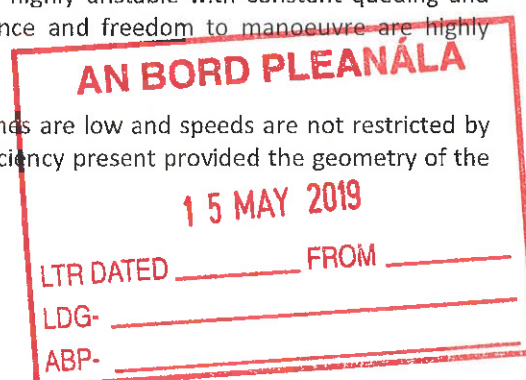
'Level of service' describes in a qualitative way the operational conditions for traffic from the viewpoint of the road user. It gauges the level of congestion on a highway in terms of variables such as travel time and traffic speed.

A high level of service is generally incompatible with the existence of traffic hazard. A low level of service can lead to conditions where traffic hazard is more likely to arise.

The Highway Capacity Manual (Transport Research Board (US), 1994) lists six levels of service ranging from A (best) to E/F (worst). Both A and E/F are each defined briefly as follows:

- *Level of service A.* This represents free-flow conditions where traffic flow is virtually zero. Only the geometric design features of the highway, therefore, limit the speed of the car. Comfort and convenience levels for road users are very high as vehicles have almost complete freedom to manoeuvre.
- *Level of service E/F* describes state of capacity / breakdown flow with flows at or exceeding capacity. Once capacity is exceeded, operating conditions will be highly unstable with constant queuing and traffic moving on a 'stop-go' basis. Comfort, convenience and freedom to manoeuvre are highly restricted by the presence of other vehicles

Level of service 'A' represents 'free-flow' conditions where volumes are low and speeds are not restricted by the presence of other vehicles, with high levels of safety and efficiency present provided the geometry of the road is consistent with permitted speeds.





Levels of service 'E' and 'F' represent very restricted conditions for vehicle movement conditions, with high levels of obstruction for road users with a heightened potential for traffic hazard.

Sections 3 and 4 respectively within this report will demonstrate that the volume of vehicular flows generated by the proposed development will be low and that the geometry of the local road network is consistent with speed limit posted for the relevant section of road. It will thus be confirmed that the level of service pertaining for these entering / exiting movements is high and, consequently, the likelihood of traffic hazard arising from vehicle conflict and obstruction to road users related to these movements is very low.

### 3.0 VOLUME OF TRAFFIC PREDICTED TO BE GENERATED BY POLONEZ DEVELOPMENT

#### 3.1 USE OF TRICS DATABASE

The TRICS Database is the UK and Ireland's national system of trip generation analysis, containing more than 7150 directional transport surveys for over 110 types of development classification (e.g. residential, retail, commercial, educational, etc.).

TRICS was founded and is owned by 6 County Councils in the south of England, collectively the TRICS Consortium. However, its annual collection programme covers the entire area of the United Kingdom and Ireland across 17 No. defined regions. There is a significant spread of member organisations throughout these regions, including local authorities and engineering and planning consultancies.

All survey information is contained on the TRICS website which is fully accessible to member organisations with an interest in the field of trip generation analysis.

Rather than complete a once-off traffic survey at the Cavan site, which may or may not be representative of everyday flows, the TRICS database provides data from a number of discount store outlets both in the UK and Ireland, over different days of the week and months of the year. The flows derived from the database are thus more robust and defensible than those from a 'once-off' survey.

The TRICS database is widely used throughout the UK and Ireland, and is recognised by planning authorities in both jurisdictions as a valid source of trip generation estimates.

#### 3.2 PREDICTION OF GENERATED TRIPS

The proposed development has a gross floor area of 370 m<sup>2</sup>.

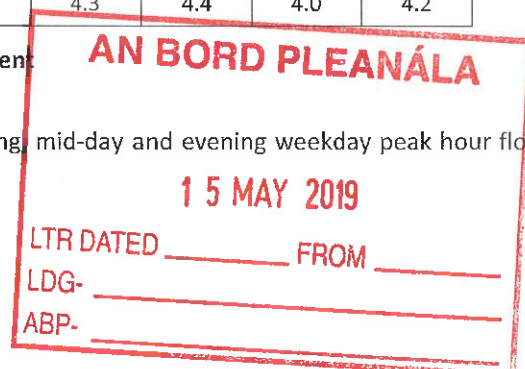
Of the available development types within the retail land use category within the TRICS database, 'Discount Food Stores' is seen as the closest fit to the development type at the Polonez development in Cavan.

The database typically indicates the following trips per 100 m<sup>2</sup> Gross Floor Area generated in the morning, mid-day and evening peaks by a discount food store development in a suburban setting (see Appendix 2 for details):

		Morning peak hour		Mid-day peak hour		Evening peak hour	
		IN	OUT	IN	OUT	IN	OUT
Discount food store	Trips/100 m <sup>2</sup> GFA	3.3	2.6	4.3	4.4	4.0	4.2

Table 3-1: Trip rates per 100 m<sup>2</sup> GFA for Polonez development

The above TRICS trip rates give rise to the following morning, mid-day and evening weekday peak hour flows based on a gross floor area of 370 m<sup>2</sup>:



	GFA (m <sup>2</sup> )	Morning peak hour		Mid-day peak hour		Evening peak hour	
		IN	OUT	IN	OUT	IN	OUT
Discount food store	370	12	10	16	17	15	16

**Table 3-2: Total flows generated by existing 370 m2 GFA Polonez development**

Thus, one can see that, during the morning peak hour, 1 vehicle enters every 5 minutes and 1 vehicle exits every 6 minutes. During the evening peak hour, 1 vehicle enters every 4 minutes and 1 vehicle exits every 4 minutes.

These are the time periods when the R212 Dublin Road will in all likelihood be most heavily loaded.

Thus, during peak periods when network flows are busiest, volumes generated by the Polonez site are very light.

During the mid-day off-peak period, the maximum hourly development flows equate to 1 vehicle entering the site every 3.75 minutes and 1 vehicle exiting every 3.5 minutes.

In summary, hourly volumes of vehicles accessing the Polonez development are at very low levels.

## 4.0 DESIGN MANUAL FOR URBAN ROADS AND STREETS

### 4.1 ESTABLISHING DESIGN MANUAL FOR URBAN ROADS AND STREETS AS THE RELEVANT STANDARD IN THIS INSTANCE

The Design Manual for Urban Roads and Streets (DMURS) states in section 1.3 that the principals, approaches and standards set out within it apply to all streets and roads with a speed limit of 60 km/h or less, except certain roads and streets where the Sanctioning Authority, in this instance Cavan County Council, has provided written consent for such exclusion.

The speed limit along the R212 in the vicinity of the Polonez development is 50 km/h.

One can therefore assume that, in the case of the proposed development within Cavan Town, DMURS is the relevant design manual rather than the Design Manual for Roads and Bridges (DMRB). This is a relevant issue as sightline and road width requirements are more onerous under DMRB, primarily a standard for National Roads.

### 4.2 CONFIRMATION OF POSTED SPEED LIMIT ON R212

Sections 4.3, 4.4 and 4.5 immediately below use DMURS to classify the access road at the subject site using its movement function and place context. This process of classification is used to confirm that the posted speed limit for the link of 50 km/h is entirely robust and sustainable given the function and context of the section of the R212 close to the Polonez development.

### 4.3 DMURS CLASSIFICATION - MOVEMENT FUNCTION

DMURS defines the movement function of a street using the following hierarchy:

- Arterial streets
- Link streets
- Local streets

Appendix 2 contains a reproduction of Figure 3.3 from DMURS which illustrates the three different hierarchies.

One can see that Arterial streets are the most important, connecting major centres, with link streets, of intermediate importance, connecting local street to the major arterial streets and local streets, of least importance, providing local access within communities and very little if any through traffic.

The access road at the subject site can thus be defined as a *link* street, providing access for the Polonez development onto the R212 Dublin Road, classified as an *arterial* street.

#### 4.4 DMURS CLASSIFICATION - PLACE CONTEXT

DMURS states that urban roads can traverse many area with very different characteristics, ranging from city centres to village towns.

It states that place status will be elevated where densities and land use intensities are greater with greater consequent activity levels.

Appendix 2 contains a reproduction of Figure 3.4 from DMURS demonstrating the different contexts, ranging from city centre (greatest activity therefore highest status) to rural fringe (least activity, lowest status)

The section of the R212 in close proximity to the subject site, located within the confines of Cavan Town, can be classified as being within the business / industrial area.

#### 4.5 DERIVED DESIGN SPEED FOR ACCESS ROAD USING DMURS MOVEMENT AND PLACE PARAMETERS

DMURS balances movement function and place context in order to derive the appropriate speed for a road link.

Appendix 2 contains a reproduction of Table 4.1 from DMURS which derives design speed of a link from the appropriate movement function and place context designations.

On the basis of the information within Table 4.1 of DMURS, a design speed of up to 50 km/h is derived.

The planning authority has confirmed this figure by imposing a 50 km/h speed limit along the access road to the subject site, and within the general Cavan Town area.

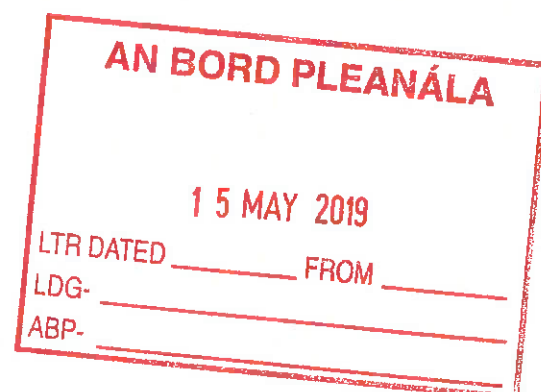
Thus, the posted speed limit / design speed for the link is totally consistent with local link in a business / industrial location, as defined within DMURS.

All geometric parameters such as desirable road width and desirable sight stopping distance should therefore be consistent with those for a local road in a rural fringe location with a designated speed limit of 50 km/h.

For a design speed of 50 km/h, DMURS requires a safe stopping distance of 45 metres from a 2 metre setback.

Appendix 3 contains the text and diagrams from section 4.4.4 and 4.4.5 from DMURS, which includes Table 4.2 listing the required sightline for a 50 kilometres per hour speed zone, and Figure 4.53 outlining the required visibility splays.

Appendix 4 details the required road widths for link and arterial roads, with a 3-metre lane width required in general for a link road (the access road into the Polonez development) and a 3.25-metre wide lane requires for an arterial link (the R212 Dublin Road adjacent to the Polonez development).



## **5.0 AVAILABLE SIGHTLINES AND ROAD WIDTHS FOR VEHICLES ACCESSING THE POLONEZ SITE AND COMPLIANCE WITH DMURS**

### **5.1 AVAILABLE SIGHTLINES**

Photographs No. 1 within Appendix 5 indicates the sightline to the left for exiting vehicles at the Polonez site. It also indicates the existence of a ghost-island junction for vehicles turning right into the Polonez site.

Photographs No. 2 within Appendix 4 indicates the sightline to the right for exiting vehicles at the Polonez site.

These two photographs confirm that sightlines considerably in excess of the 45 metre requirement under DMURS is available to the left and right for drivers exiting the subject site, from the required 2 metre setback.

### **5.2 ADEQUACY OF ROAD WIDTH ALONG R212**

Photographs 1 and 2 within Appendix 5 also confirm the excellent road layout at the entrance to the Polonez development, with a ghost-island junction layout to maximise the safety of right-turning drivers entering the site, without impeding westbound through-traffic along the R212 and lane widths consistent with the requirement for an arterial link under DMURS.

Photograph 3 demonstrates the good lane widths at the entrance to the Polonez development, consistent with the requirements of link streets within DMURS.

### **5.3 CONCLUDING COMMENTS ON COMPLIANCE WITH DMURS**

In conclusion, it can be stated that all sightlines and lane widths within the road network in the vicinity of the Polonez development are consistent with the requirements of DMURS.

## **6.0 OVERALL CONCLUSIONS ON LIKELIHOOD OF TRAFFIC HAZARD ARISING AT POLONEZ ENTRANCE**

The planning authority have contended that the Polonez development would result in the creation of a traffic hazard by reason of additional traffic onto the public road, the inference being that the additional traffic generated would obstruct or cause hazard to other road users on the network.

This report demonstrates that the additional traffic will be extremely light, amounting to a maximum of 1 vehicle entering every 240 seconds and 1 vehicle exiting every 240 seconds at peak times.

These light flows makes the probability of vehicle-to-vehicle conflict arising from these movements imperceptibly low.

Furthermore, the compliance of the geometry and layout of the junction the relevant design standard – DMURS – further decreases the likelihood that the safety of other road users would be in any way impaired by traffic movements into and out of the Polonez development.

As stated within section 2 of this report, the access route from the R212 Dublin Road into / out of the Polonez development has a high level of service, given that the volume of movements generated by the Polonez development are virtually zero, and the geometric design features of the highway are completely consistent with the posted speed limit, resulting in comfort and convenience being at very high as levels with vehicles having almost complete freedom to manoeuvre.

Such conditions are extremely unlikely to result in traffic hazard to other road users on the network.

**MRCCL**

**TRANSPORT  
PLANNING PROFESSIONAL**

**APPENDIX**

**1**

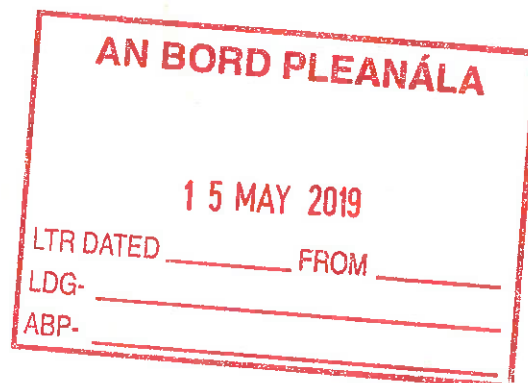
**TRICS DATA  
FOR  
DISCOUNT  
STORE SITES**

LIST OF SITES relevant to selection parameters

<b>1</b>	<b>AN-01-C-02</b> BELFAST ROAD CARRICKFERGUS	<b>LIDL</b>		<b>ANTRIM</b>
	Edge of Town Development Zone Total Gross floor area:		1325 sqm 12/10/16	<i>Survey Type: MANUAL</i>
	<i>Survey date: WEDNESDAY</i>			<b>CAMBRIDGESHIRE</b>
<b>2</b>	<b>CA-01-C-01</b> CROMWELL ROAD WISBECH	<b>LIDL</b>		
	Edge of Town Retail Zone Total Gross floor area:		750 sqm 21/10/16	<i>Survey Type: MANUAL</i>
	<i>Survey date: FRIDAY</i>			<b>CARDIFF</b>
<b>3</b>	<b>CF-01-C-01</b> EAST TYNDALL STREET CARDIFF	<b>LIDL</b>		
	Suburban Area (PPS6 Out of Centre) Development Zone Total Gross floor area:		2568 sqm 29/06/17	<i>Survey Type: MANUAL</i>
	<i>Survey date: THURSDAY</i>			<b>DURHAM</b>
<b>4</b>	<b>DH-01-C-01</b> WATLING ROAD BISHOP AUCKLAND	<b>ALDI</b>		
	Edge of Town Retail Zone Total Gross floor area:		1023 sqm 06/04/17	<i>Survey Type: MANUAL</i>
	<i>Survey date: THURSDAY</i>			<b>DUBLIN</b>
<b>5</b>	<b>DL-01-C-01</b> SALLYNOGGIN ROAD DUBLIN THOMASTOWN Neighbourhood Centre (PPS6 Local Centre) Residential Zone Total Gross floor area:	<b>LIDL</b>	2163 sqm 20/06/18	<i>Survey Type: MANUAL</i>
	<i>Survey date: WEDNESDAY</i>			<b>DOWN</b>
<b>6</b>	<b>DO-01-C-01</b> JUBILEE ROAD NEWTOWNARDS	<b>LIDL</b>		
	Edge of Town Centre Industrial Zone Total Gross floor area:		1700 sqm 25/11/11	<i>Survey Type: MANUAL</i>
	<i>Survey date: FRIDAY</i>			<b>HIGHLAND</b>
<b>7</b>	<b>HI-01-C-02</b> CAMANACHD CRESCENT FORT WILLIAM	<b>LIDL</b>		
	Edge of Town Centre Retail Zone Total Gross floor area:		1300 sqm 17/06/14	<i>Survey Type: MANUAL</i>
	<i>Survey date: TUESDAY</i>			

LIST OF SITES relevant to selection parameters (Cont.)

<b>8</b>	<b>IS-01-C-01</b>	<b>ICELAND</b>		<b>ISLINGTON</b>
	CHAPEL MARKET ANGEL			
	Town Centre High Street			
	Total Gross floor area:	1200 sqm		
	Survey date: <b>TUESDAY</b>	28/06/16		Survey Type: <b>MANUAL</b>
<b>9</b>	<b>KC-01-C-02</b>	<b>ALDI</b>		<b>KENT</b>
	WELL ROAD MAIDSTONE			
	Edge of Town Centre Built-Up Zone			
	Total Gross floor area:	1407 sqm		
	Survey date: <b>TUESDAY</b>	27/11/12		Survey Type: <b>MANUAL</b>
<b>10</b>	<b>LN-01-C-01</b>	<b>LIDL</b>		<b>LINCOLNSHIRE</b>
	RICHMOND DRIVE SKEGNESS			
	Edge of Town Centre Built-Up Zone			
	Total Gross floor area:	2398 sqm		
	Survey date: <b>TUESDAY</b>	19/07/16		Survey Type: <b>MANUAL</b>
<b>11</b>	<b>LW-01-C-01</b>	<b>ALDI</b>		<b>LEWISHAM</b>
	RUSHEY GREEN CATFORD			
	Edge of Town Centre Residential Zone			
	Total Gross floor area:	1500 sqm		
	Survey date: <b>MONDAY</b>	16/11/15		Survey Type: <b>MANUAL</b>
<b>12</b>	<b>MG-01-C-01</b>	<b>LIDL</b>		<b>MONAGHAN</b>
	NORTH ROAD MONAGHAN			
	Edge of Town Centre Industrial Zone			
	Total Gross floor area:	1680 sqm		
	Survey date: <b>WEDNESDAY</b>	16/11/16		Survey Type: <b>MANUAL</b>
<b>13</b>	<b>NB-01-C-01</b>	<b>LIDL</b>		<b>NORTHUMBERLAND</b>
	SCHALKSMUHLE ROAD BEDLINGTON			
	Edge of Town Centre No Sub Category			
	Total Gross floor area:	2450 sqm		
	Survey date: <b>MONDAY</b>	12/06/17		Survey Type: <b>MANUAL</b>



LIST OF SITES relevant to selection parameters (Cont.)

14	<b>NR-01-C-02</b> NEWTON ROAD RUSHDEN	<b>LIDL</b>		<b>NORTHAMPTONSHIRE</b>
	Edge of Town Centre Residential Zone Total Gross floor area:		2624 sqm 19/07/16	
	Survey date: <b>TUESDAY</b>			Survey Type: <b>MANUAL</b>
15	<b>NT-01-C-01</b> CHAPEL LANE BINGHAM	<b>LIDL</b>		<b>NOTTINGHAMSHIRE</b>
	Edge of Town Industrial Zone Total Gross floor area:		2440 sqm 15/07/16	
	Survey date: <b>FRIDAY</b>			Survey Type: <b>MANUAL</b>
16	<b>NY-01-C-02</b> STATION ROAD THIRSK	<b>LIDL</b>		<b>NORTH YORKSHIRE</b>
	Edge of Town Centre No Sub Category Total Gross floor area:		1527 sqm 11/10/11	
	Survey date: <b>TUESDAY</b>			Survey Type: <b>MANUAL</b>
17	<b>PK-01-C-02</b> GLASGOW ROAD PERTH	<b>ALDI</b>		<b>PERTH &amp; KINROSS</b>
	Edge of Town Centre Built-Up Zone Total Gross floor area:		1450 sqm 17/06/14	
	Survey date: <b>TUESDAY</b>			Survey Type: <b>MANUAL</b>
18	<b>SM-01-C-01</b> SEAWARD WAY MINEHEAD	<b>LIDL</b>		<b>SOMERSET</b>
	Edge of Town No Sub Category Total Gross floor area:		2247 sqm 22/06/17	
	Survey date: <b>THURSDAY</b>			Survey Type: <b>MANUAL</b>
19	<b>SR-01-C-01</b> PLAYERS ROAD STIRLING	<b>LIDL</b>		<b>STIRLING</b>
	Edge of Town Centre Built-Up Zone Total Gross floor area:		2442 sqm 01/06/17	
	Survey date: <b>THURSDAY</b>			Survey Type: <b>MANUAL</b>
20	<b>WM-01-C-01</b> MACKADOWN LANE BIRMINGHAM KITT'S GREEN Neighbourhood Centre (PPS6 Local Centre) No Sub Category Total Gross floor area:	<b>LIDL</b>	2085 sqm 12/07/16	<b>WEST MIDLANDS</b>
	Survey date: <b>TUESDAY</b>			Survey Type: <b>MANUAL</b>



LIST OF SITES relevant to selection parameters (Cont.)

<b>21</b>	<b>WM-01-C-02</b>	<b>LIDL</b>		<b>WEST MIDLANDS</b>
	HIGH STREET			
	WEST BROMWICH			
	GUNS VILLAGE			
	Neighbourhood Centre (PPS6 Local Centre)			
	High Street			
	Total Gross floor area:	2085 sqm		
	Survey date: TUESDAY	12/07/16		Survey Type: MANUAL
<b>22</b>	<b>WO-01-C-01</b>	<b>LIDL</b>		<b>WORCESTERSHIRE</b>
	BLACKPOLE ROAD			
	WORCESTER			
	BRICKFIELDS			
	Edge of Town			
	Retail Zone			
	Total Gross floor area:	2417 sqm		
	Survey date: WEDNESDAY	13/07/16		Survey Type: MANUAL
<b>23</b>	<b>WO-01-C-02</b>	<b>LIDL</b>		<b>WORCESTERSHIRE</b>
	WORCESTER ROAD			
	MALVERN			
	Edge of Town Centre			
	Residential Zone			
	Total Gross floor area:	1471 sqm		
	Survey date: TUESDAY	26/06/18		Survey Type: MANUAL
<b>24</b>	<b>WY-01-C-01</b>	<b>FARMFOODS</b>		<b>WEST YORKSHIRE</b>
	WATERLOO TERRACE			
	LEEDS			
	BRAMLEY			
	Neighbourhood Centre (PPS6 Local Centre)			
	Retail Zone			
	Total Gross floor area:	700 sqm		
	Survey date: MONDAY	19/10/15		Survey Type: MANUAL

TRIP RATE for Land Use 01 - RETAIL/C - DISCOUNT FOOD STORES  
VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00	2	2511	0.159	2	2511	0.040	2	2511	0.199
07:00 - 08:00	22	1828	0.373	22	1828	0.144	22	1828	0.517
08:00 - 09:00	24	1790	2.251	24	1790	1.481	24	1790	3.732
09:00 - 10:00	24	1790	3.280	24	1790	2.610	24	1790	5.890
10:00 - 11:00	24	1790	3.739	24	1790	3.269	24	1790	7.008
11:00 - 12:00	24	1790	4.056	24	1790	3.953	24	1790	8.009
12:00 - 13:00	24	1790	3.981	24	1790	3.995	24	1790	7.976
13:00 - 14:00	24	1790	4.077	24	1790	4.354	24	1790	8.431
14:00 - 15:00	24	1790	4.230	24	1790	4.121	24	1790	8.351
15:00 - 16:00	<b>24</b>	<b>1790</b>	<b>4.316</b>	24	1790	4.356	24	1790	<b>8.672</b>
16:00 - 17:00	24	1790	4.295	<b>24</b>	<b>1790</b>	<b>4.561</b>	<b>24</b>	<b>1790</b>	<b>8.856</b>
17:00 - 18:00	24	1790	3.974	24	1790	4.237	24	1790	8.211
18:00 - 19:00	24	1790	3.367	24	1790	3.758	24	1790	7.125
19:00 - 20:00	24	1790	2.514	24	1790	2.787	24	1790	5.301
20:00 - 21:00	23	1811	1.477	23	1811	1.947	23	1811	3.424
21:00 - 22:00	21	1854	0.653	21	1854	0.981	21	1854	1.634
22:00 - 23:00	13	2079	0.048	13	2079	0.240	13	2079	0.288
23:00 - 24:00	1	1500	0.000	1	1500	0.333	1	1500	0.333
<b>Total Rates:</b>			<b>46.790</b>			<b>47.167</b>			<b>93.957</b>

AN BORD PLEANÁLA

15 MAY 2019

LTR DATED \_\_\_\_\_ FROM \_\_\_\_\_

LDG- \_\_\_\_\_

ABP- \_\_\_\_\_

**MRCL**

**TRANSPORT  
PLANNING PROFESSIONAL**

**APPENDIX**

**2**

**DMURS -  
DESIGN  
SPEED  
ESTIMATION**

Figure 3.3: FUNCTION AND THE IMPORTANCE OF MOVEMENT

HIGHER



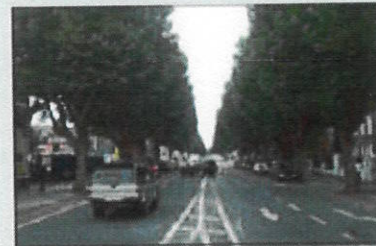
ARTERIAL STREETS



These are the major routes via which major centres/nodes are connected. They may also include orbital or cross metropolitan routes within cities and larger towns.



LINK STREETS



These provide the links to Arterial streets, or between Centres, Neighbourhoods, and/or Suburbs.



LOCAL STREETS



These are the streets that provide access within communities and to Arterial and Link streets.

LOWER



AN BORD PLEANÁLA

15 MAY 2019

LTR DATED \_\_\_\_\_ FROM \_\_\_\_\_

LDG- \_\_\_\_\_

ABP- \_\_\_\_\_

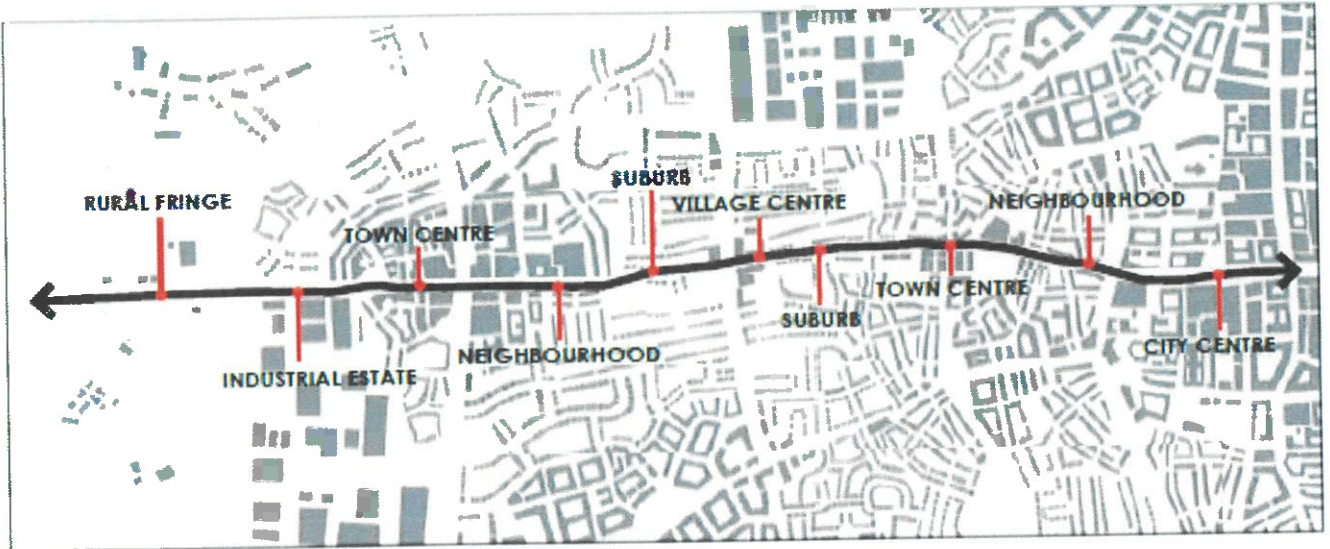


Figure 3.4: A street or road may pass through a number of different contexts along its route. As context changes, the design of streets and roads will need to change accordingly.

		PEDESTRIAN PRIORITY		VEHICLE PRIORITY		
FUNCTION	ARTERIAL	30-40 KM/H	40-50 KM/H	40-50 KM/H	50-60 KM/H	60-80 KM/H
	LINK	30 KM/H	30-50 KM/H	30-50 KM/H	50-60 KM/H	60-80 KM/H
	LOCAL	10-30 KM/H	10-30 KM/H	10-30 KM/H	30-50 KM/H	60 KM/H
		CENTRE	N'HOOD	SUBURBAN	BUSINESS/ INDUSTRIAL	RURAL FRINGE
		CONTEXT				

Table 4.1: Design speed selection matrix indicating the links between place, movement and speed that need to be taken into account in order to achieve effective and balanced design solutions.

**AN BORD PLEANÁLA**

15 MAY 2019

LTR DATED \_\_\_\_\_ FROM \_\_\_\_\_

LDG- \_\_\_\_\_

ABP- \_\_\_\_\_

**MRCL**

**TRANSPORT  
PLANNING PROFESSIONAL**

**APPENDIX**

**3**

**DMURS –  
REQUIRED  
SIGHTLINES  
AND  
VISIBILITY  
SPLAYS**

**4.4.4 Forward Visibility**

Forward Visibility, also referred to as Forward Sight Distance (FSD), is the distance along the street ahead which a driver of a vehicle can see. The results of research carried out by Transport Research Laboratory UK (TRL) for the UK Manual for Streets (2007) found that reducing forward visibility is one of the most effective measures used to increase driver caution and to reduce speeds.<sup>33</sup>

The minimum level of forward visibility required along a street for a driver to stop safely, should an object enter its path, is based on the Stopping Sight Distances (SSD). The SSD has 3 constituent parts:

- Perception Distance: The distance travelled before the driver perceives a hazard.
- Reaction Distance: The distance travelled following the perception of a hazard until the driver applies the brakes.
- Braking Distance: The distance travelled until the vehicle decelerates to a halt.

The perception and reaction distances are generally taken as a single parameter based on a combined perception and reaction time. The formula for the calculation of SSD is:

$$SSD = vt + v^2/2d$$

Where:

- v = vehicle speed (m/s)
- t = driver perception-reaction time (s)
- d = deceleration rate (m/s<sup>2</sup>)

SSDs have generally been applied according to those contained within the TIRA DMRB TD 9 which were derived from the UK DMRB Manual of the same name using a perception reaction time of 2 seconds, and a deceleration rate of 0.25g, or 2.45 m/s<sup>2</sup>. TRL found these SSD values to be overly conservative as they underestimated driver reaction times, deceleration rates and did not take into account actual road design details.<sup>34</sup> Based on this research, a driver perception-reaction time of 1.5 seconds, and a deceleration rate of 0.45g, or 4.41 m/s<sup>2</sup>, should be applied with design speeds of 60 km/h and below. For larger vehicles such as HGVs and buses, a deceleration rate of 0.375g, or 3.68 m/s<sup>2</sup> should be applied.

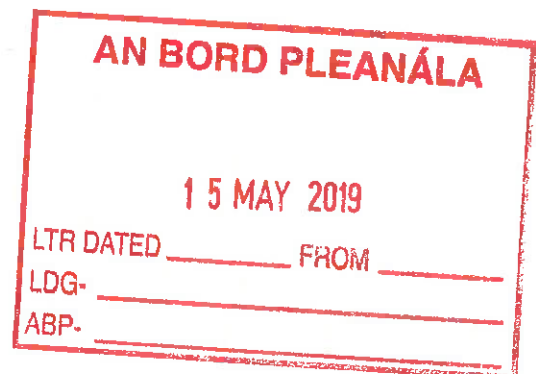
A revised set of reduced SSDs, based on the parameters included in the UK Manual for Streets (2007), are presented in Table 4.2. The reduced SSDs should be applied according to the design speed of a street [see Section 4.1.1 A Balanced Approach to Speed] at junctions and along the alignment of a street [see Sections 4.4.5 Visibility Sploys and 4.4.6 Alignment and Curvature, respectively].

<sup>33</sup> Refer to Section 7.4.4 of UK Manual for Streets (2007) and UK Manual for Streets: Redefining Residential Street Design (2006).

<sup>34</sup> Refer to Manual for Streets: Evidence and Research (TRL Report 661) (2007).

SSD STANDARDS																															
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Design Speed (km/h)</th> <th>SSD Standard (metres)</th> </tr> </thead> <tbody> <tr><td>10</td><td>7</td></tr> <tr><td>20</td><td>14</td></tr> <tr><td>30</td><td>23</td></tr> <tr><td>40</td><td>33</td></tr> <tr><td>50</td><td>45</td></tr> <tr><td>60</td><td>59</td></tr> </tbody> </table> <p style="text-align: center;">Forward Visibility</p>	Design Speed (km/h)	SSD Standard (metres)	10	7	20	14	30	23	40	33	50	45	60	59		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Design Speed (km/h)</th> <th>SSD Standard (metres)</th> </tr> </thead> <tbody> <tr><td>10</td><td>8</td></tr> <tr><td>20</td><td>15</td></tr> <tr><td>30</td><td>24</td></tr> <tr><td>40</td><td>36</td></tr> <tr><td>50</td><td>49</td></tr> <tr><td>60</td><td>65</td></tr> </tbody> </table> <p style="text-align: center;">Forward Visibility on Bus Routes</p>	Design Speed (km/h)	SSD Standard (metres)	10	8	20	15	30	24	40	36	50	49	60	65
Design Speed (km/h)	SSD Standard (metres)																														
10	7																														
20	14																														
30	23																														
40	33																														
50	45																														
60	59																														
Design Speed (km/h)	SSD Standard (metres)																														
10	8																														
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30	24																														
40	36																														
50	49																														
60	65																														

Table 4.2: Reduced SSD standards for application within cities towns and villages. Reduced forward visibility increases driver caution and reduces vehicle speeds.



**4.4.5 Visibility Splays**

Visibility splays are included at junctions to provide sight lines along the intersected street to ensure that drivers have sufficient reaction time should a vehicle enter their path. Visibility splays are applied to priority junctions where drivers must use their own judgement as to when it is safe to enter the junction. Junction visibility splays are composed of two elements: the X distance and the Y distance.

- The X distance is the distance along the minor arm from which visibility is measured. It is normally measured from the continuation of the line of the nearside edge of the major arm, including all hard strips or shoulders.
- The Y distance is the distance a driver exiting from the minor road can see to the left and right along the major arm. It is normally measured from the nearside kerb or edge of roadway where no kerb is provided.

The procedure for checking visibility splays at junctions is illustrated in Figure 4.63. An additional check is made by drawing an additional sight line tangential to the kerb, or edge of roadway, to ensure that an approaching vehicle is visible over the entire Y distance.

Longer X distances allow drivers more time to observe traffic on the intersected arm and to identify gaps more readily, possibly before the vehicle comes to a stop, thus allowing increased vehicle speeds through junctions. Furthermore, a longer X distance may encourage more than one vehicle on the minor arm to accept the same gap even where it is not ideal that they do so. Neither circumstance is desirable in urban areas. The attention of a driver should not solely be focused on approaching vehicles and the acceptance of gaps. The pedestrian/vulnerable road users should be higher in the movement hierarchy.

For this reason, priority junctions in urban areas should be designed as Stop junctions, and a maximum X distance of 2.4 metres should be used. In difficult circumstances this may be reduced to 2.0 metres where vehicle speeds are slow and flows on the minor arm are low. However, the use of a 2.0 metre X distance may result in some vehicles slightly protruding beyond the major carriageway edge, and may result in drivers tending to nose out cautiously into traffic. Care should be taken to ensure that cyclists and drivers can observe this overhang from a reasonable distance and manoeuvre to avoid it without undue difficulty.

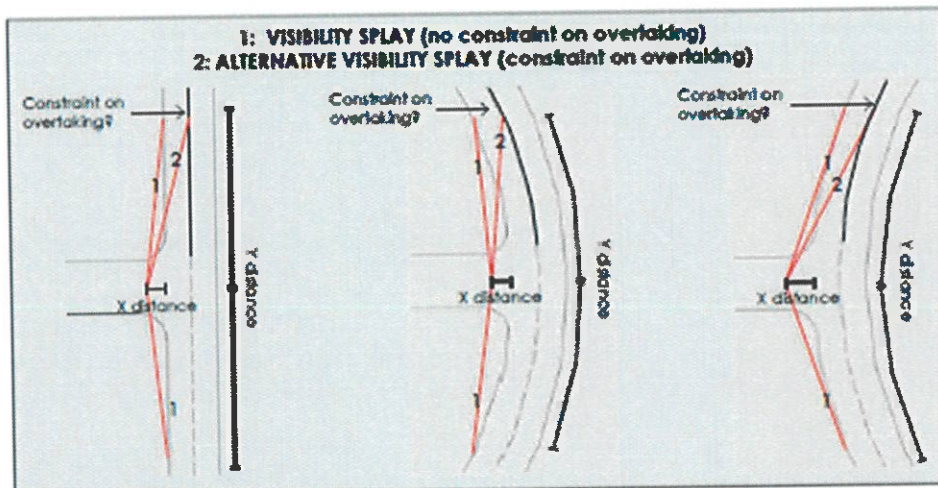


Figure 4.63: Forward visibility splays refer to an X and Y value. The X value allows drivers to observe traffic on the intersected arm. The Y value allows the driver of a vehicle to stop safely should an object enter its path, and is based on the SSD value.

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The Y distance along the visibility splay should correspond to the SSD for the design speed of the major arm, taken from Table 4.2 while also making adjustments for those streets which are frequented by larger vehicles. For example, within Industrial Estates and/or on Arterial and Link streets with higher frequency bus routes.

In general, junction visibility splays should be kept clear of obstructions, however, objects that would not be large enough to wholly obscure a vehicle, pedestrian or cyclist may be acceptable providing their impact on the overall visibility envelope is not significant.

Slim objects such as signs, public lighting columns and street trees may be provided, but designers should be aware of their cumulative impact.

- Street furniture, such as seats and bicycle stands may also be acceptable, subject to being sufficiently spaced.
- Splays should generally be kept free of on-street parking, but flexibility can be shown on lower speed streets with regard to minor encroachments.
- Pedestrian guardrails can cause severe obstruction of visibility envelopes, and the use of guardrails should be avoided (see Section 4.2.5 Street Furniture).

Designers should also check the visibility envelope in the vertical plane on approach to junctions (see Section 4.4.6 Alignment and Curvature, Figure 4.67)

Designers may have concerns about reducing visibility splays at junctions that carry higher volumes of traffic at more moderate speeds. This issue was addressed further in respect of research carried for the UK Manual for Streets 2 (2010). This included 'busy radial roads', many of which included bus routes within a variety of 20, 30 and 40 mph environments.<sup>35</sup> The research concluded that there is no evidence that reduced SSDs are directly associated with increased collision risk, as shown on a variety of street types at a variety of speeds. The Manual for Streets 2 (2010) also refers to research where it was found that higher cycle collision rates occurred at T-junctions with greater visibility.<sup>36</sup> The research concluded that this was because drivers were less cautious where greater visibility was provided.

Designers must also take a holistic view of the application of reduced forward visibility splays. As illustrated in the Adamstown Street Design Guide (2010), there are other place making and traffic calming benefits that can be implemented by reducing forward visibility splays at junctions (see Figure 4.64).

#### 4.4.6 Alignment and Curvature

<sup>35</sup> Refer to 10.4 of UK Manual for Streets 2 (2010) and the report High Risk Collision Sites and Y Distance Visibility (2010).

<sup>36</sup> Refer to Layout and Design Factors Affecting Cycle Safety at T-Junctions (1992).

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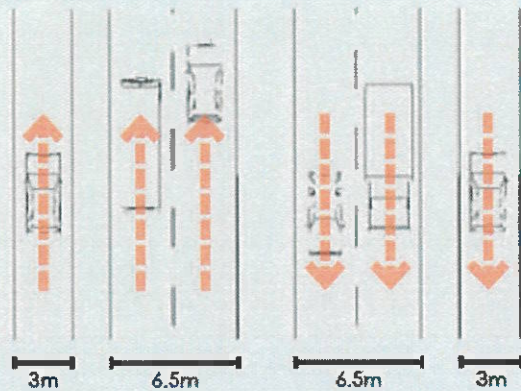
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**APPENDIX**

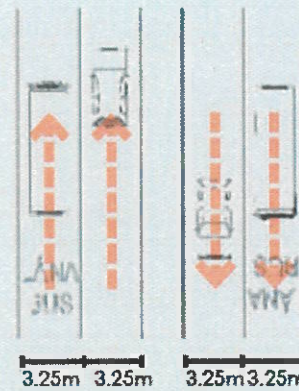
**4**

**DMURS -  
REQUIRED  
WIDTHS FOR  
LOCAL, LINK  
AND  
ARTERIAL  
ROADS**

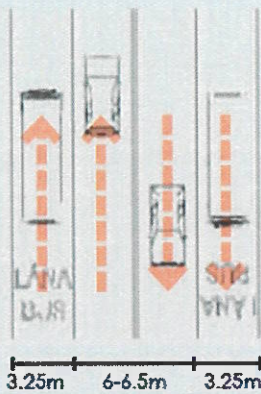
**FIGURE 4.55: CARRIAGEWAY WIDTHS**  
 (note: Illustrations do not include cycle facilities)



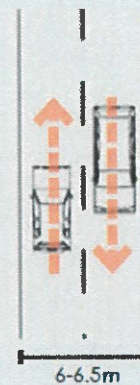
Carriageway widths for heavily-trafficked *Arterial* and *Link* streets in boulevard configuration. Main carriageway suitable for moderate design speeds. Includes access lanes with a lower design speed.



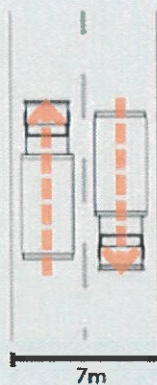
Standard lanes widths for multi lane carriageway for *Arterial* and *Link* streets in boulevard configuration, including bus lanes.



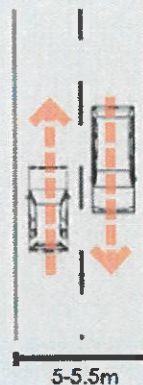
Standard lane/carriageway widths for multi lane *Arterial* and *Link* streets, including bus lanes. Range for low to moderate design speeds.



Standard carriageway widths for *Arterial* and *Link* streets. Range for low to moderate design speeds.



Carriageway width for *Arterial* and *Link* streets frequently used by larger vehicles.



Standard carriageway width for *Local* streets



Carriageway width for *Local* streets with a shared surface carriageway.

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**APPENDIX**

**5**

**PHOTOS OF  
AVAILABLE  
SIGHTLINES  
AND LANE  
WIDTHS AT  
POLONEZ  
SITE**



**PHOTOGRAPH NO. 1: SIGHTLINE TO THE LEFT ALONG R212 DUBLIN ROAD FOR EXITING DRIVERS AND EXISTENCE OF GHOST-ISLAND LANE FOR RIGHT-TURNING INBOUND TRAFFIC**



**PHOTOGRAPH NO. 2: SIGHTLINE TO THE RIGHT ALONG R212 DUBLIN ROAD FOR EXITING DRIVERS**



PHOTOGRAPH NO. 3: GOOD LANE WIDTHS AT ENTRY POINT TO POLONEZ DEVELOPMENT