CAR PARK DESIGN MANUAL 2021

Rev P04

21/04/2021

ASDA

Revision History

2021/03/01 – Initial Issue.
2021/03/09 – Comments captured from key user groups
2021/03/22 – Additional comments from steering group & GPS added
2021/04/21 – Additional comments added.

Contents

ASDA

1. Introduction

ASDA_External Signage_2021_REV1.pdf

1. Introduction

This design guide is intended to provide guidance on Asda's requirements in relation to ALL car parks, whether this be at a new or an existing store.

The quality of our car parks plays a fundamental role in the customers experience when visiting our stores. Whilst high quality car parks are rarely acknowledged by the customer, a poor car park can result in low customer satisfaction scores and is likely to impact a stores sales and overall performance.

Whilst it may not be possible to retrospectively meet all of the standards set out within this document, best endeavours should be made to ensure the customer's journey and experience is as easy and as simple as possible

Please be aware that the principles contained within this document are intended to be for guidance purposes only. Their suitability should therefore be assessed by the designer on a site-by-site basis and applied as a scheme evolves. Whilst not exhaustive the following list of key considerations may affect the designer's ability to achieve the standards set out within this guide:

- Demographics;
- Site area;
- Site geometry;
- Store size;
- Store offers;
- Surrounding context

This design guide **WILL** provide:

- Recommendations for the design and planning of Asda car parks
- Available options and suitable circumstances in which they are to be chosen
- Top level technical and design solutions
- Specific solutions and requirements where these are business critical

This design guide **WILL NOT** provide:

- A single standard 'model' solution
- Specific drawings, details or specifications for the purpose of planning, building warrant or other statutory consents and approvals.
- The need or project by project sign off in regards to ASDA internal approval processes
- Signage guidance – refer to "ASDA_External Signage_2021"
- EV Charging guidance is covered in a separate EV Charging Design Guide – please refer to "EV_CHARGING_DESIGN_GUIDE_REV2"
- Changes to the Scottish "deposit return scheme" to be reviewed for 2022.

This design guide has been informed by industry standards and best practice, drawing on guidance from documents such as:

- BS8300: 2009 – Design of buildings and their approaches to meet the needs of disabled people. Code of Practice.
- NPPF
- PPG13 – Planning Policy Guidance 13: Transport
- BS 5306: Fire Extinguisher Installations
- The Institution of Structural Engineers 2002, [Image and content] Design Recommendations for Multi-Storey and Underground Car Parks – Third Edition
- Car Park Designer's Handbook, 2nd Edition, J D Hill, Glynn Rhodes, Steve Vollar. Handbook, ICE Publishing, London 2013

ASDA Acronyms

As a business ASDA use a significant number of acronyms to describe many of the processes, functions and tasks that the business undertakes. These acronyms can be confusing and misleading even to those within the business who are familiar with them. The following is a summary of some of the most commonly used acronyms, please refer to these as guidance when using this design guide and other documents referred to.

ACP	Automated Collection Point
AHU	Air Handling Unit
AIR	Asset Information requirements
ALS	Asda Logistics Services
AOS	Asda Operational Security
AREC	Asda Real Estate Committee
ATM	Automated Teller Machine
AWOW	Asda Ways of Working
BIM	Building Information Modelling
BEP	BIM Execution Plan
BMS	Building Management System
BOH	Back of House
BOL	Building Outline
BWS	Beers Wines + Spirits (Licence
CBR TEST	California Bearing Ratio
C+C	Click and Collect
CDM	Construction Design Management (Regulations) (2015)
CDS TEAM	Construction Design Standards Team
CER	Capital Expenditure Request
CFR	Construction Feedback Form
CH+R	Combined Heat + Refrigeration
CIG	Continuous Improvement Group
COBie	Construction Operation Building Information Exchange
COPS	Consultant Order Particular
CPD	Continual Professional Development
DA	Developers Agreement
DIS	Design Issue Sheet
DSS	Developers Shell Specification
EAS	Electronic Article Surveillance (Barriers)
ECP	Electric Charging Point
EDLC	Every Day Low Cost
EIR	Employers Information Requirements
EPC	Energy Performance Certificate
EDLC	Every Day Low Cost
FAB	Fast Approvals Board
FSU	Free Standing Unit
HSE	Health + Safety Executive
HVAC	Heating Ventilation and Cooling
IREC	International Real Estate Committee
IRR	Internal Rate of Return
IRS	Information Request Schedule
IT	Information Technology
KDRB	Knock Down and Rebuild
LCC	Life Cycle Cost
LCOM	Low Cost Operating Model
LPS	Loss Prevention Society
M&E	Mechanical and Electrical
MCS	Model Change Sheet
MLVP	Market Leading Value Proposition
MIDP	Master Information Delivery Plan
NBS	National Building Specification
NMU	Non Motorised User
PAR	Project Approval Request
PFS	Petrol Filling Station
PON	Purchase Order Number
POS	Point of Sale
REC	Real Estate Committee
RFI	Request For Information
SAP	Universal Purchasing System
SLA	Service Level Agreement
SME	Subject Matter Expert
SFP	Sales Floor Plan
SR(4)	Security Rating
TAG	
TAS	Technical Assistance Sheet
TIDP	Task Information Delivery Plan
TPO	Tree Preservation Order
VE	Value Engineering
WAGJLL	What a Good Job Looks Like
WC4L	We Construct for Less
WIP WPT	Work In Progress Work Place transport
YBM	Year Beginning Meeting

2. Design Criteria

2. Design Criteria

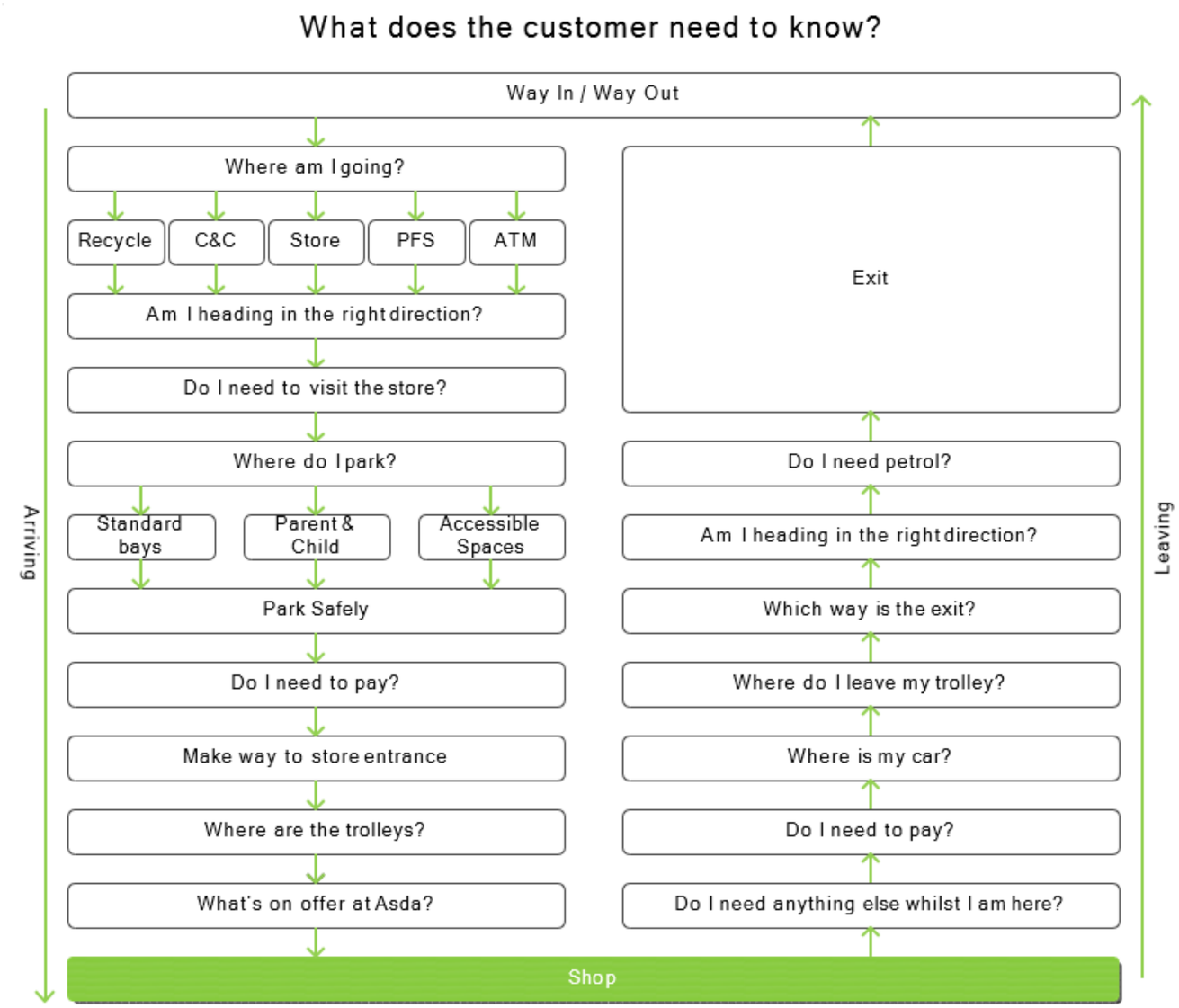
2.1 Customer Journey

One of the principal purposes of this document is to ensure that the 'customer journey' is as simple, easy, barrier free and an enjoyable experience when visiting our stores. In order to achieve this, it is essential that an understanding of the journey, experience and environment that we create is seen through the eyes of the customer.

It is therefore useful to map that 'journey' a customer undertakes as they make their way to and from the store, highlighting the potential decisions faced at key junctions. This 'map' should provide a designer with a greater understanding and insight of the issues faced by a customer. A framework of the issues faced can then be used to remove or address any threshold barriers that could impact on that 'customer journey'.

Whether arriving on foot, bus, bicycle or by car the same process should be undertaken for each mode and whilst not all stages will be applicable, it still acts as a useful prompt of the key activities that should be considered by the designer and can constructively inform the design process.

One example of where this approach can be useful is the decision to locate a trolley bay adjacent to a bus stop or at the final point at which a customer crosses our site boundary when walking along a footpath. This type of customer focused solution is something that is often missed. It not only creates frustration for the customer, but also introduces the potential of trolleys being abandoned across the car park. This not only contributes to a general appearance that our car parks are not well maintained but also reduces operational efficiencies, due to the increased man hours required for trolley retrieval. A simple solution that is a win win for the customer and ASDA colleagues.



2. Design Criteria

2.2 Store Brand and Visibility

Exterior and interior commercial signage not only increases brand awareness and overall visibility, it also builds brand equity and consumer confidence.

Aside from delivering brand awareness with a logo, store signage also delivers subtle psychological cues - where the main entrance is - permitting way-finding and improving the customer experience.

Operating a successful physical retail business that attracts customers and drives sales requires the store to get noticed requiring visibility and brand to be properly considered.

However, poor and excessive signage can cause over- stimulation and even confusion, and this must be avoided

2. Design Criteria

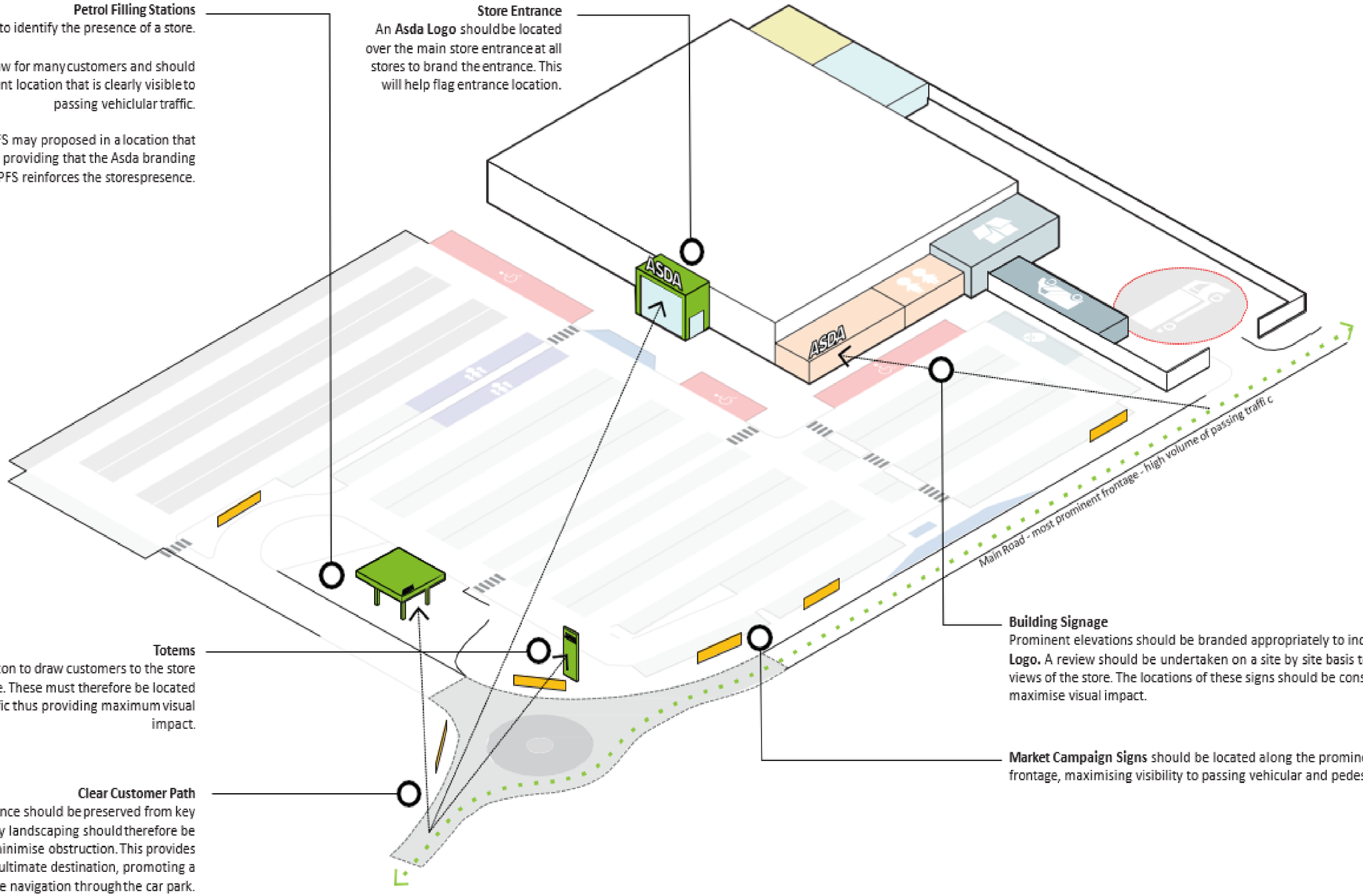
2.2 Store Brand and Visibility

Petrol Filling Stations
PFS can also act as a key beacon to identify the presence of a store.

The inclusion of a PFS is a key draw for many customers and should therefore be located in a prominent location that is clearly visible to passing vehiclular traffic.

In exceptional circumstances a PFS may proposed in a location that obscures visibility of the store providing that the Asda branding associated with the PFS reinforces the storespresence.

Store Entrance
An **Asda Logo** shouldbe located over the main store entranceat all stores to brand the entrance. This will help flag entrance location.



Totems
Totems should be used as a beacon to draw customers to the store and mark the entrance into the site. These must therefore be located and orientated to face passing traffic thus providing maximum visual impact.

Clear Customer Path
Clear visibility of the store entrance should be preserved from key viewpoints wherever possible. Any landscaping should therefore be maintained accordingly to minimise obstruction. This provides customers with a visual link to the ultimate destination, promoting a simple navigation through the car park.

Building Signage
Prominent elevations should be branded appropriately to include the **Asda Logo.** A review should be undertaken on a site by site basis to assess key views of the store. The locations of these signs should be considered so as to maximise visual impact.

Market Campaign Signs should be located along the prominent site frontage, maximising visibility to passing vehicular and pedestrian traffic.

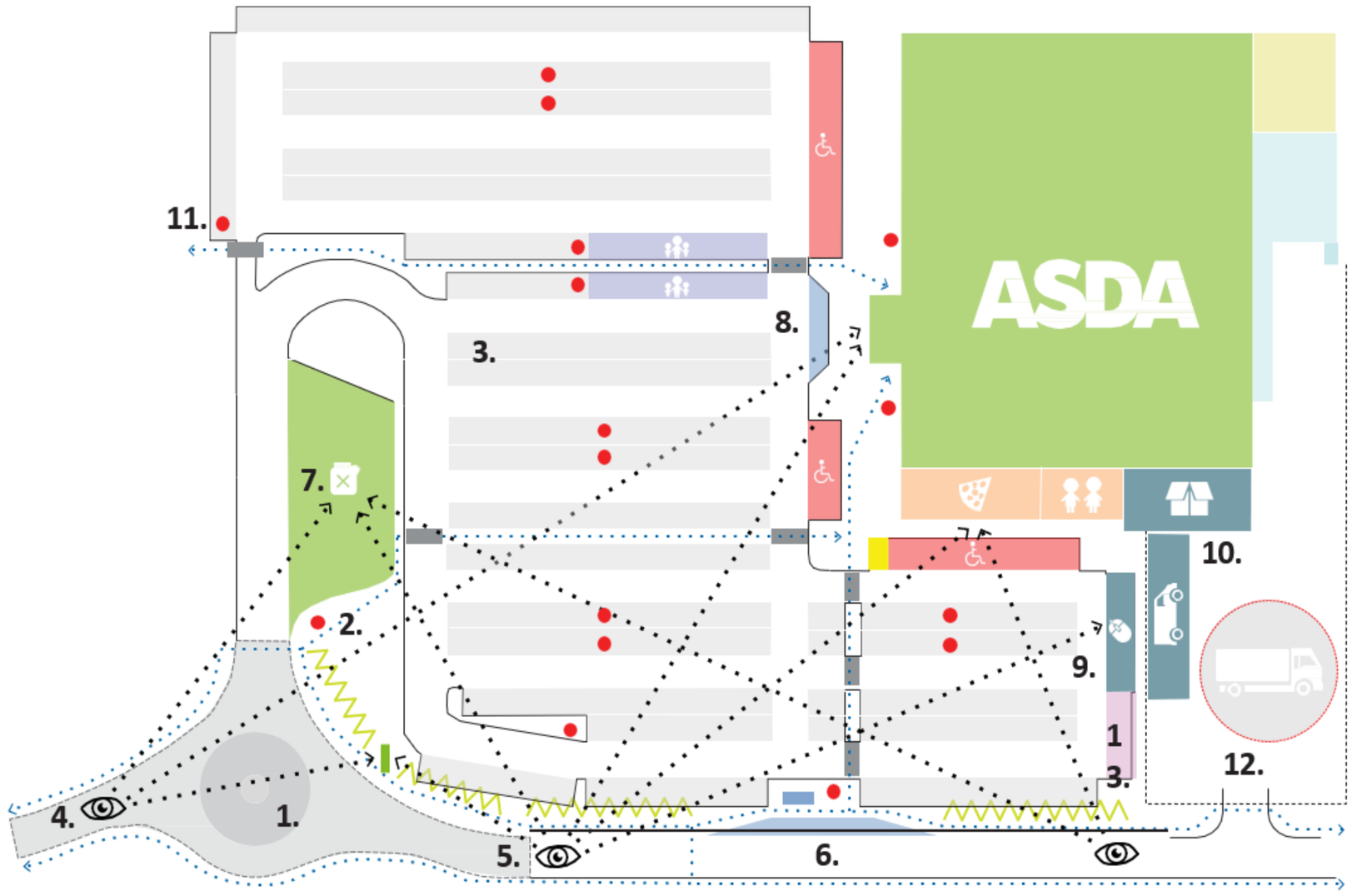
2. Design Criteria

2.3 WAGJLL Site Layout

The site arrangement shown provides some high-level guidance as to what an idealised site layout could look like.

Whilst addressing all the items listed; below may not always be achievable, they should be reviewed on a site-by-site basis to ensure that they are accommodated wherever feasible.

1. Preferred Access / egress solution;
2. Clear pedestrian links that follow key customer desire lines.
3. Logical car park layout, which is inherently easy to navigate;
4. Clear visibility across site from main road to aid stores prominence;
5. All core offers are clearly identifiable from main road promoting a full range of services;
6. Promote strong public transport links;
7. PFS located in prominent location on exit of main access route and separate from main car park;
8. Customer pick up / set down point located in close proximity to store entrance;
9. Click and Collect collection point easy for the customer to identify and navigate to;
10. Home shopping vans and Click and collect located adjacent to home shopping pod to optimise operations
11. Trolley bay provision strategically placed to best serve all customers;
12. Separate service yard entrance from the main car park;
13. Recycling service located away from main customer route but easy to identify and navigate to. Ideally serviceable from service yard to minimise impact on car park.



2. Design Criteria

2.3 WAGJLL Site Layout

SITE ACCESS

- directly facing the store entrance
- roundabout or other free flowing all movements, in and out, junction
- signalised junction acceptable
- stacking capacity on entry road

SERVICE YARD / HOME SHOPPING

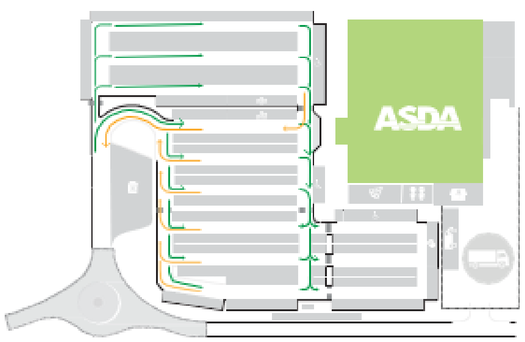
- separate service yard entrance
- independent access from the customer entrance
- secure and gated
- home shopping delivery vans located within service yard

PEDESTRIAN CONNECTIVITY

- pedestrian movements prioritised
- pedestrian routes from outwith and within car park that follow customer desire lines
- safe, marked and signalised crossings
- drop kerbs and tactile paving at crossings
- flush kerbs at store entrance and accessible / parent + child spaces

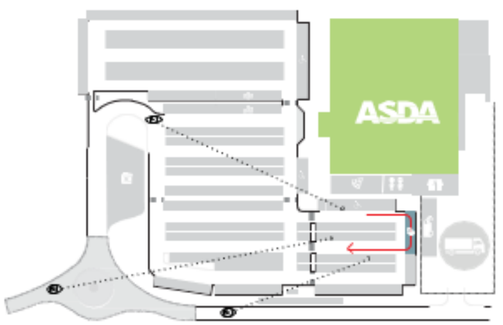
PFS

- must be visible
- accessible for customers entering and leaving the site
- positioned on left hand side of exit road



CAR PARK LAYOUT

- keep it simple
- stacking capacity on entry road
- logical traffic flow with aisles leading toward store entrance
- no dead-end parking spaces
- avoid one-way systems



CLICK + COLLECT

- must be visible but not positioned in an obtrusive location
- must be safe to use and avoid dead end or reversing manoeuvres
- easy location for customers to access by car and by foot

3. Establishing Quantity

3. Establishing Quantity

3.1 Calculating Car Park Provision / Occupancy

ASDA's customer parking requirement for New Stores is determined by a calculation of the likely number of car-borne shopper visits.

This is calculated using the forecasted weekly in-store sales, forecasted in-store customer numbers, and the % that would travel to the store by car.

Car usage will depend on a variety of factors such as the store location type, market characteristics & alternative transport options.

Consideration may also be given to adjacent occupiers & resulting potential shared use. (This may, however, be mitigated through car park management).

The number of spaces may also be affected by the maximum permitted through Local and National Planning Policy. This may vary depending on location.

With regards to Existing Stores car park requirements, the current car park usage can be assessed using a variety of means. The most robust way is through a Drone Survey, which provides real time visual data to measure actual usage. Analysis can then be applied to extrapolate the data for store trading patterns and calculate the number of surplus spaces (or deficit). In the absence of a Drone Survey, calculations using the New Store methodology can be applied, based on actual in-store sales & customer numbers.

Store visits/observations alongside feedback from store colleagues can also be used to validate the analysis.

In all cases the car park provision should be sufficient to accommodate future growth potential.

PLANNING POLICIES

ENGLAND & WALES

Following the adoption of the National Planning Policy Framework (NPPF) in 2012, all Planning Policy Guidance Notes (PPG) have been withdrawn from Legislation. Consequently, it is now the responsibility of Local Planning Authorities (LPA's) within England and Wales to maintain Local Plans and guidance in line with the terms set out within the NPPF.

With control devolved to Local Authorities, many have therefore created localised standards that establish guidance on the following provisions /requirements;

- Maximum parking numbers;
- Accessible Parking; Parent & Toddler;
- Electric Charging Points / Car Share Spaces;
- Motorcycle spaces;
- Bicycle spaces

As a consequence of the localised legislation outlined above, it is therefore difficult to provide definitive guidance with regards to parking provision that will be applicable across all regions / stores.

This notwithstanding, many LPA's have opted to mirror the guidance previously contained within PPG13 when producing their individual Local Plans and supporting guidance in relation to parking standards.

SCOTLAND & NORTHERN IRELAND

Scotland & Northern Ireland have long held their own established standards; Scottish Planning Policy 17 (SPP17) and Planning Policy Statement 3: Access, Movement & Parking (PPS3) respectively. Contrary to English and Welsh policy, the Scottish and Northern Irish standards retain a national standard which dictates the maximum parking provision permitted for retail. This is consistent with PPG13

DESIGN PRINCIPLE

Due to the differences in policy across the UK and the fact that many local authorities have chosen to replicate the terms, Asda will therefore continue to use the following rule of thumb in order to provide consistency.

1 per 14m²

PPG13 Maximum Parking Space Calculation vs.
Gross External Area

over 1000m2

Each site should therefore be reviewed in relation to the relevant local legislation dependant upon its individual location.

3. Establishing Quantity

3.2 Car Park Utilisation

As previously noted in order to assist Asda in better understanding its customers and the way in which they utilise the car park, Asda undertake car park occupancy surveys. Asda also undertake customer satisfaction surveys and customer listening groups. These surveys will highlight if there are any issues and or opportunities for the store car park.

By reviewing a car park's general arrangement through the customers' eyes and understanding its occupancy levels, it is possible to gain an understanding as to those spaces that will generally be most and least utilised.

Generally, the majority of customers will
"most likely take the most direct route to those spaces located nearest to the store entrance;"

Usage, generally, will then radiate out from the store entrance. Those spaces located furthest from the store entrance are therefore only utilised during busy and peak trading periods.

Having an increased understanding of a store's car park use pattern can therefore help inform decisions regarding how best to manage and utilise the car park on a site-by-site basis.

The plan opposite graphically illustrates the 'zones' within a car park where, potentially, the greatest opportunities exist. This is important in understanding and informing decisions that can have a significant impact, good and bad, on the quality, perceived and actual of a car park from the customer perspective.

Some strategic examples of improvements to a car park design, or an existing car park could be;

- Improving pedestrian connectivity
- Increasing parking bay widths
- Improving and simplifying vehicular circulation
- Increasing specialist parking provision
- Improved car park lighting

or by the introduction one of the following

1.Petrol Station
2.Click & Collect
3.Supporting Asda offer
4. Third Party Reasons to Visit

3. Establishing Quantity

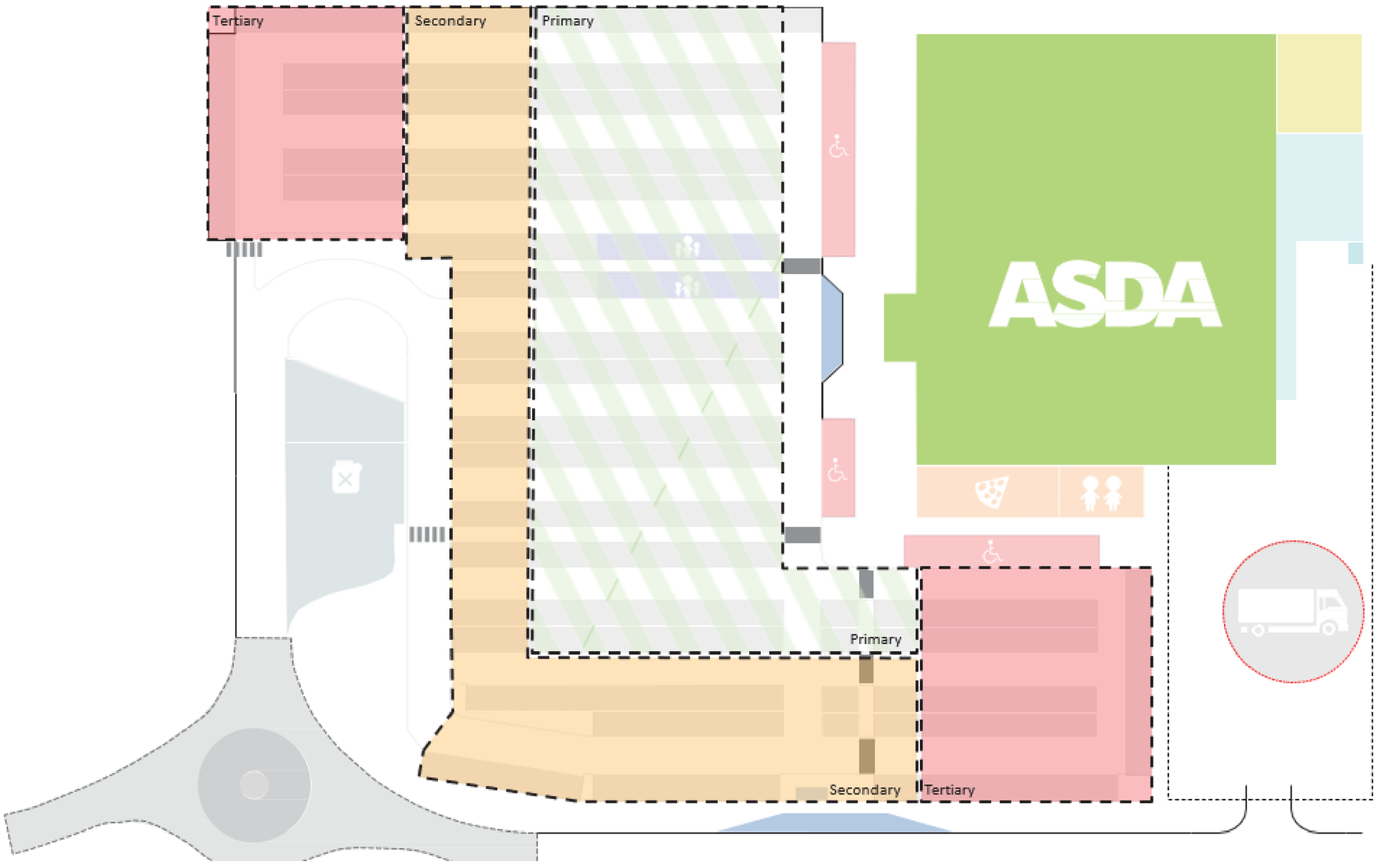
3.2 Car Park Utilisation

Primary Location – is defined as the area of the car park most likely to be used during a weekday peak trading period.

Secondary Location – is defined as the area of the car park beyond the Primary Location, most likely to be used during weekend peak trading periods after the Primary Location becomes fully utilised.

Least Preferred Location – is defined as all other areas of the car park that are effectively brought into use during Holiday Season trading periods such as Christmas and Easter.

Each site should be reviewed in isolation taking into account the layout of the car park, entrance to store and proximity of third party offers and other facilities within the wider site



3. Establishing Quantity

3.3 Car Park Management

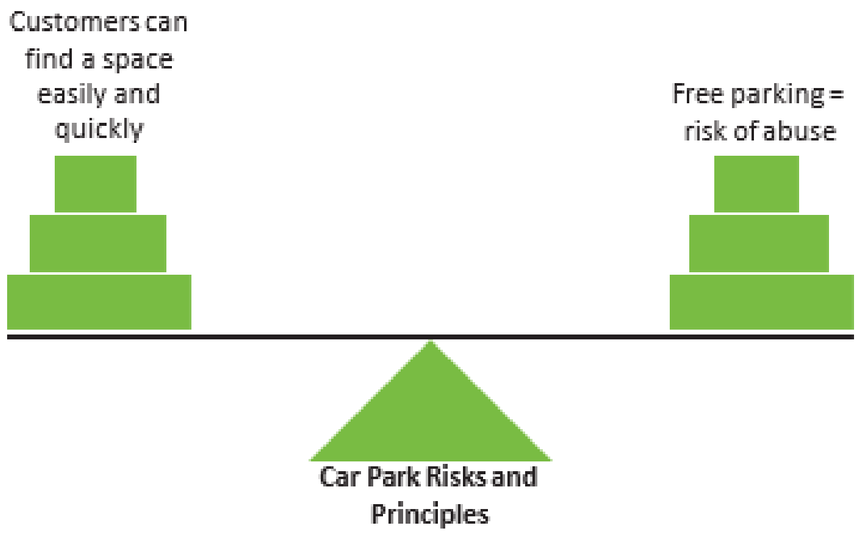
Asda's preferred car park strategy is to provide a free and unrestricted parking provision for our customers.

Golden Principle 19
'I can park in the car park for as long as I require for free'

The implementation of a car park management strategy to control parking time, charging etc., should therefore be carefully considered on a site-by-site basis and should only be used as a last resort.

However, in situations where there is a high risk of abuse, limited parking provision or in a worst-case scenario both, a management system may need to be introduced.

The decision to introduce a management strategy, should be made with the ultimate aim of achieving a balance between maximising the available parking provision by minimising car park abuse and ultimately reducing customer dissatisfaction caused by having to pay for parking.

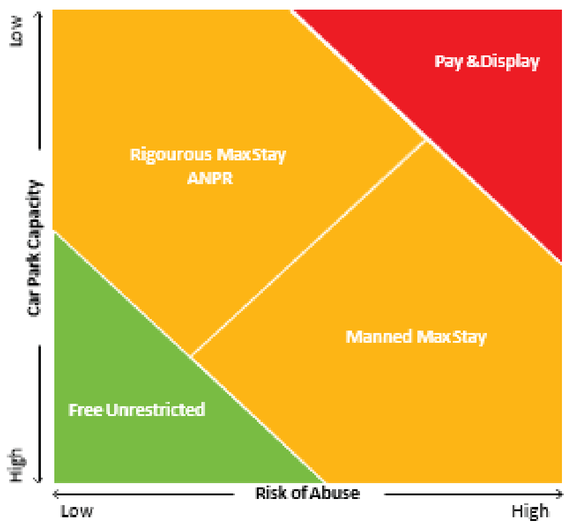


Type of Risk	Low	Medium	High
Risk of Abuse: Distance from Town Centre	The car park is more than a 5 min walk from the town centre	The car park is about 5 mins walk from the town centre	The car park is convenient for the town centre
Risk of Abuse: Other attractions / reasons to use the car park e.g., train station, hospital	The Asda Car Park is not attractive to Non-Asda Shoppers	The Asda Car Park could be attractive to Non-Asda Shoppers	The Asda Car Park is very attractive to Non-Asda Shoppers
Consideration: Other car parks in the vicinity	The car park, if it were max stay, would attract very few customers from alternative P&D car parks in the town	Existing P&D car parks are not in close proximity and therefore if max stay the car park would attract only a small number of non-Asda car park users	The car park, if it were max stay, would attract a substantial proportion of existing patrons from adjacent P&D car parks. Asda becomes the free car park for the town whereas everywhere else is P&D

In order to ensure that the correct strategy is implemented it is necessary to understand the overall car park capacity vs. the level of risk inherent on a site. Once the capacity has been determined following the undertaking of a car park occupancy survey, the risk of abuse can be identified by utilising the above table.

Once these factors have been identified, a suitable control measure can be chosen and implemented. Generally, the lower the car park capacity and the higher the level of abuse the more restrictive the control measure, as shown in the diagram to the left.

Swing arm barriers should not be implemented as part of a management control method on any Asda car park. Rising barriers can be revied with a specification from the Construction Team.



3.3 Car Park Management

COLLEAGUE PARKING

A more formal method of car park management may also need to be considered on sites which are known to have capacity issues and do not have any segregated colleague parking facilities.

At peak times it may be necessary for colleague parking to be monitored and specific areas identified where it is appropriate for this to take place to ensure that prime parking spaces are made available to customers.

In extreme cases it may even be worthwhile exploring the potential for off site colleague parking provision to be acquired, however this should be considered as a last resort.

This is likely to be an issue for the particular GSM and the situation should be monitored on a regular basis.

4. Access

4. Access

4.1 Car Park Design Criteria - Site Access / Egress

STORE ACCESS

The choice of store access and layout will depend on a number of variables and, consequently, cannot be prescribed. Factors to consider when choosing the form of the junction include:

- The type of road and propensity for certain types of junction (e.g., signalisation);
- Major road speed limits;
- The extents of the site frontage and ability, therefore, to form the junction and its required visibility splays;
- The application of design standards;
- Road Safety; and
- Operational capacity.

However, Asda's hierarchy of preferences, in respect of junction type, is as follows:

- Roundabout;
- Traffic signals
- Priority junction

The oversight of new highway designs and their maintenance is the responsibility of the local highway authority (LHA). Scheme designs, for many reasons but principally the safe and free flow of traffic, are subject to design standards contained, typically, within the LHA design guidance and derived from the overarching Design Manual for Road and Bridgeworks (DMRB).

GEOMETRIC DESIGN

DMRB standards are rigidly adhered to when designing schemes associated with the strategic road network (trunk roads and motorways) but are less so when considering the local road network. This is because the strict adherence to DMRB standards for local roads, particularly in urban areas, may result in schemes becoming infeasible due to land constraints.

Nonetheless, DMRB principles underpin all local highway authority Highway Design Standards and relaxations from these will need to be agreed between the designer and the LHA. Typical design standards relate to junction spacing, stopping distances and road gradients. In addition, lane widths, kerb radii and roundabout diameters are all important variables that influence junction capacity.

EXISTING ESTATE

The access criteria relevant to as per a new store is also relevant in reviewing an existing store car park. This is particularly relevant where:

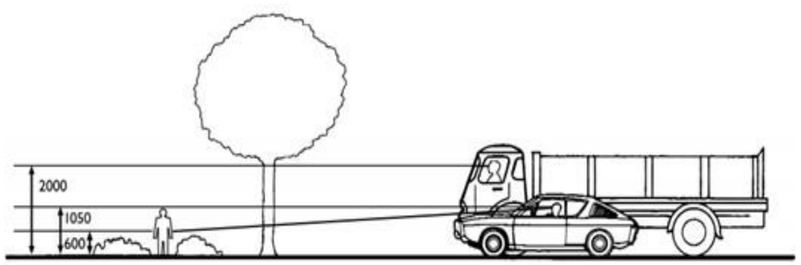
- There are known issues with capacity and stacking;
- A PFS is being considered;
- Additional third-party offers are being considered

SIGHT LINES

A principal geometric standard that must be reviewed and accommodated is sight lines; these are required to permit drivers to see a potential hazard in sufficient time to react to it. It is necessary to consider the driver's line of vision, in both vertical and horizontal planes, and the stopping distance of the vehicle

VERTICAL VISIBILITY ENVELOPE

As general guidance, it is suggested that a height of 600mm be taken as the point above which unobstructed visibility should be provided wherever the potential exists for conflicts between motorists and young children. This will apply along all sections of road, including the internal access road and, is especially important where shared surfaces are used

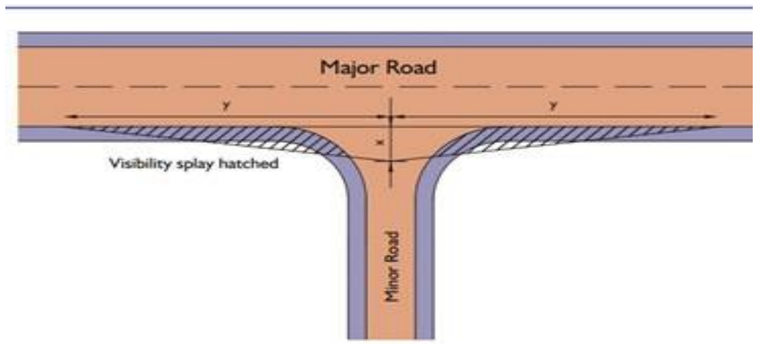


JUNCTION VISIBILITY

Junction visibility requirements will vary depending upon the form of the junction; standards for a roundabout are different to signals and different to a priority junction. Nonetheless the principle requires inter-visibility between road users.

By way of an example, to ensure that drivers preparing to exit a minor road can see and be seen by traffic proceeding along the major road, clear visibility is required to both sides of the major road as shown below. Any junction must be constructed and maintained so that nothing is placed, installed or planted that will obstruct the visibility splay.

Where possible, visibility splays should be defined with footways to the rear of the splay to clearly define the splay and to prevent misuse. The following junction diagram and tables indicate the X and Y dimensions to be calculated for junction visibilities.



DIMENSIONS

To be measured along the centreline of the side road, from the channel of the priority road.

Y DIMENSIONS

The 'Y' dimension is measured along the channel line of the priority road. This dimension will depend on the speed of traffic on the priority road; the appropriate distance can be read off Table A or B.

4. Access

4.1 Car Park Design Criteria - Site Access / Egress

JUNCTION DESIGN

Junction design is particularly onerous given the increased potential for vehicular conflicts with other road users. The correct design should seek to provide sufficient capacity to accommodate traffic at least five years after the store opening as well as providing for the safe movement of all road users.

Each form of junction has advantages and disadvantages, for example, a roundabout can provide significant traffic capacity and is particularly beneficial in off peak periods as traffic on the principal routes experience less delay; however, roundabouts often use more land, and they are not favoured by cyclists and other non-motorised road users (NMU).

Replacing the roundabout option with a signalised junction, for example, would likely result in less land take and make provision for NMU but this is at the expense of delays to all road users - even in out of peak periods - as drivers can be sat at a set of traffic lights even when there appears to be no other traffic using the junction. Pedestrians too are delayed as they wait for the signal to cross and this can be perceived as a safety issue if the waiting time is too long. All new road design will be subject to the Road Safety Audit (RSA) process.

IDENTIFICATION OF ACCESS TYPE

This guide below aims to provide a rule of thumb approach to the identification of an appropriate junction type for prospective ASDA store sizes in different situations. Bearing in mind the impact of the variables discussed above, the guide is non-specific and non-prescriptive. Consequently, whilst the guide is based on empirical information, it reflects an engineer's judgement and experience. It should be noted, therefore, that given further discussions with the highway authorities, the derived form of junction may be subject to change as a consequence of local policies or local safety issues.

It should be noted also that the final junction type and its arrangement is subject to design and capacity analysis by a Highway Engineer and subsequent local authority approval

METHODOLOGY

1.. Chose the major road type and read upward

The major road type is one of four categories identified in DMRB. They range from a busy high street scenario through to a high standard dual carriageway. Their descriptions accord with DMRB. Speed limits are always variable but lower speeds can be expected on busy high streets and dual carriageways are often subject to 60mph or, more likely, the national speed limit.

2. Identify the store size (net) and read across

The store size reflects the forecast traffic generation based upon trip rates derived from the TRICS database. The larger the store the greater the traffic generation on the minor arm of the new junction.

3. Determine the junction type from the row and column intersection.

The junction types (J1-J5) are those typically adopted in the UK; not included are unsignalised crossroads arrangements as these are not generally suitable due to the increased likelihood of vehicle conflicts and severity of accidents. It should be noted that the scale of the junction, i.e. its size and the number of lanes on each approach, will need to be determined through capacity analysis. The guide will identify only that a junction type is appropriate for that situation e.g. for a 25k store, on a category B road subject to a 40mph speed limit, either J4 (roundabout) or J5 (signalisation) would be appropriate.

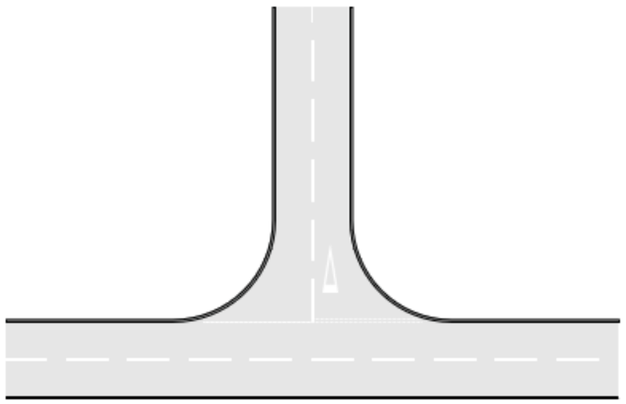
			Typical Junction Type*			
ASDA Store Size (net)	40k	→	J4/J5	J4/J5	J4/J5	J5
	30K	→	J4/J5	J4/J5	J4/J5	J5
	25K	→	J4/J5	J4/J5	J3/J5 (option J3 only potentially suitable within 30mph speed limit)	J3/J5
	20K	→	J4/J5	J4/J5	J2/J3 (option 3 only potentially suitable within 30mph speed limit)	J2/J3
	10K	→	N/A	J2	J1/J2	J1/J2
* For guidance only. The final junction type and arrangement is subject to design and capacity analysis by a Highway Engineer and subsequent local authority approval.			↑	↑	↑	↑
Major Road Type	Major Road Description		A High standard single / dual carriageway road; carrying predominantly through traffic with limited frontage access	B Good standard single / dual carriageway road with frontage access and more than two side roads per km,	C Variable standard road carrying mixed traffic with frontage access, side roads, bus stops and at grade pedestrian crossings	D Busy high street carrying predominantly local traffic with frontage activity including loading and unloading
	Major Road Speed Limit		Dual 60 / 40 Single	40	30 / 40	30

4. Access

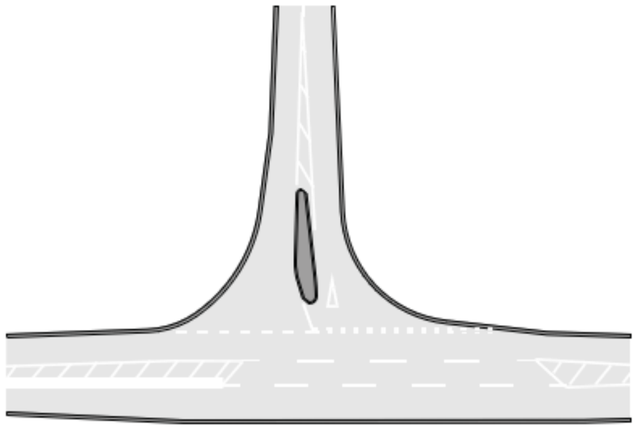
4.1 Car Park Design Criteria - Site Access / Egress

Refer to subsequent diagrams for typical junction arrangements

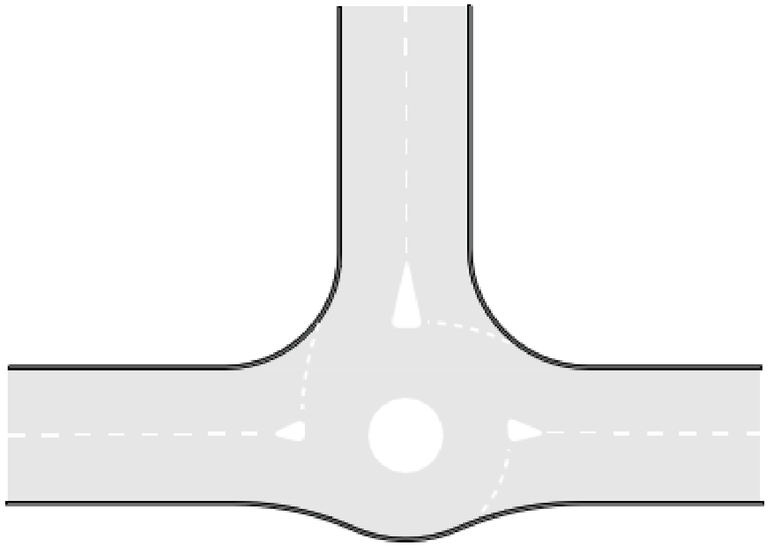
Each diagram provides an indication of the likely capacity to be achieved through implementation of that junction and also an indication of typical build costs. Further information relating to constraints and benefits of each junction type are included for information.



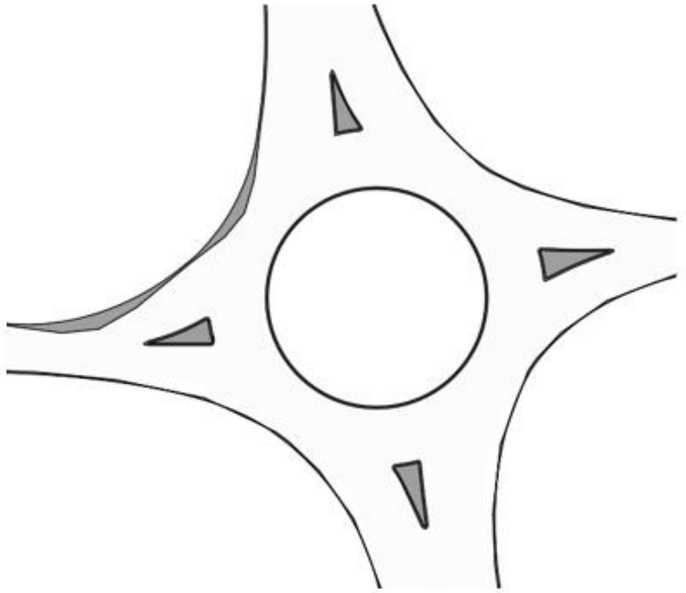
Simple Priority Junction (J1)



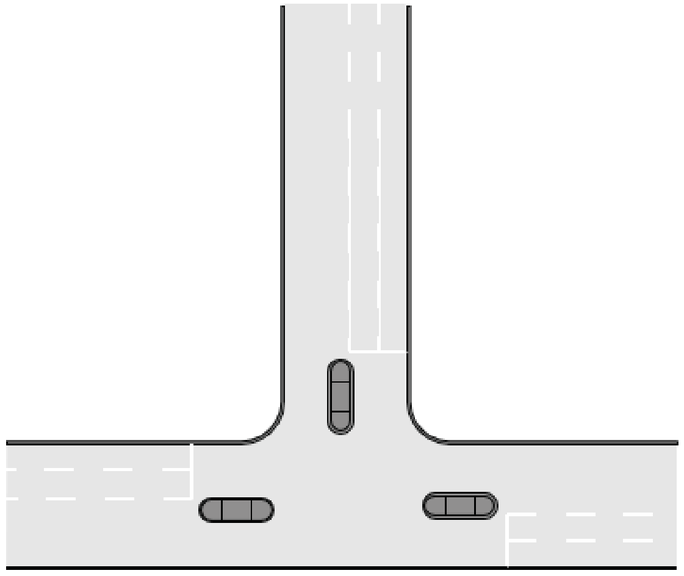
Priority Junction with right turn filter lane (J2)



Mini - roundabout (J3)



Roundabout (J4)



Traffic light controlled Junction (J5)

5. Car Park Layout

5. Car Park Layout

5.1 Car Park Layout

GENERAL PRINCIPLES

When considering car park design, all schemes should focus upon providing the customer with a safe, easy to navigate and positive experience.

In order to achieve this, the following areas become key considerations in assessing quality of flow and customer comfort;

- Orientation;
- Point of Access;
- General Arrangement;
- Car park geometry;
- Location of specialist spaces.
- Other Offers / provisions.

Although it is often easier to achieve an optimal solution on a new store car park, there is within the existing estate a wide range of different store models and customer car parks, all with varying levels of functional performance and customer satisfaction.

Although many of the principles within this document are targeted at new store proposals, most can also be applied to help make improvements at existing stores.

When reviewing how best to optimise an existing stores car park, a pragmatic approach should be taken to address as many existing issues as possible. Whilst the ability to make large scale alterations may be constrained by capital expenditure, priority should be given to address the biggest issues for customers within the budget available.

This section will provide guidance and direction on car park orientation, access and how it should be implemented to ensure a car park with a simple customer flow that should avoid unnecessary car park ‘jams. Also explored are;

- options around car park aisles
  - configuration
  - widths
  - manoeuvrability of vehicles
- issues around vehicle speed
  - design speeds
  - tracking
  - road geometry
- visibility within car parks
- car park obstructions

5. Car Park Layout

5.1 Car Park Layout

ORIENTATION

When considering the optimal arrangement for customer car parks, best endeavours should be made to orientate the car park so that parking aisles are orientated perpendicular to the store frontage, as shown in the adjacent image.

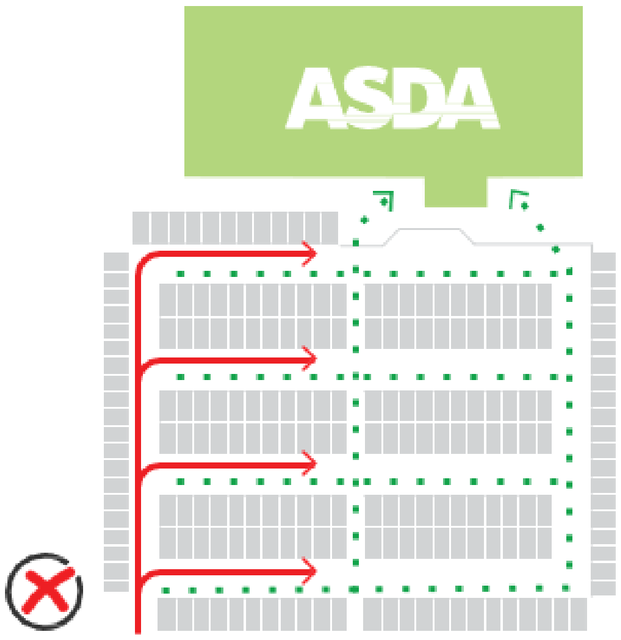
Orientating the car park in this manner, helps ensure good vehicular circulation, as customers filter from the rear of the car park and naturally tend to head towards those spaces located closest to the store entrance. In the majority of cases the car park will therefore fill from front to back, evenly distributing traffic volumes across the car park.

In situations, where this is not achievable and the car park aisles run parallel to the store frontage, this is likely to result in increased vehicle circulation as customers attempt to park in the aisle closest to the store only to find they are full and need to then work their way away from the store, snaking from aisle to aisle until they find an empty space.

Another key consideration when orientating car park aisles is pedestrian circulation. The design should aim to minimise conflict between pedestrians and vehicles wherever possible, and provide pedestrians with a logical and legible route to and from the store.

At stores where the parking aisles are orientated perpendicular to the store frontage, this will often result in increased congestion near the store entrance. The crossing of pedestrian and vehicle movements combined with the increased volume of both vehicles and pedestrians, results in a regular pause in traffic flow as vehicles stop to allow customers to cross, thus reducing the flow of vehicles.

In addition, orientating the car park parallel to the store tends to encourage customers to cut through between car parking spaces, rather than use the recognised footpaths. This potentially increases the likelihood of an accident due to poor visibility of customers on foot. This issue is less prevalent in the opposite rotation, as customers will tend to walk down the aisle, thus providing drivers with greater visibility.



5. Car Park Layout

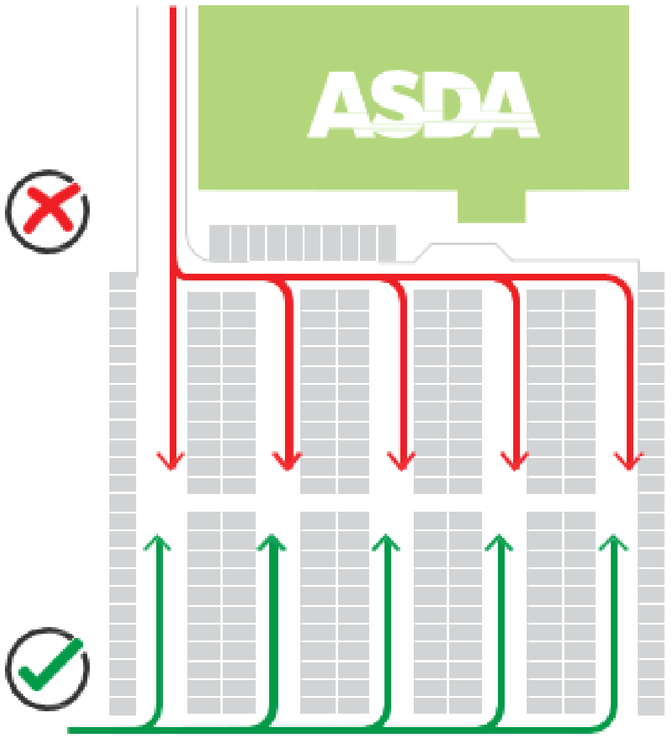
5.1 Car Park Layout

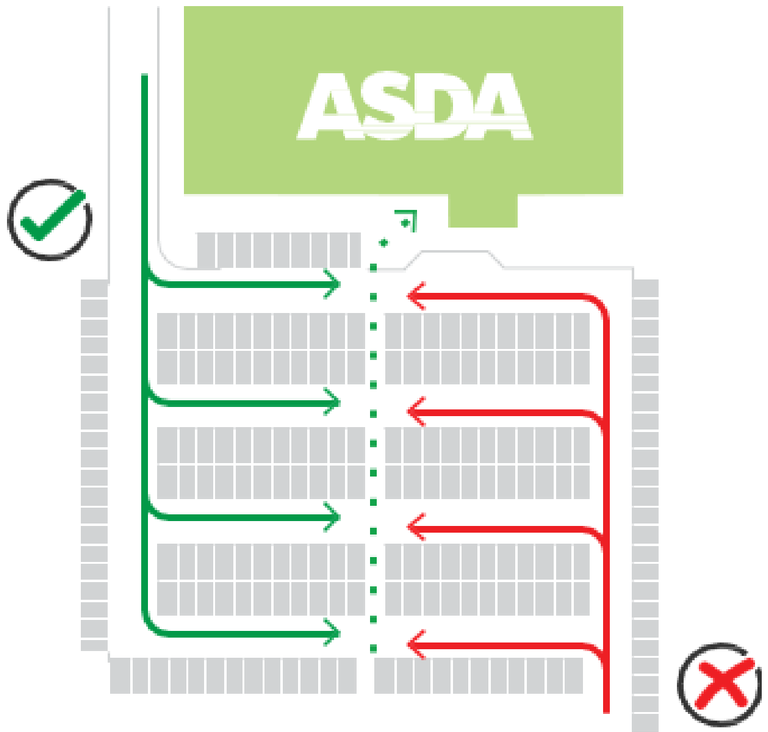
Point of Access

The relationship between the point at which the customer enters the car park and car park arrangement, can have a fundamental impact on the car park's ability to effectively distribute traffic. As stated on the previous page, the preferred orientation of the car park is for aisles to run perpendicular to the store frontage

In cases where it is impossible to achieve the relationship demonstrated above, and the only option is for the access point to be located nearest to the store, the preferred solution is to force traffic to the rear of the car park before turning back towards the store therefore preserving the car park's ability to effectively manage both vehicle and pedestrian circulation

Lastly, in cases where the above is not achievable, i.e. the car park entrance is adjacent to the store and it is not possible to force traffic to the rear of the site, the last resort option would be to re-orientate the car parking aisles parallel to the store.





However, if the point at which the customer enters the car park is near the store frontage as highlighted in red on the diagram above, this will result in increased traffic volumes adjacent to the store, thus increasing congestion.

Consequently, the preferred solution would be for the entrance point to be located at the furthest point away from the store, thus allowing traffic to peculate through the car park.

However, carefully consideration should be given to the size and proportions of the car park. If the car park is long and thin, the routing of customers to the furthest point of the car park before filtering into the required aisle, could be seen by some customers as laborious.

It is worth noting however that in situations where this is necessary, careful consideration must be given to the conflicts that may occur between vehicular and pedestrian circulation, to ensure a efficient and safe route to / from the store is provided. This will be explored later within the document.

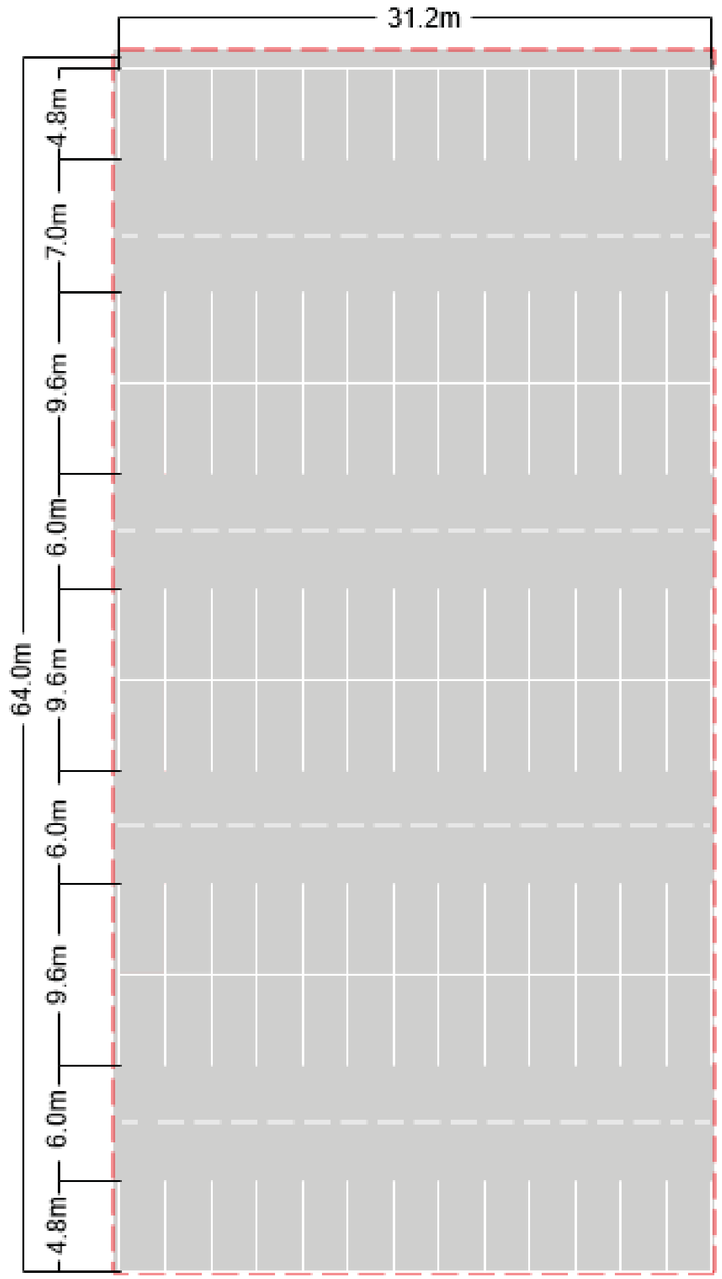
5. Car Park Layout

5.1 Car Park Layout

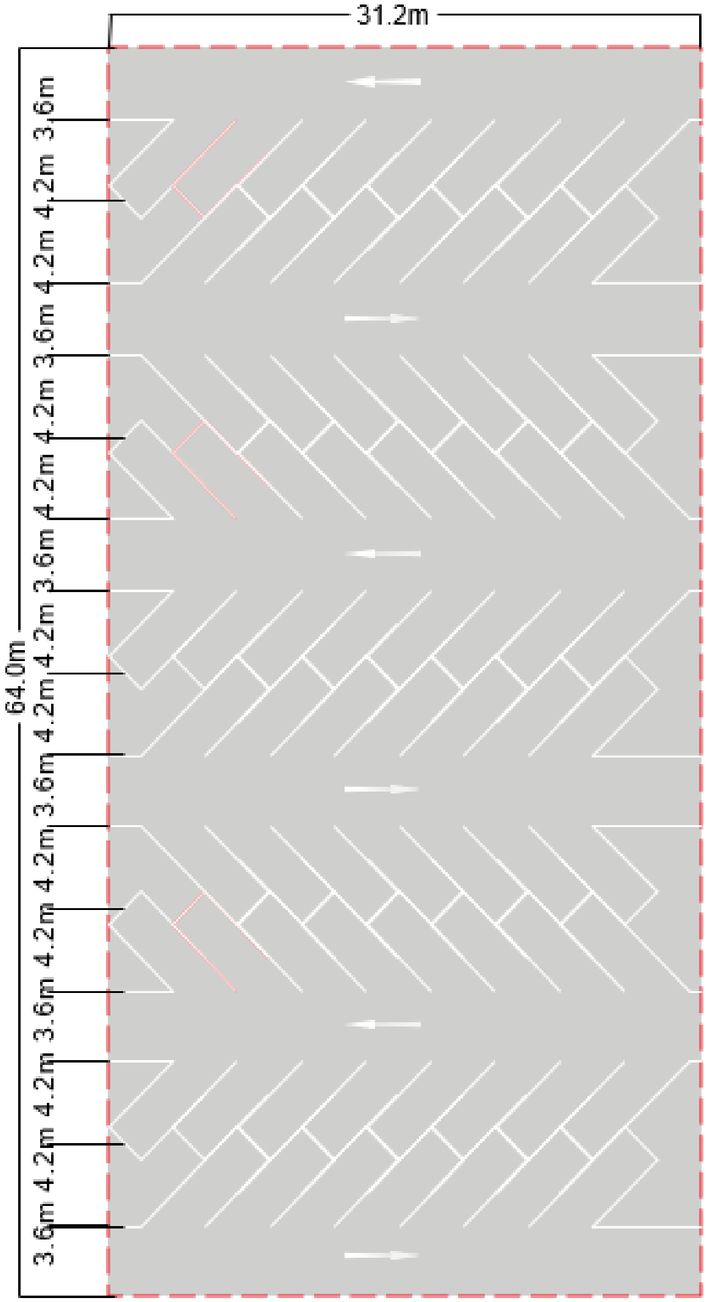
ANGLE OF PARKING

It is Asda's preference that all spaces should be orientated 90 degrees to the aisle. Although angled spaces provide customers with an easier manoeuvre, they deliver a lower yield of parking spaces vs. the standard 90-degree bays.

In addition, the introduction of angled spaces also requires the adoption of a one-way system, which Asda prefers to avoid.



104 Spaces
21,513 ft²
1998 m²



75 Spaces
21,513 ft²
1998 m²

5. Car Park Layout

5.2 Car Park Aisles

AISLE WIDTHS

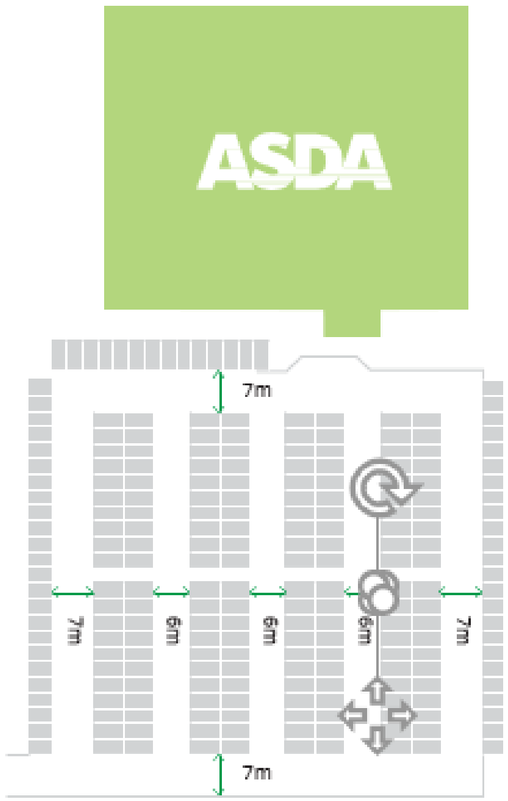
Parking aisle widths should be as follows:

Main circulation aisle widths required to accommodate increase traffic flows and larger vehicles

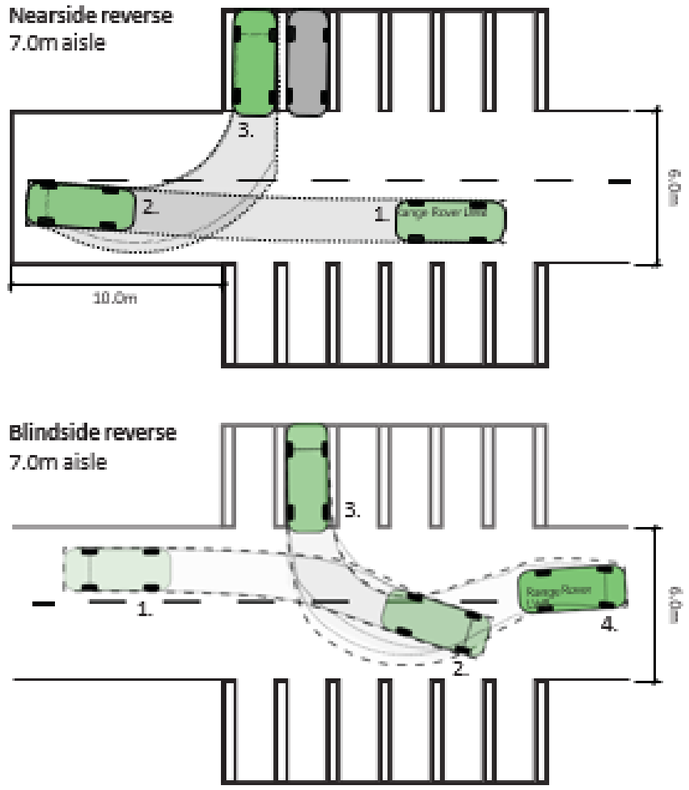
7m

Manoeuvring into / out of spaces minimum parking aisle widths required to ensure adequate

6m

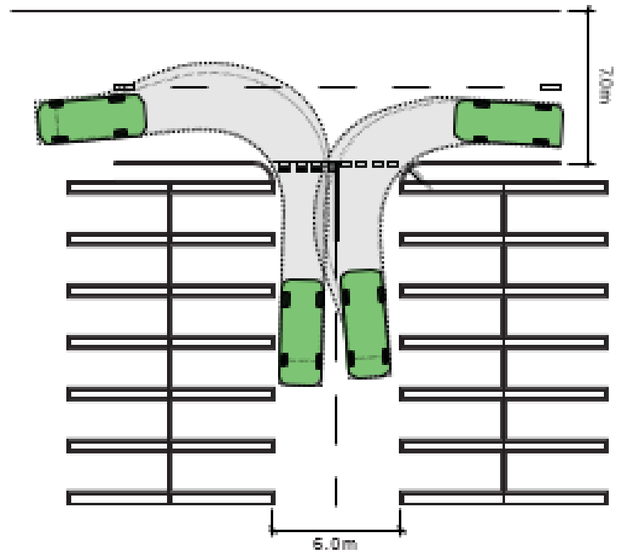


Maintaining a minimum parking aisle width of 6m is essential in ensuring customers have sufficient space to manoeuvre when entering and exiting parking spaces.

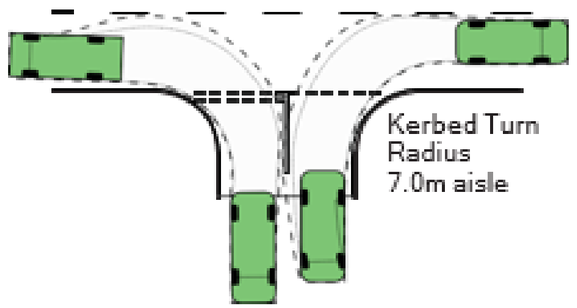


MINIMUM RADIUS

At the end of each parking aisle a 500mm margin area should be included to aid customer visibility when exiting at the end of an aisle. This should also help improve vehicle manoeuvring.



In locations where raised kerbed islands are included, a minimum kerb radius of 3m must be achieved. Where this is not achieved this is likely to result in a difficult manoeuvre pushing customers on to the opposite side of the road or alternatively mounting the kerb



5. Car Park Layout

5.3 Car Park Design Criteria – Speed / Tracking

DESIGN SPEEDS

Asda has established a safe speed limit of 10 mph across its estate's car parks.

In larger car parks where the external aisles are such that there is the opportunity for the speed limit above to be exceeded it may therefore be necessary to consider the installation of traffic calming features such as speed cushions or full width humps.

TRACKING

The car parking layout details provided in this Design Guide are based on extensive experience and established best practice. However, it is still a requirement to undertake a vehicle swept path analysis of key areas such as aisle junctions with main aisles/access roads and the access road itself to ensure that all vehicles likely to visit each part of the site can be safely accommodated.

Industry standard software such as Autodesk Autotrack can be utilised to undertake this analysis to confirm that adequate provision has been made for the space and geometry required to manoeuvre specified design vehicles. It should be noted, that by its virtual nature a design vehicle within the software may be only indicative of the type and configuration of that vehicle type.

It is therefore essential that the design vehicle is chosen carefully to match, as closely as possible, the geometry and turning characteristics of real-life vehicles and the following principles should be followed wherever possible:-

- stationary steering must not be used
- an absolute minimum of 500mm clearance is required between the vehicle track and any kerbline, road marking etc.
- the vehicle manoeuvre should, wherever possible, be accommodated without crossing the center line of any access road or main circulation aisle (where a center line is provided).

CLEAR HEIGHTS

Preferred min. Clear Height requirement

Absolute min. Clear Height requirement

For further information relating to height restrictors

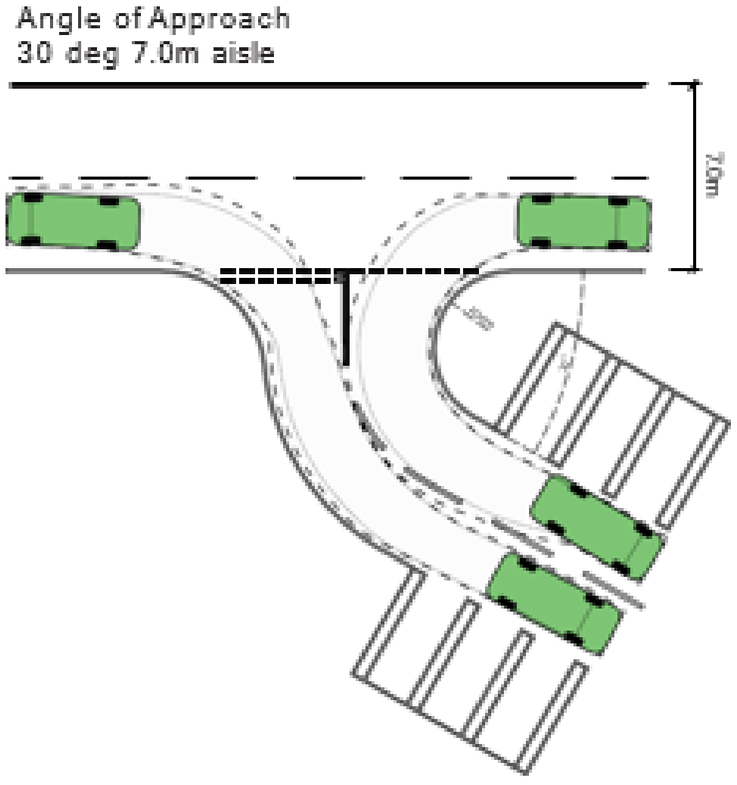
5. Car Park Layout

5.3 Car Park Design Criteria – Speed / Tracking

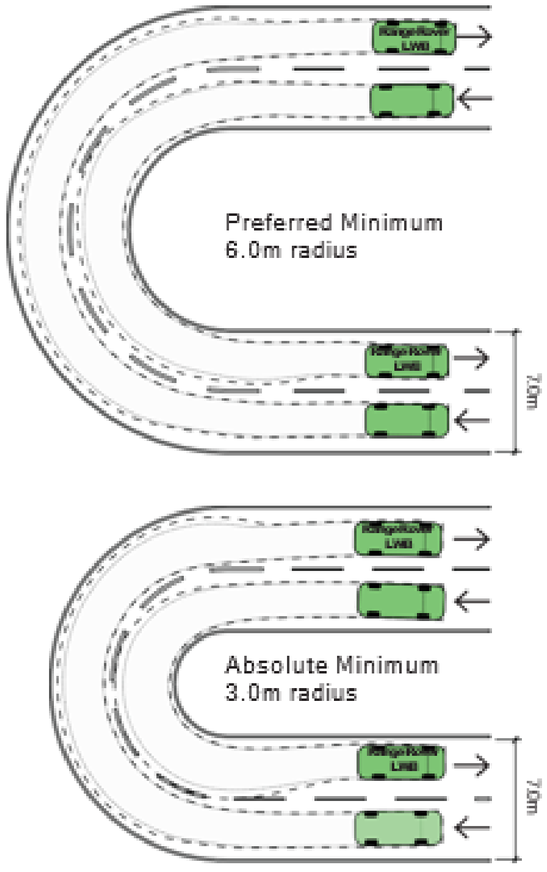
ANGLES OF APPROACH

Where the angle of intersection between a parking aisle and circulation aisle is less than 90 degrees, careful consideration should be given to the kerb / white lining radius so as to aid a smooth customer manoeuvre.

As a guide, a 3m radius should be incorporated. In addition, the road should bend so as to bring a vehicle perpendicular to the circulation aisle so that clear visibility is achievable in both directions.



ACCESS ROAD - TURNING RADII



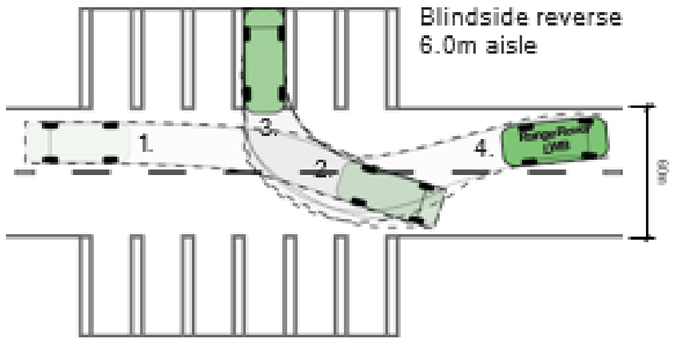
The diagrams above are based on the turning manoeuvre of the Asda Design Vehicle specified earlier in this Design Guide.

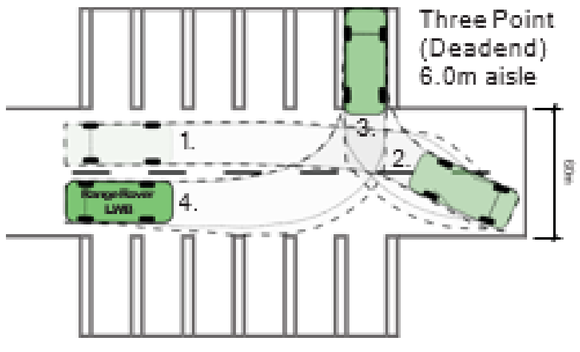
Where necessary, consideration should also be given to the requirements of additional larger vehicles e.g. those associated with recycling facilities or third party offers which require to access the car park area.

DEAD ENDS

Dead ends should be avoided / omitted wherever practically possible as they can often result in poor vehicular circulation and make manoeuvring more challenging, particularly when exiting spaces.

In cases where this is not achievable, a turning head should be incorporated as shown in the image opposite.





These spaces are difficult to manoeuvre into and exit from as a consequence should be replaced wherever practical with a run of accessible spaces running parallel to the store frontage to aid customers when reversing.

5. Car Park Layout

5.3 Car Park Design Criteria – Speed / Tracking

VISIBILITY

Inter-visibility within the car park is of paramount importance in order to minimise conflict between vehicles and particularly those conflicts involving pedestrians. It is also key in the prominence of the main store and other offers available.

One of the key areas which requires special consideration is at the end of aisles as it is essential that driver inter-visibility is not compromised. These locations are exceptionally important in the day-to-day operation of any car park and adequate visibility for drivers entering, and particularly exiting, car park aisles must be factored into the design at an early stage.

In addition to providing appropriate entry/exit radii the ends of the aisles should be kept clear of trolley bays and equipment associated with any third party offers currently or likely to be offered on the site in question.

Similarly, planting should be either avoided at the end of aisles or purposely specified for such a location so as to be particularly low growing so as not to exceed 600mm in height once mature. The spread of the specified planting should also be considered and further details on landscaping are provided later is this Design Guide.

5.4 Car Park Design Criteria – Lighting Statement

LIGHTING

24 hour visibility within the car park is of paramount importance in order to minimise conflict between vehicles and particularly those conflicts involving pedestrians. It is also key in the prominence of the main store and other offers available.

Lighting design for Asda External Areas shall be provided to the following design parameters in the table opposite.

Unless local requirements dictate otherwise, lighting shall be mounted on 8m columns using LED heads in line with the current model specification.

Lighting control shall be via photocell and timeclock (timing provided by the BMS) with store trading & colleague working hours for the store being used to set up the operation.

An area of the car park and route to colleagues entrance shall be on a separate time channel to allow safe lighting for colleagues arriving and leaving outside of trading hours.

All wiring to be designed, installed & tested in line with BS7671, cable draw pits to be installed at each change in direction and at intervals of no more than 50m.

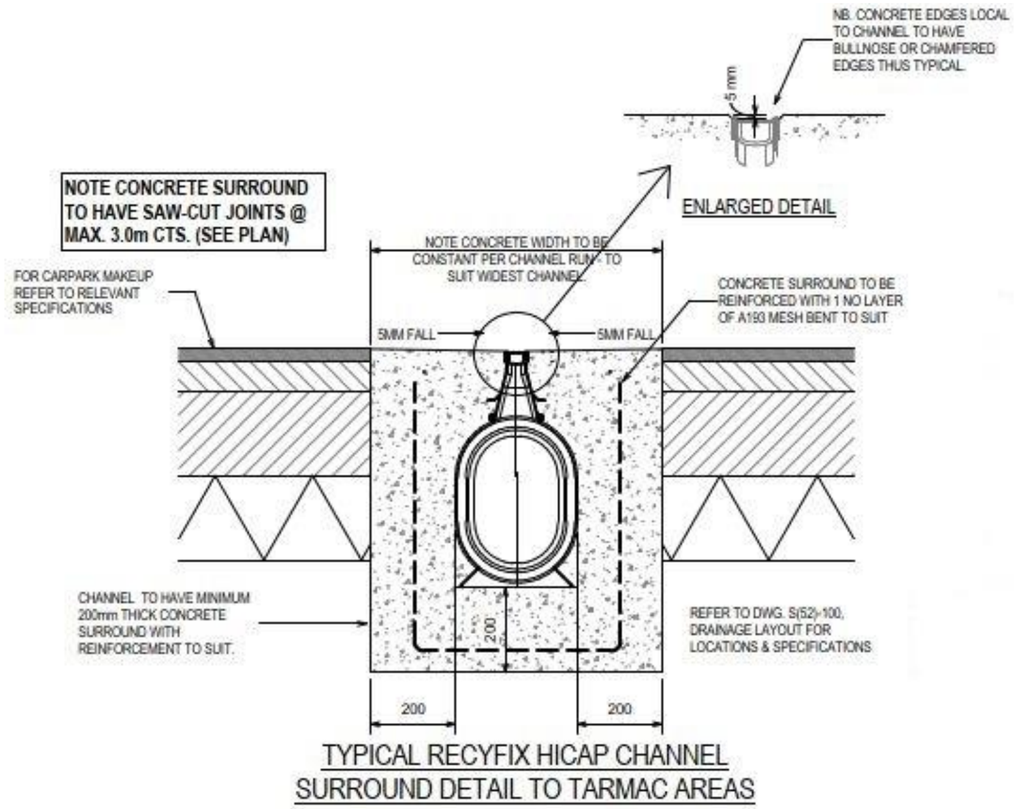
AREA	DESIGN AVERAGE ILLUMINANCE	UNIFORMITY (UO)
MAIN CAR PARK	20 LUX	0.25
ACCESS ROAD	20 LUX	0.25
SERVICE YARD	20 LUX	0.25
STAFF ACCESS/ ENTRANCE	10 LUX	0.25
PEDESTRIAN AREA FRONT OF STORE	20 LUX	0.25
SERVICE YARD ACCESS GATE	20 LUX	0.25
CASH TRANSFER WINDOW	30 LUX	0.25

5. Car Park Layout

5.5 Car Park Design Criteria – Drainage

REVIEW COMMENTS

- Preferred slot drain type and load class. D400, heel safe, slot drain no gullies in car park.
- Preferred drainage channel location – against perimeter kerbs, or rear of parking bays, or between back-back parking bays. Avoid channels running down centre of aisles or where vehicle turn frequently
- Preferred manhole locations – soft landscaping or central to parking bays. Avoid adjacent to main entrances and in key circulation routes.
- Channels to be positioned to prevent deep surface run-off over pedestrian routes.



TYPICAL RECYFIX HICAP CHANNEL SURROUND DETAIL TO TARMAC AREAS

5.6 Car Park Design Criteria – Gradients and Repair

CAR PARK COMPOSTION AND REPAIR

Car Park gradient to be 1 in 60 fall to drainage channel. The fall can not be any less than 1 in 60 but can be changed in non busy areas of the car park to a fall of no steeper than 1 in 40.

CAR PARK SPECIFICATION

SURFACE COURSE –
25mm SMA6 (SURF) 40/60 PSV55 TO BS594987:2010 AND BS EN 13108-5
BINDER COURSE –
50mm AC20 DENSE (BIN) 100/150 TO BS594987:2010 AND BS EN 13108-1
SUB-BASE –
100mm TYPE 1R TO CLAUSE 803 OF THE SPECIFICATION FOR HIGHWAY
WORKS ASSUMES CBR OF 15% AT FORMATION LEVEL BASED ON AASHTO
INTERIM GUIDANCE

6. Vehicle Design & Parking Bays

6. Vehicle Design & Parking Bays

6.1 Vehicle Design Criteria

GENERAL

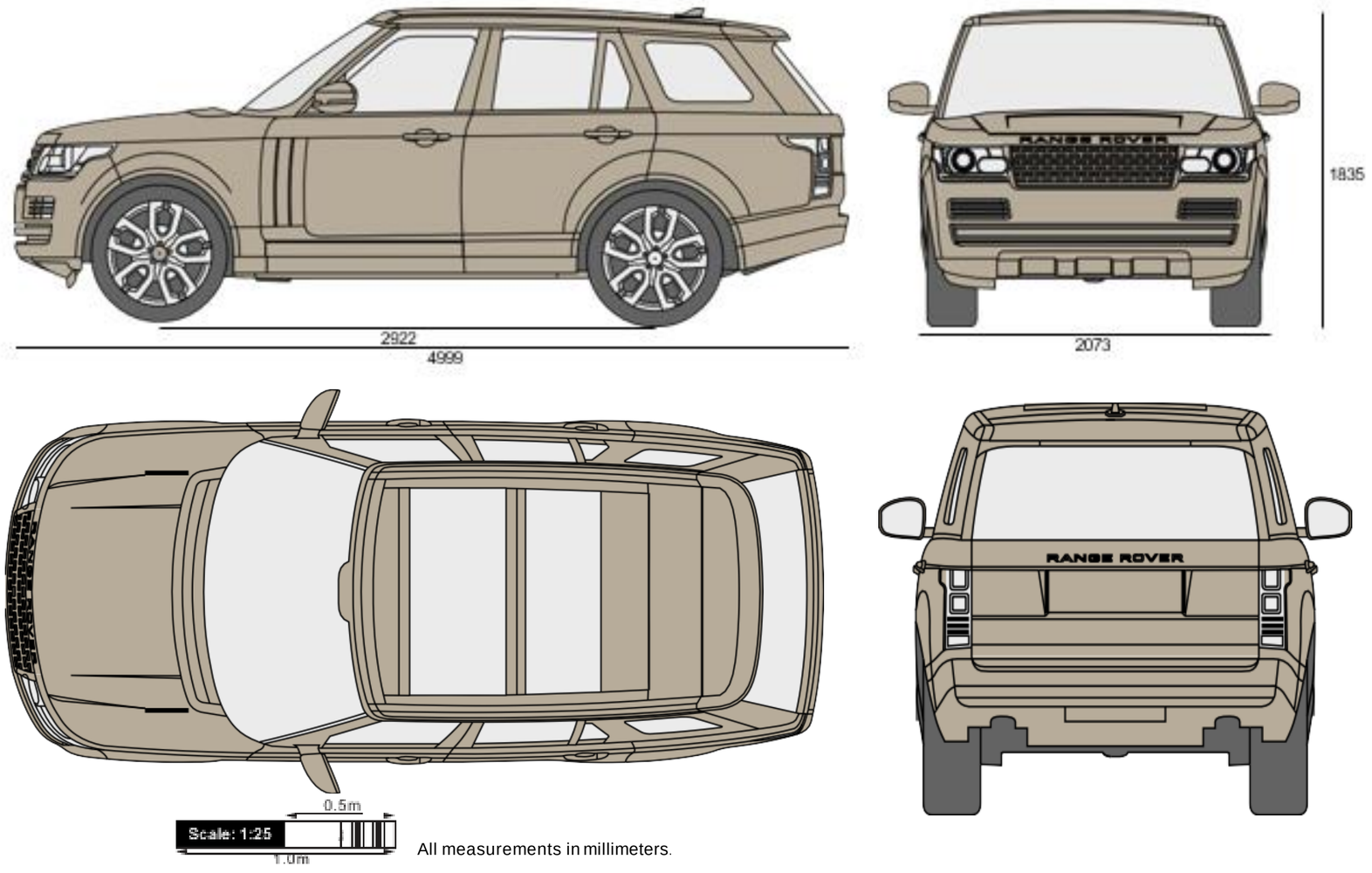
In order to address the aspirations, set out on the previous page, the arrangement of the car park should be as simple, logical and unambiguous as possible. It must be intuitive, easy to navigate and avoid becoming convoluted or complex from the customers perspective.

In order to assist in this and ensure best practice is employed, the following sections provide guidance specifically with design criteria for reviewing, designing or undertaking ANY works to either a new or an existing car park.

DESIGN VEHICLE SPECIFICATION

In order to ensure our car parks are fit for purpose and meet our customers requirements the 2015 LWB Range Rover has been set as the benchmark for car park design and geometry. One of the largest vehicles in the market, all car parks should be designed to accommodate this vehicle wherever possible.

Please refer to section “Standard Spaces”, which gives further guidance and rationale behind this.



All measurements in millimeters.

AutoTracking Profile Dimensions

Length	4999	mm
Body Width	2073	mm
Body Width (inc. Wing Mirrors)	2191	mm
Height	1863	mm
Wheelbase	2880	mm

Minimum Turning Radius	6050	mm
Lock to Lock time	3s	mm
Track width	1884	mm
Min Ground Clearance	221	mm

6. Vehicle Design & Parking Bays

6.2 Standard Spaces

STANDARD SPACES

Following compelling feedback from its customers, and a review of vehicle sizes, Asda took the decision in 2016 to revise its standard specification, changing bay widths to a wider space of 2.6m space wherever possible. To support this increase a new golden principle has been established to enable benchmarking across Asda's estate.

Golden Principle 8
"I can easily drive into, and away from the parking bays."

The reason for this increase is as a result of numerous factors;

- Customer feedback;
- Increasing vehicle dimensions;
- Industry guidance;

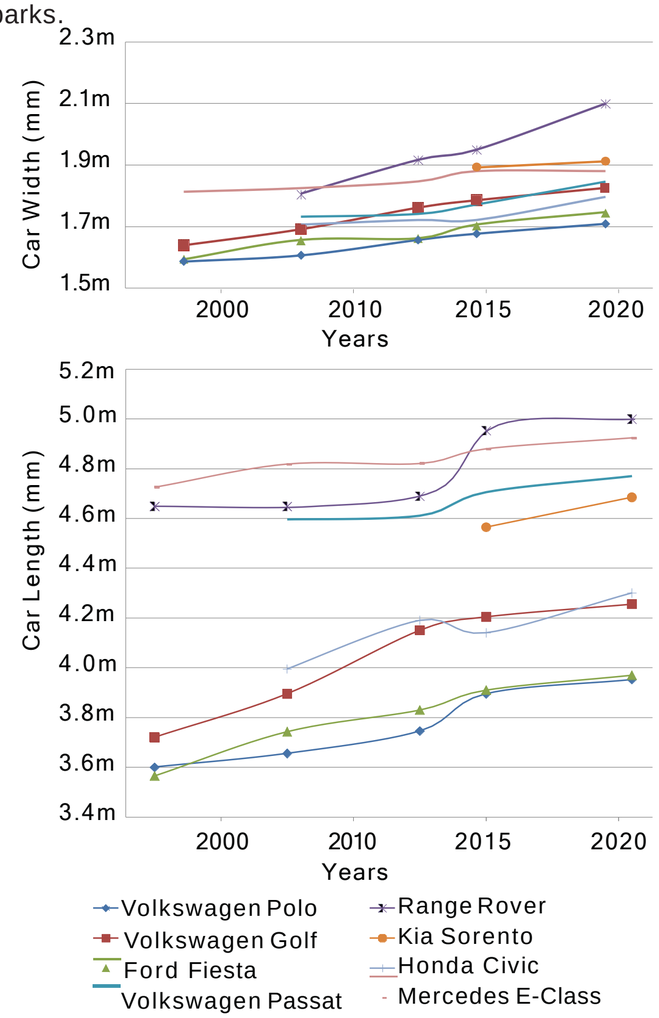
VEHICLE SIZE

During the course of the past 30 years, vehicle dimensions have changed significantly. As vehicle manufacturers have sought to address both an increased demand for comfort and interior space from drivers, as well as changing safety regulations, this has resulted in substantial changes to both car lengths and widths.

Having reviewed the evolution of selected car models over the past 30 years, Asda has identified a steady and consistent increase in vehicle dimensions. The vehicles highlighted on the graph to the right as an example, demonstrate that there has been a steady increase across all vehicle types. In most cases UK vehicle lengths and widths have increased by 10-17% since the mid 1980's.

As a consequence of this increase, it is more difficult to park today's vehicles within the historic 2.4m wide bays. The Range Rover for example, at 4999mm (L) x 2073mm (W - excluding wing mirrors) would struggle to be manoeuvred into a 2.4m bay. If two were to be parked adjacent to one another, it would be difficult to do so without clipping wing mirrors and would leave only 300mm to exit.

confirming an increase in vehicle dimensions, the survey also suggested that in 2013 alone over 10 million car owners suffered from minor bumps and scratches as a consequence of contact between cars parked in car parks.



INDUSTRY GUIDANCE / BEST PRACTICE

Whilst there are no formal regulatory requirements specifically relating to the size of parking bays within private or public car parks, there are numerous recognised guidance documents that are seen as best practice.

The Traffic Signs Regulations and General Directions issued by the Department for Transport in 1994, provides a range of dimensions for on-street parking as shown below;

Min parking bay width	1.8m
Max parking bay width	2.7m
Min parking bay length	4.5m
Max parking bay length	6.6m

These dimensions are for street parking where a linear arrangement of nose-to-tail spaces is provided which is not a format favoured for Asda car parks.

Further recognised industry guidance in for the form of the Car Park Designer's Handbook and Design recommendations for Multi-storey and underground car parks published by the Institution of Civil Engineers(2012) and The Institution of Structural Engineers (2002) respectively, both recommend that short stay car parks (less than 2 hours) such as those found at a supermarket should provide 4.8m (L) x 2.5m (W) bays.

The Metric Handbook for Planning and Design Data suggests that in order to comfortably enter / exit a vehicle a driver or passenger requires a minimum of 750mm clear width. Asda's previous specification of 2.4m wide bays permits only 600mm clear width. Increasing parking space widths up to 2.6m comfortably permits the recommended 750mm clear access zone providing customers with a best in class parking experience.

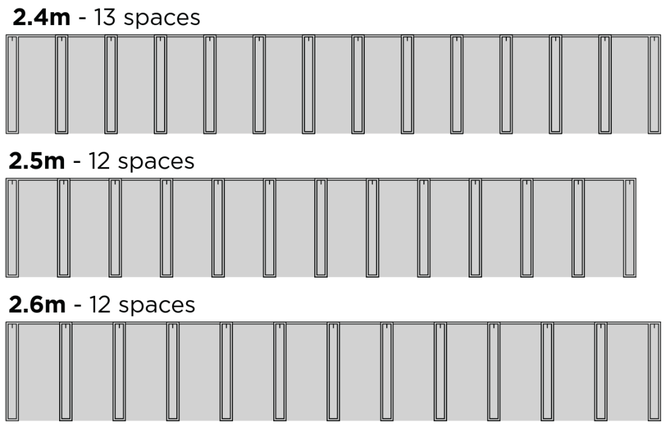
In addition, the inclusion of wider bays also helps improve the car park's dynamic capacity. The increased bay width aids vehicles manoeuvring into and out of spaces therefore reducing the time taken to park. This increases vehicle flow within the car park and potentially improves the customer experience.

6. Vehicle Design & Parking Bays

DEPLOYMENT 2.5M VS. 2.6M SPACES?

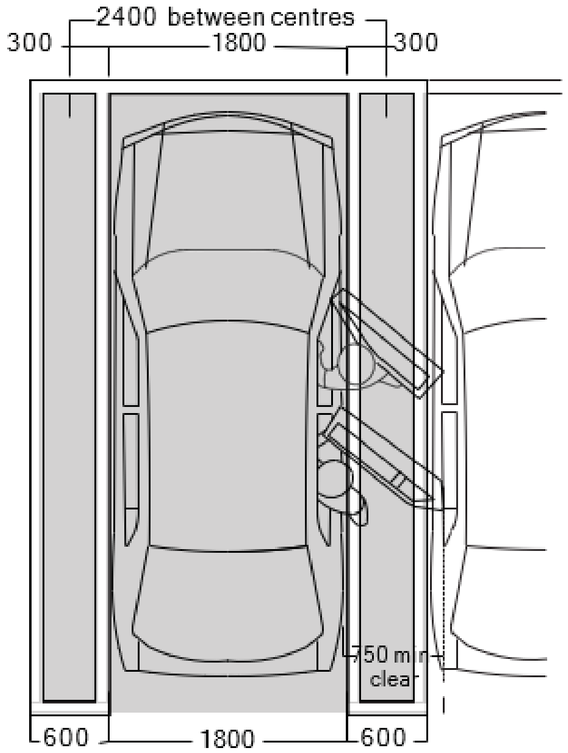
Whilst increasing the width of the standard parking bay will inevitably result in a loss of spaces vs. 2.4m bays, the qualitative benefits are seen to out-way the quantitative in the vast majority of cases.

Increasing bay widths by only 100mm is unlikely to produce a perceivable benefit to a customer who already finds our existing spaces too tight. The difference in the loss of spaces as a consequence of increasing parking bay widths by either 100mm or 200mm is not significant on stores that feature short parking runs. Both 2.5m and 2.6m bays loose only 1 space vs. 2.4m bays on runs of up to 12 spaces. It is not until this number of spaces exceeds 12 that 2 spaces are lost for 2.6m bays. Comparatively it is not until a run passes 26 bays where a 2.5m wide bay looses 2 spaces vs. the 2.4m bay. The diagram below helps demonstrate this loss of spaces.



DOUBLE WHITE LINING

In addition to increasing the standard parking bay widths, Asda has also opted to introduce double white lining to all parking bays. Double white lining to standard parking bays aids customers in parking centrally within a bay. This in turn, eases customer access to and from their vehicle.

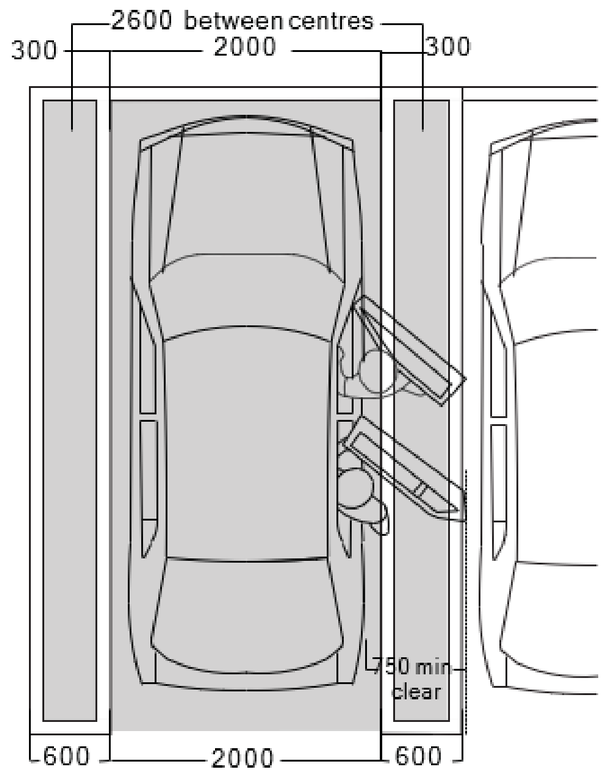


IMPLEMENTATION - NEW STORES

Whilst the increase in bay widths may not be achievable on all stores as a result of constrained parking numbers, best endeavours should be made to meet this improved specification. Any new stores where this is not deemed to be achievable should be brought to the attention of Asda for review and comment, where a suitable solution can be agreed.

IMPLEMENTATION - EXISTING STORES

Undertaking a store refresh, and/or any car park asset work presents an ideal opportunity to review an existing stores car park provision. When assessing an existing store's car park layout and its capacity, best endeavours should be made to introduce 2.6m bays.



Where 2.6m spaces cannot be achieved over the entirety of the car park due to restrained parking numbers and or feedback from ASDA market development team, then a portion of 2.6m bays should be delivered in an area close to the store entrance. These spaces should be subservient to accessible and parent & child spaces.

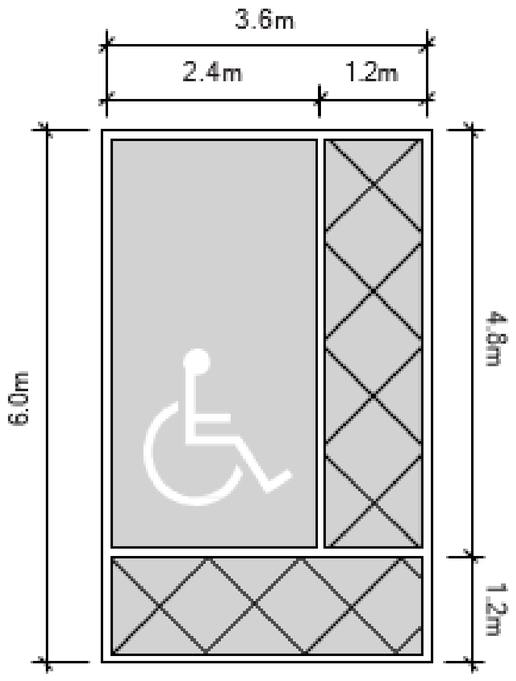
In situations where there is the potential opportunity to include an additional offer on a store car park but at the expense of introducing 2.6m bays, this decision needs to be made clear to Asda at the point of scheme approval so that Asda can make an informed business decision on a scheme-by-scheme basis.

In any event, whether 2.4 or 2.6m wide spaces, double white lining is to be utilised.

6. Vehicle Design & Parking Bays

6.3 Accessible Spaces

When determining the correct location and provision for accessible parking, additional consideration should be given to ensure that disabled customers are provided with a safe and enjoyable trip to our stores. This is reinforced through legislation under the Equality Act 2010 which addresses disability discrimination.



Although there are no specific requirements that govern guidance does however exist in the form of *BS:8300:2009 "Code of Practice for the design of buildings and their approaches to meet the needs of disabled people"* which is widely recognised within the industry as best practice

In many cases Local Authorities will also refer to two other key documents in determining disabled parking provisions within local planning policy;

- BS8300:2009
- *Traffic Advice Leaflet 5/95, Parking for Disabled People;*
- Inclusive Mobility (DfT 2005).

Section 5.2iii of Inclusive Mobility states that car parks associated with shopping areas should provide a minimum of 6% of the total capacity of the car park for disabled motorists.

As a consequence, Asda have adopted the following guidance, establishing accessible parking numbers;

Golden Principle 3.2

'I can always find a car parking space to meet my needs'

4%+4< spaces — **Accessible** spaces and **Parent & Child** spaces are **less than (4%+4)**

4%+4≤ spaces<6% — **Accessible** spaces and **Parent & Child** spaces are **greater than or equal to (4%+4) but less than 6%**

spaces ≥6% — **Accessible** spaces and **Parent & Child** spaces are **equal to or greater than 6%**

This number should be ratified on a site by site basis with Market Development as localised demographics may require Asda to increase accessible provisions over and above the requirements stipulated under local planning policy and British Standards.

When considering the best location for accessible spaces priority should be given ahead of all other forms of parking and should ideally be located as close to the store entrance as possible. BS:8300:2009 stipulates a maximum travel distance as highlighted below;

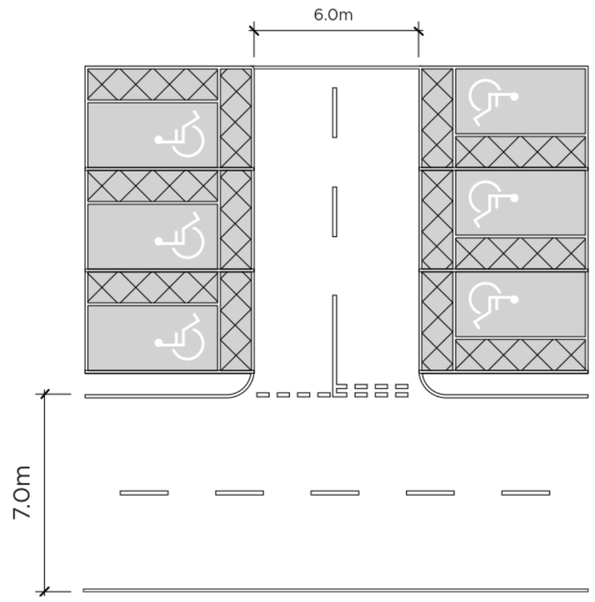
Max. customer walking distance to accessible spaces (36s) **50m**

Note: 45m in Scotland

Care should be taken to ensure that level access is available between the accessible bays and the main store entrance.

In addition, accessible spaces should not be separated by a vehicle circulation route.

Within the Asda estate there are many examples where accessible spaces are located within a series of dead ends as shown in the image below - these should be avoided



Disabled Dead End configuration

6. Vehicle Design & Parking Bays

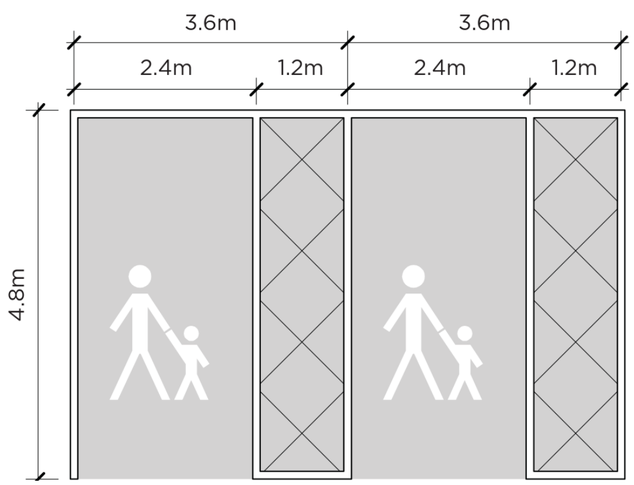
6.4 Parent & Child Spaces

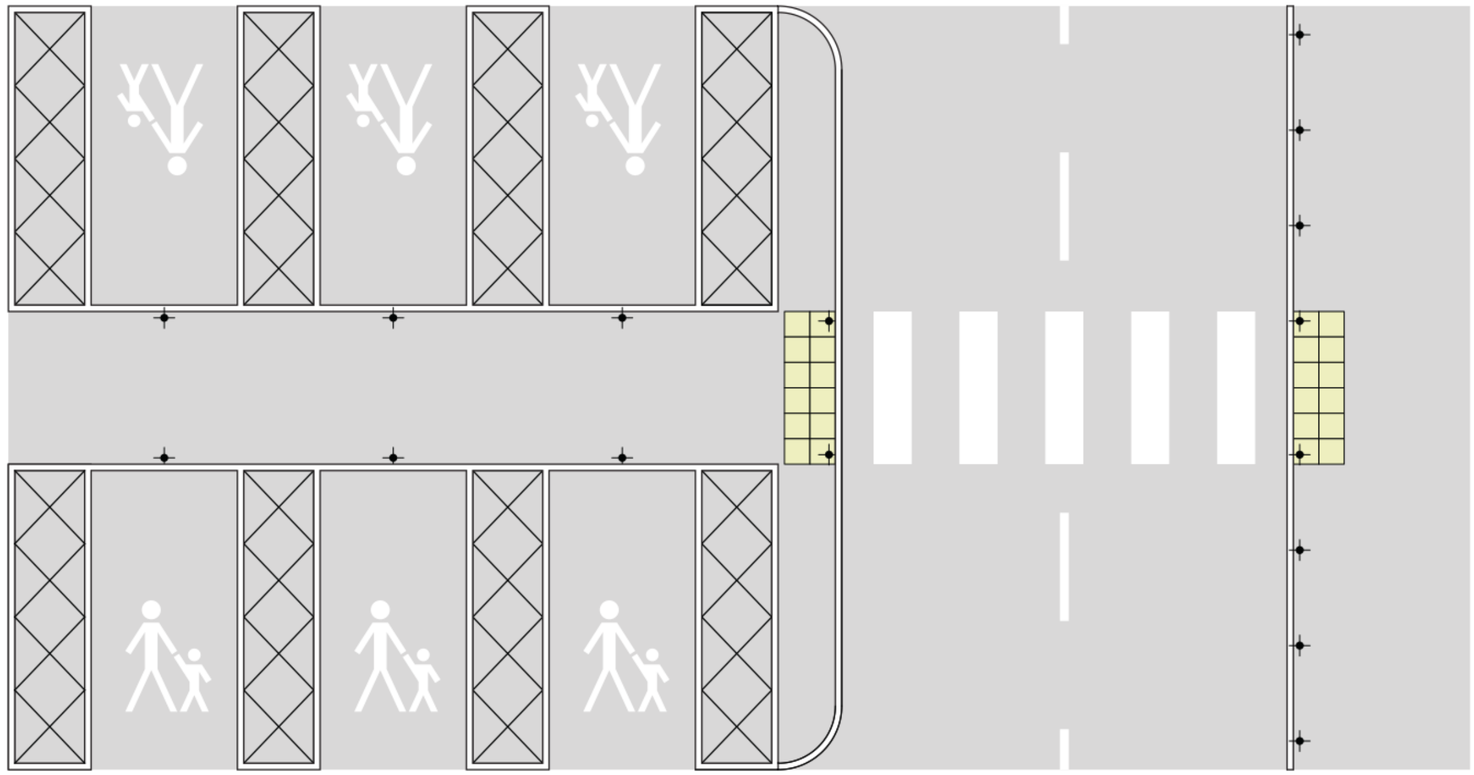
The location and provision of Parent & Child spaces is a key consideration when designing and reviewing a customer car park. Whilst there is no legislative requirement to provide Parent & Child spaces, they are a fundamental consideration on any retail development.

Asda has taken the decision to align Parent & Child provision with the number of accessible spaces. However, it is worth reiterating that Parent & Child provision should not be prioritised ahead of Accessible spaces. Consequently, the number of Parent and Child spaces should never exceed the number required for accessible spaces to avoid accusations of bias or discrimination.

When locating Parent & Child spaces on a site it is Asda's preference that they are located backing on to and along a safe walkway. These spaces could be located either along the store frontage or either side of a main car park walkway. However, careful consideration should be given so as to ensure priority is not given ahead of accessible spaces.

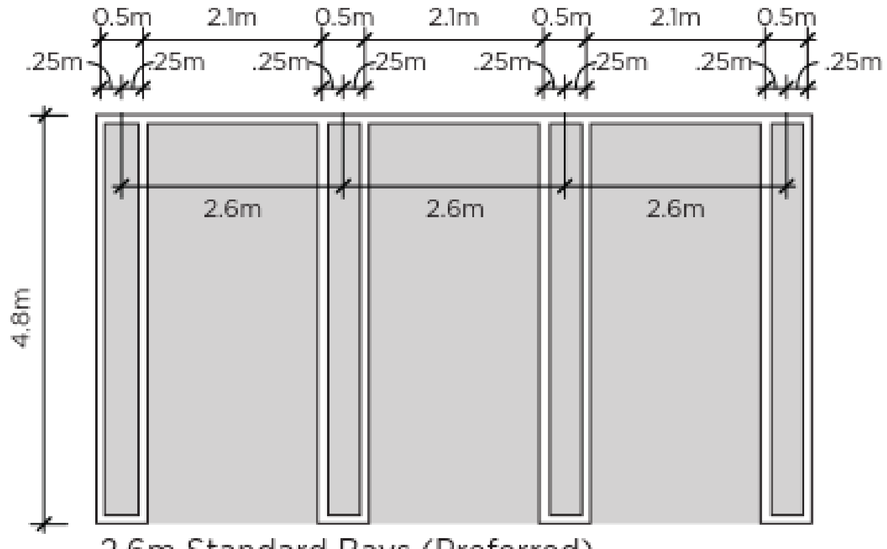
Where Parent and Child spaces are segregated from the store entrance by a vehicle route, a safe crossing point should be included in the form of a zebra crossing, inclusive of inset tactile paving, as shown.



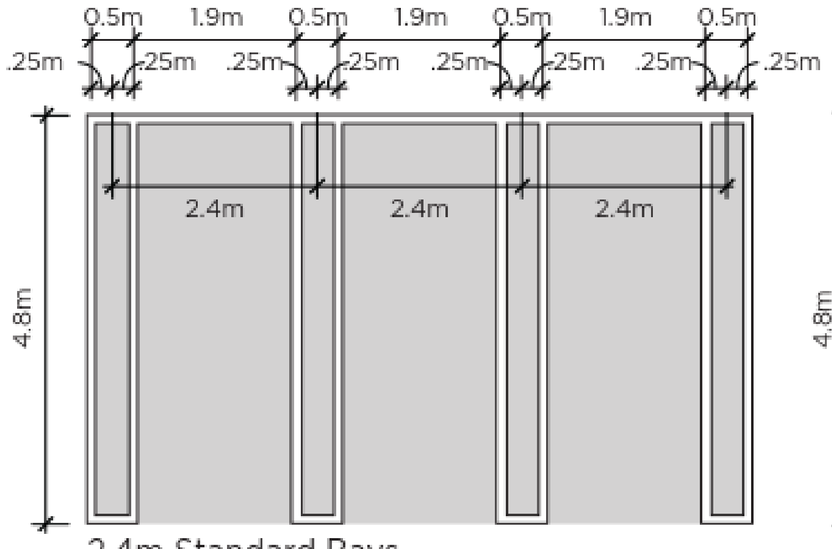


6. Vehicle Design & Parking Bays

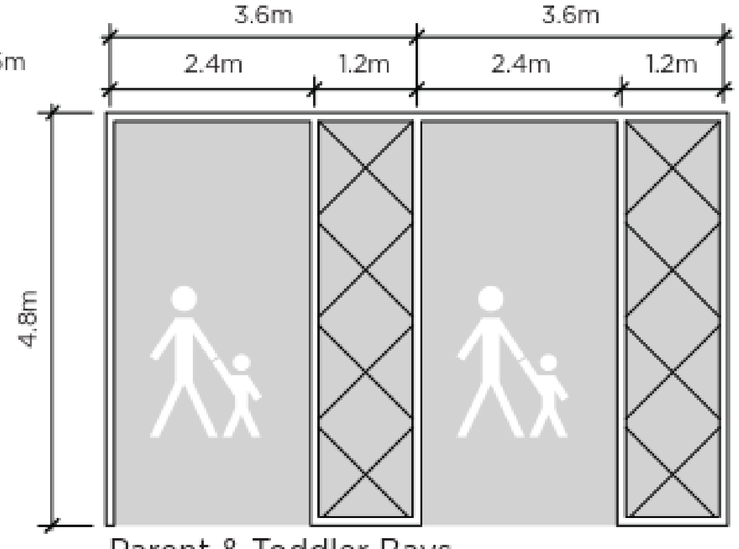
6.6 Parking Bays



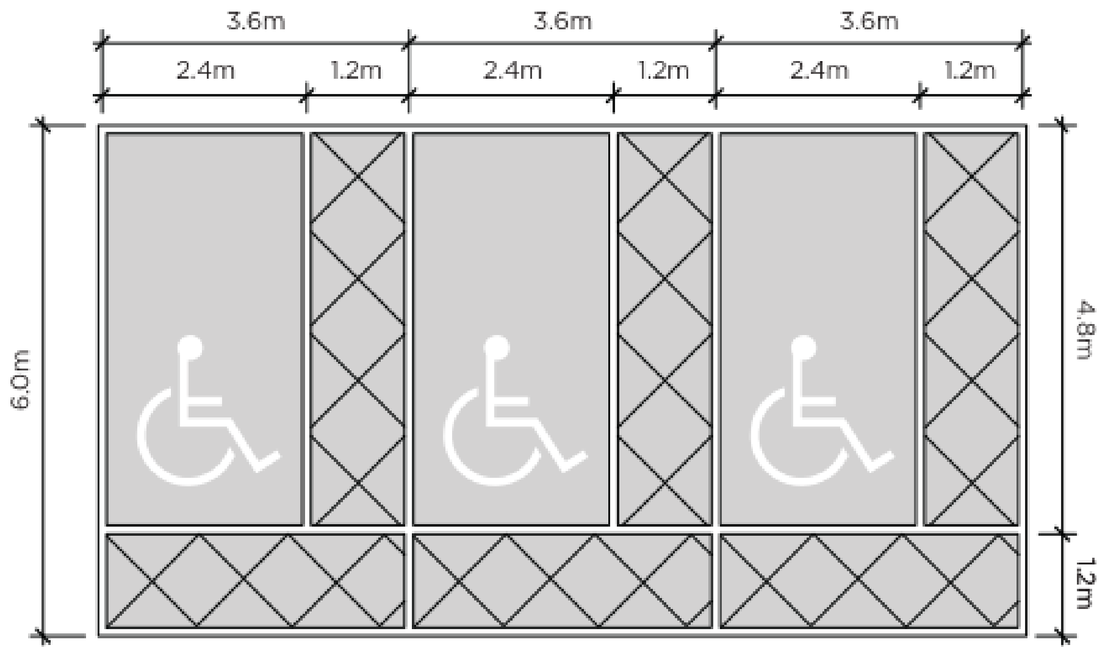
2.6m Standard Bays (Preferred)



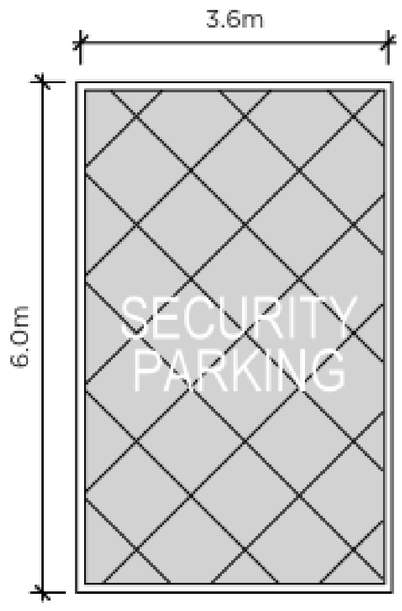
2.4m Standard Bays



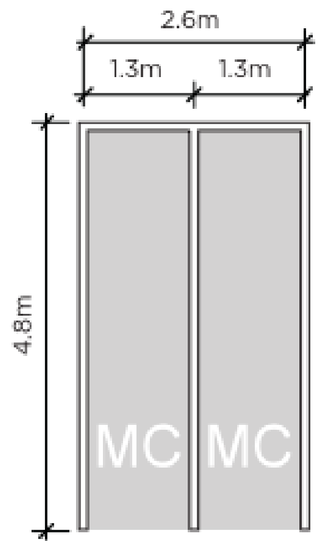
Parent & Toddler Bays



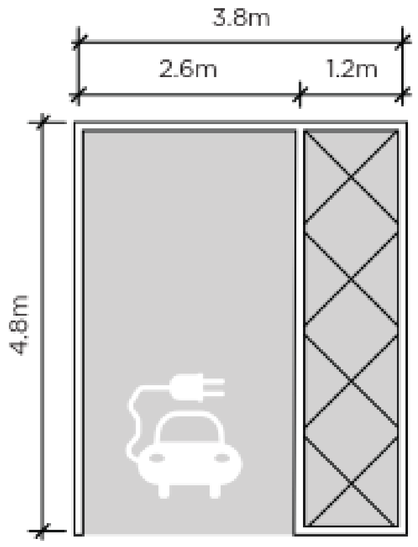
Accessible Bays



Cash Drop Bay



Motorcycle Bays



Electric Charging Bays

7. Additional Car Park Provisions

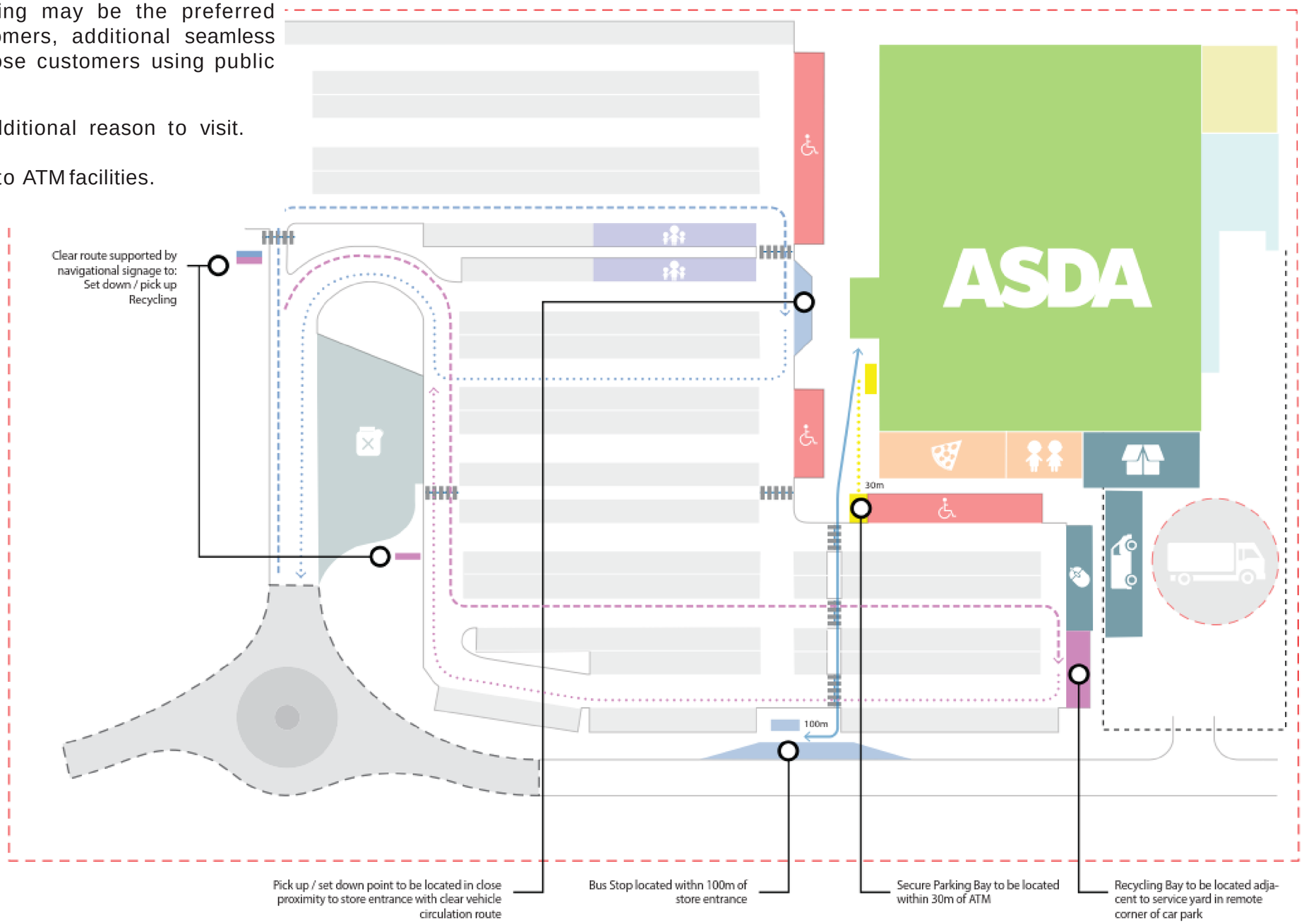
7. Additional Car Park Provisions

7.1 Overview

Whilst utilising general car parking may be the preferred option for the majority of customers, additional seamless provision should be made for those customers using public transport and taxi services.

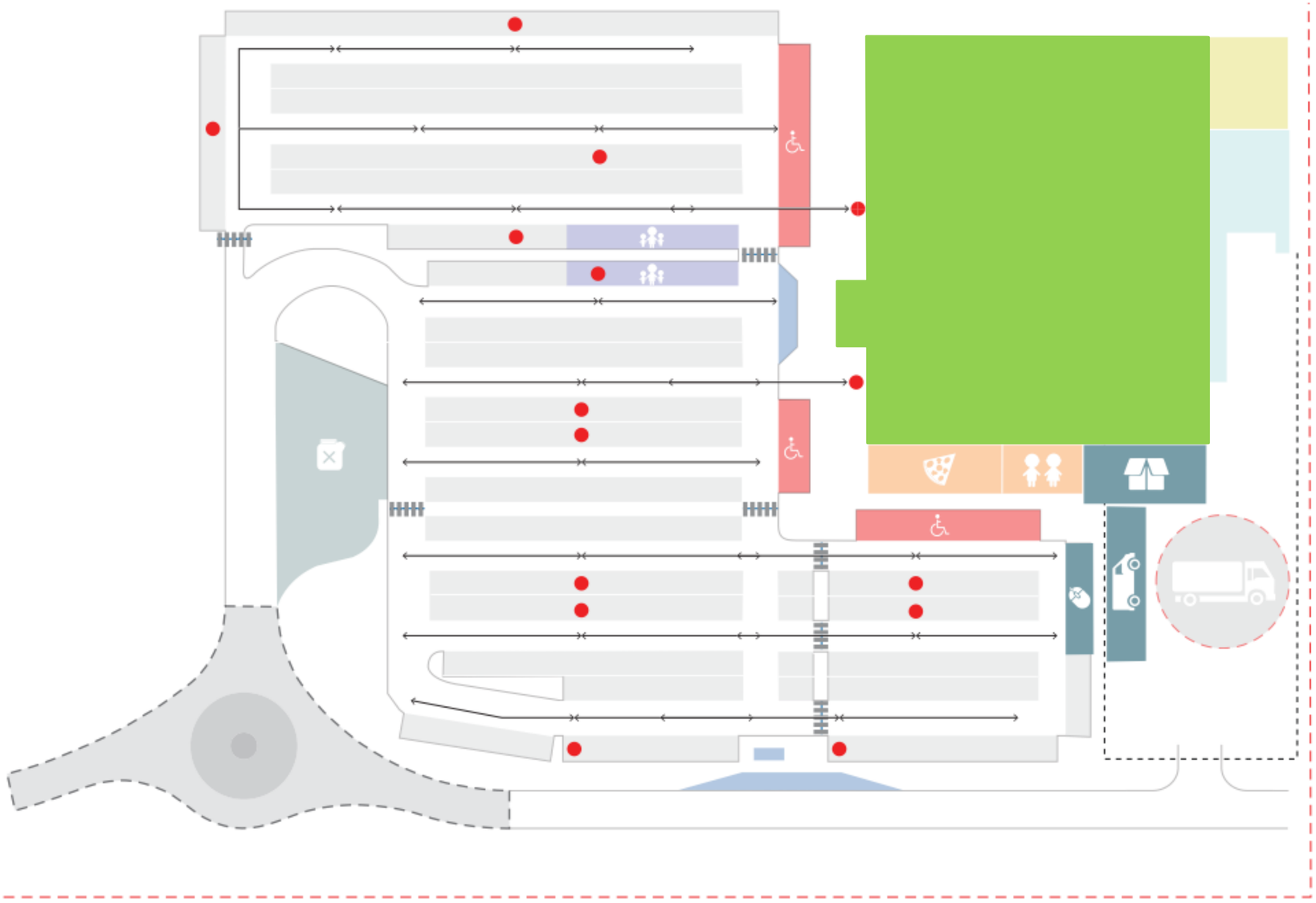
Recycling facilities provide an additional reason to visit.

Secure parking must be provided to ATM facilities.



7. Additional Car Park Provisions

7.2 Trolley Bays



Golden Principle

"I can easily / instantly locate a trolley bay from where i am parked in the car park"

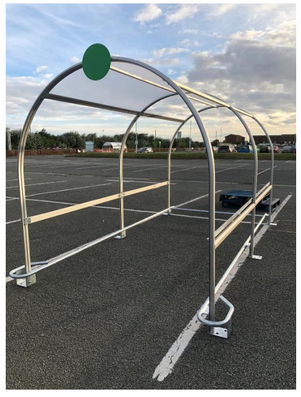
Trolley bay numbers and location should be determined on a store by store basis taking into account customer journeys and from the store. Best endeavours should be taken to minimise customer dis-satisfaction. This is often borne out of the following frustrations;

- Excess walking distances to collect / return trolley
- Insufficient trolley bay provision resulting in overflowing trolley bays.
- Infrequent trolley collections.

To address these challenges the following rules of thumb should be used to establish adequate trolley bay provision.

1:75 spaces + 2 extra trolley bays

Calculation for trolley bay requirements



The target for the maximum walking distance to a trolley bay is 35m and this should be calculated as an actual linear route rather than a simple radius

At stores with long aisles this is likely to result in the inclusion of at least one trolley bay per aisle.

Trolley bays should also be provided at the final point at which a pedestrian footpath crosses the site boundary.

7. Additional Car Park Provisions

7.2 Trolley Bays

This is particularly important where public transport is provided such as bus stops.

This is to reduce the temptation for customers to abandon trolleys at the periphery of the site, that often result in clutter, increase demand for trolley retrieval and can write off car parking.

Trolley bay is in **excess of 35m walk** (>25secs) and outside my own parking aisle

Trolley bay is **less than 35m walk** (<25secs) and **outside** my own parking aisle

Trolley bay is **less than 35m walk** (<25secs) and **within** my own parking aisle

In addition to providing trolley bay's within the main body of the car park, adequate provision should be provided adjacent to the store entrance.

Trolley Trap System (Cartronics)

In order to deter theft / vandalism of trolleys from Asda's stores, a Trolley Trap System called Cartronics is often used to restrict trolleys from being pushed outside of the store boundary. This system should be implemented wherever any of the following apply;

- The store is located in a town centre, district centre or shopping centre;
- The store is located near an open waterway;
- The local authority stipulates a 'Pay & Display' operated car park or trolley locks;
- The store is deemed as a 'High Security store' by Asda's Loss Prevention team.

Consequently the inclusion of a Trolley Trap System such as Cartronics should be considered on a site by site basis.

7. Additional Car Park Provisions

7.3 Additional Car Park Provisions

RECYCLING

Golden Principle 10
"I can easily see the recycling point from within the car park"

The requirement and scale of a recycling offer is often informed by a combination of factors;

- Size of Asda store;
- Asda's own business requirements,
- Local Authority planning policy
- Requirement under BREEAM.

Location of the offer should be carefully considered

Due to the somewhat undesirable consequences associated with recycling bins, i.e. noise, smell etc. the provision is often best located in an area of the car park that is underutilised. This should help ensure that the offer does not negatively impact a customer's perception of the store. Additional consideration should also be given to minimise complaints from neighbouring properties, particularly within residential areas.

As recycling is to many customers an additional reason to visit, the offer should be clearly visible from passing traffic routes if practicable. Where this is unachievable, the offer should be clearly signposted to assist customer awareness and navigation.

Ideally collection should also be facilitated from within the service yard to remove the need for refuse vehicles to be within the car park domain. Where this is unachievable a suitable route and increased specification of car park surface is likely to be required increasing construction costs.

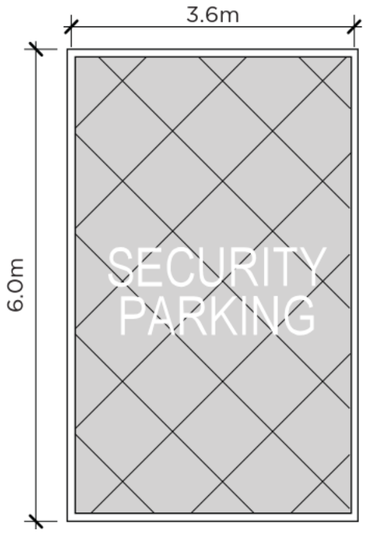
SECURE PARKING SPACE (ATM)

ATM machines are required to be located a maximum of 20m from the main store entrance under the terms of the agreement with the service provider. A dedicated parking location should be included on all schemes where an ATM is incorporated to allow for deliveries to take place. This space should be located in clear sight of the ATM door, within the following walking distances;

30m on stores deemed by Loss Prevention to be **low risk**

10m on stores identified as **high risk**

As stated the figures specified above form part of a legal agreement and are therefore subject to change. The above guidance is correct at the time of issue, however for latest information, please refer to the latest DIS of the ATM Specification and Feasibility Design Guidelines. Schemes



BUS STOP PROVISION

Golden Principle 11
"I can quickly and easily get to and from the store entrance."

In order to facilitate those customers who may wish to visit the store by bus, best endeavours should be made to ensure a bus stop is located as close as possible to the store entrance.

A clear pedestrian link between bus stop and store entrance should be incorporated with a trolley bay located at the point at which the pedestrian link exits Asda ownership.

7. Additional Car Park Provisions

7.4 Additional Customer Provisions

Pick up Point

Golden Principle 10
"I can quickly and easily get to and from the store entrance from the pickup point"

On all stores over 15,000sq.ft a pickup point should be located as close as possible to the store entrance.

>20m Pick up point is in **excess of 20m walk** (>15secs) from the store entrance

<20m Pick up point is **less than 20m walk** (<15secs) from the store entrance

<10m Pick up point is **less than 10m** (<7secs) from the store entrance

The model pick up provision currently included within all model profiles is designed to accommodate two vehicles as shown in the image below. However, when reviewing

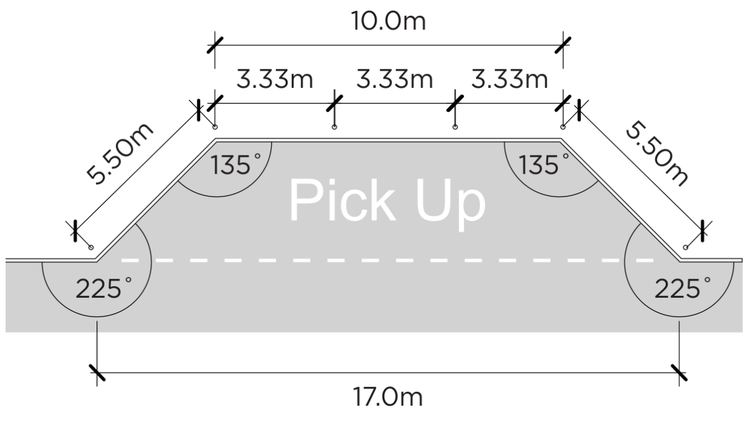
- Low car ownership
- A high proportion of elderly customers
- High taxi usage

Consequently, the scale of this should be confirmed with Market Development on a store-by-store basis.

Certain local authorities have specific requirements for the provision of dedicated taxi facilities for retail outlets and particularly food stores. This requirement will be established through examination of local planning policies and, if necessary, appropriate provision should be made to comply with these standards wherever possible or to provide alternative, appropriate facilities in close proximity to the main store entrance.

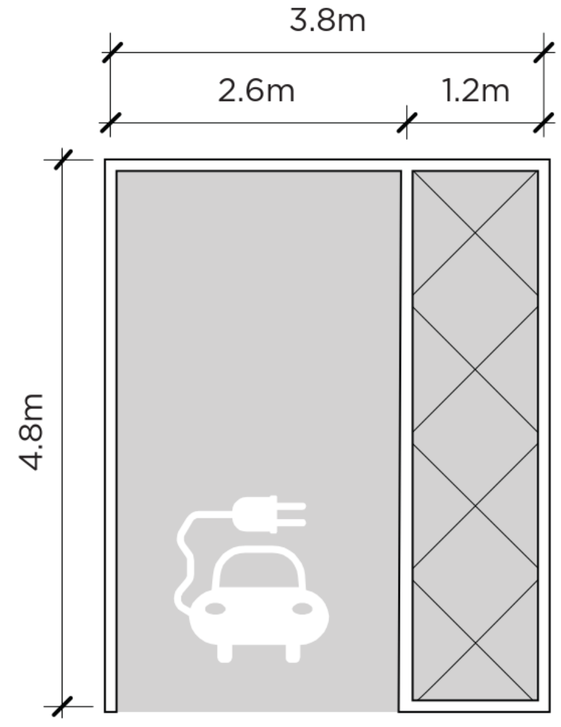
The local authority in question will have developed this guidance based on local demographics and observed/ recorded behaviour and as such it is likely to benefit the site from an operational perspective by avoiding congestion within the car park.

It should, however, be noted that the main circulation aisles detailed in this Design Guide are, at 7.0m, wider than the minimum parking aisles in order to accommodate a taxi (or other vehicle) stopping within the aisle to pick-up customers after shopping. Appropriate signage should, however, be provided directing customers to the dedicated pick-up point. This should be clearly visible on all available approaches to avoid customers having to unduly circulate within the car park.



Electric Charging Points (ECP's)

As ownership of electrically powered vehicles increases, Asda has taken the decision to incorporate Electric Car Charging Points (ECP) to provide customers with the facility to charge their vehicles whilst they shop.



To capture this requirement Asda has established the following principle;

zero and no potential to incoroporate in the future — The scheme incorporates **no Electric charging points (ECP's)** & there is **no potential** to add in future

<4 Superstore **<2** Supermarket — not future-proofed for 5% — **Less than 4** ECP on **superstores** or **less than 2 on supermarkets** with **no potential to increase to 5%**

4 Superstore **2** Supermarket — future-proofed for 5% — **4 ECP's on superstores or 2 on supermarkets** with **potential to increase to 5%**

7. Additional Car Park Provisions

7.4 Additional Customer Provisions

ELECTRIC CHARGING POINTS

In addition to Asda own commitment, many local authorities are now requiring private companies to incorporate ECP's on all new developments. As a result the Asda requirement should be seen as a minimum, with local authority ECP provision confirmed by on a store-by-store basis.

In order to accommodate future growth for the demand for this service, careful consideration should be taken when locating ECP provision to allow for future expansion.

COLLEAGUE PARKING

A more formal method of car park management may also need to be considered on sites which are known to have capacity issues and do not have any segregated colleague parking facilities.

At peak times it may be necessary for colleague parking to be monitored and specific areas identified where it is appropriate for this to take place to ensure that prime parking spaces are made available to customers. Colleague car share should be promoted.

In extreme cases it may even be worthwhile exploring the potential for off site colleague parking provision to be acquired, however this should be considered as a last resort

This is likely to be an issue for the particular GSM and the situation should be monitored on a regular basis.

Colleague car park provision should be established site by site.

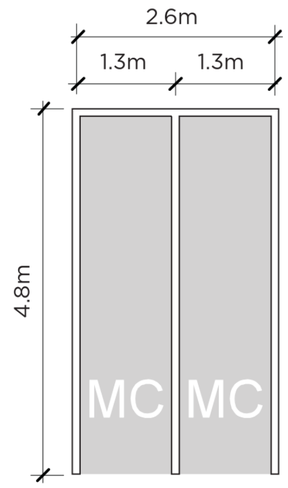
MOTORCYCLE BAYS

Many local planning authorities provide guidance on the provision of motorcycle parking bays within published parking standards. These are often referred to as Powered Two Wheelers (PTW). As such, provision should be assessed on a store-by-store basis.

However, as a minimum it is suggested that four bays are provided as close as possible to the store entrance having regard to the location of accessible and parent and child provision.

The diagram below details the typical motorcycle parking bay arrangement, and it can be seen that two motorcycles can be accommodated within a single standard parking bay.

A mechanism to secure the motorcycle should be provided to prevent theft and to encourage the use of this form of transport. The most popular and easy to use is a raised bar arrangement set into the ground. Refer to NBS Q50/214 for Model product



CYCLE PARKING

Cycle parking is a key requirement in national and local transport strategy and is a requirement of all local planning authorities. As such consideration must be given to the incorporation of sufficient, appropriate provision within all store car parks.

A typical installation is the "Sheffield Stand" arrangement (see diagram below) which is generally acceptable to most authorities although some may also insist on the provision being sheltered i.e. under a canopy.

Whilst car parking standards are normally expressed as a "maximum" standard, cycle parking is expressed as a "minimum" and it will, therefore, be necessary to assess each store against the appropriate local standards.

Generally 1 cycle parking space should be provided per 250m^2 of floor area proposed/available with a maximum of 20 spaces provided. NB. each Sheffield Stand will allow two cycles to be securely parked.

Cycle parking should be located in a convenient position to the store entrance but must not obstruct pedestrian routes. It should preferably be located where visibility is available to increase security and areas should be well lit.

7. Additional Car Park Provisions

7.5 Barriers and Bollards

BARRIERS

Asda require barriers to be provided to all areas considered to have a high risk of adverse personal safety or property damage. The following systems may be appropriate:

- A vehicle impact/protection such as Berry Barrier System
- Armco traffic barriers
- Protection barriers to steel or concrete columns
- Protection guardrails for pedestrians where the pedestrian walkways pass through the parked vehicles.
- Bins

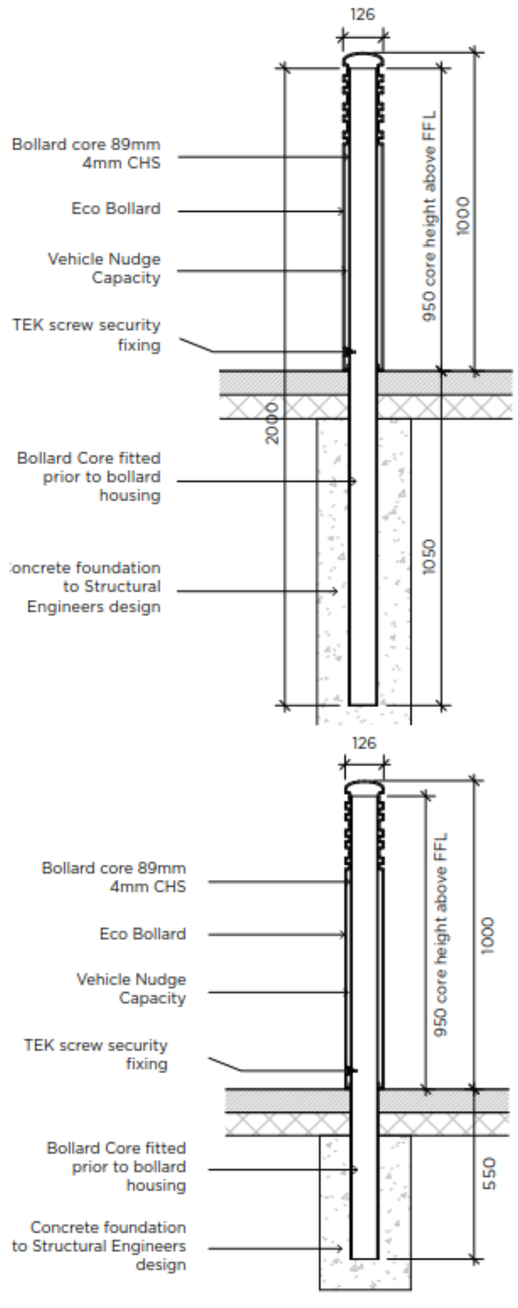
BOLLARDS

Asda requires all pedestrian areas of the car park to be segregated from vehicles using bollards. These should be used to demarcate the separation needed between foot and vehicular traffic and are typically located:

- along the edge of any vehicle circulation aisles;
- around parking bays situated close to pedestrian walkways;
  along the edge of any pickup / collection point or bus stop;
- around the store entrance

Standards bollards should be spaced 1200mm centre to centre except around the store entrance where this should be reduced to 1000mm.

Ram raid bollards are also required around ATM pods and are required to be spaced at 1200mm centres to deter ATM crime.



TRAFFIC BOLLARDS

Traffic bollards to be provided along the pedestrian walkways within car parking areas and are to be set out to the centre of parking bays adjacent pedestrian walkways. See Figure 1 and Figure 2

RAM RAID BOLLARDS

Protection to be provided at Main Entrance Lobby where applicable and Cash Office, ATM unit and fire exits only where accessible to vehicles. For bollard and ram raid details, see Appendix 4: Bollard and Ram Raid Layout.

DO'S AND DONT'S

✓Do

- Ensure street furniture is sufficient, suitable for purpose and economically viable
- Ensure street furniture conforms with the Look and Feel of an Asda store

✗Don't

- Position furniture to impede traffic flow or visibility for drivers
- Position furniture to impede the desire lines of pedestrians

7. Additional Car Park Provisions

7.6 Traffic Calming

SPEED BUMPS

Speed bumps are widely used across the Asda estate in order to deter excessive speeds a desired speed limit of 10 mph.

- Typical locations for speed bumps may be;
- Either side of a pedestrian crossings;
- Mid way along longer aisles;
- Prior to a tight turn / junction;
- Entrance into a car park.

Key triggers for there inclusion at a store can be

- A general disregard for the speed limit stipulated;
- To address an inherent design condition such as entry into a tight bend
- As a result of anti-social behaviour such as street racing and congregations of high-performance vehicles.

Although they can be a highly effective deterrent for the majority of safe drivers, they can also be seen as an unwelcome addition, causing driver discomfort and general annoyance. Consequently, the incorporation of speed bumps should be seen as a last resort solution for addressing excess speed within a car park.

There inclusion on a scheme should be carefully considered following a site-specific risk assessment. Wherever possible, the need for speed bumps should be designed out and only be deployed sparingly where required to address a localised problem. They should not be used as a blanket deterrent. The need for speed bumps should therefore be designed out wherever possible.

Where required a phased approach should be taken to their introduction. To ensure an effective yet proportionate level of response. This is to minimise driver discomfort and customer dissatisfaction;

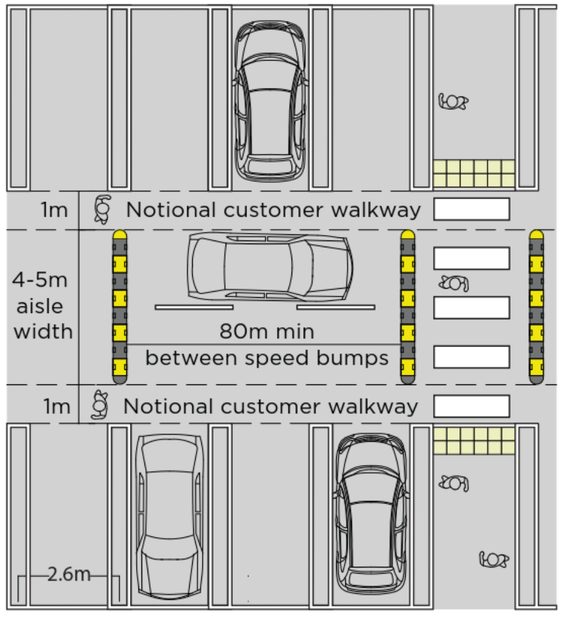
- Introduce speed bumps at car park entrance to de-mark change of environment and driver behaviour;
- Incorporate into pedestrian crossings;
- Locate along perimeter circulation routes;
- Add mid-way along parking aisles. This should be avoided wherever possible.

Alternative solutions that may be able to achieve a similar outcome but without the introduction of speed bumps are as follows;

- Shorter aisle runs to reduce the opportunity for excessive speed to build up.
- Larger speed tables that are incorporated into pedestrian crossings and allow for a more comfortable ride for drivers.

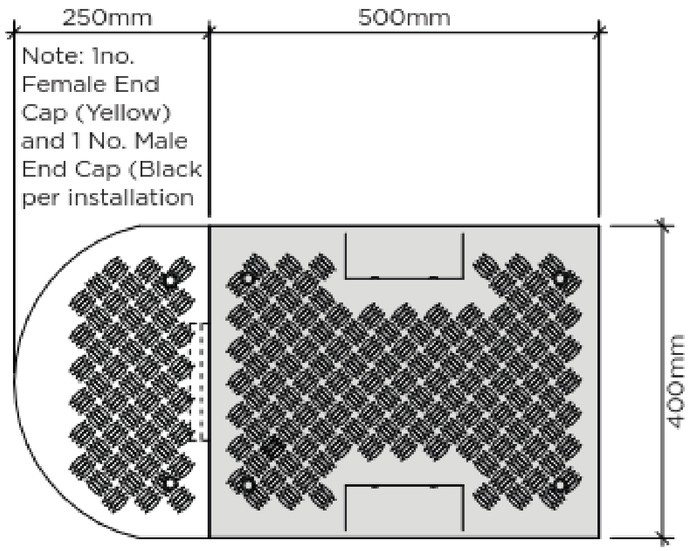
The individual specification of speed bumps is also a key consideration. Asda's current specification with a height of 50mm is designed to help enforce a 10mph limit. Any reduction in specification may affect the bumps' ability to achieve the required reduction in speed and it is therefore imperative that Asda's latest specification is adhered to.

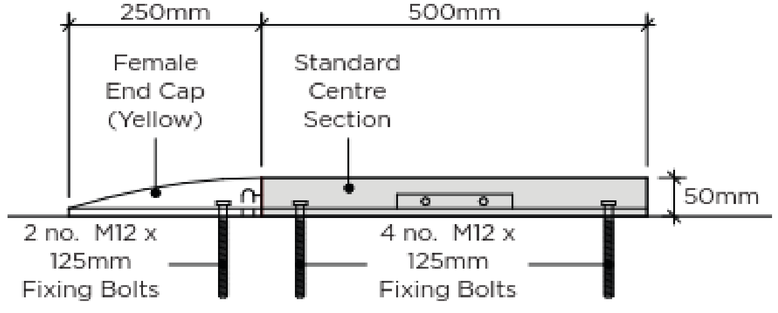
Due to the nature of our car parks use and the need to accommodate shopping trolleys, 1000mm clearance should be included either side of the speed bump to allow customers to pass unimpeded between the speed bump and parked cars as shown in the illustration below.

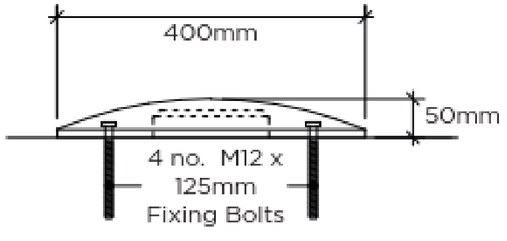


Speed bumps should not be

- Positioned less than 80m apart;
- Positioned after a bend;
- Orientated less than 90 degrees to the direction of travel;
- Staggered across aisles



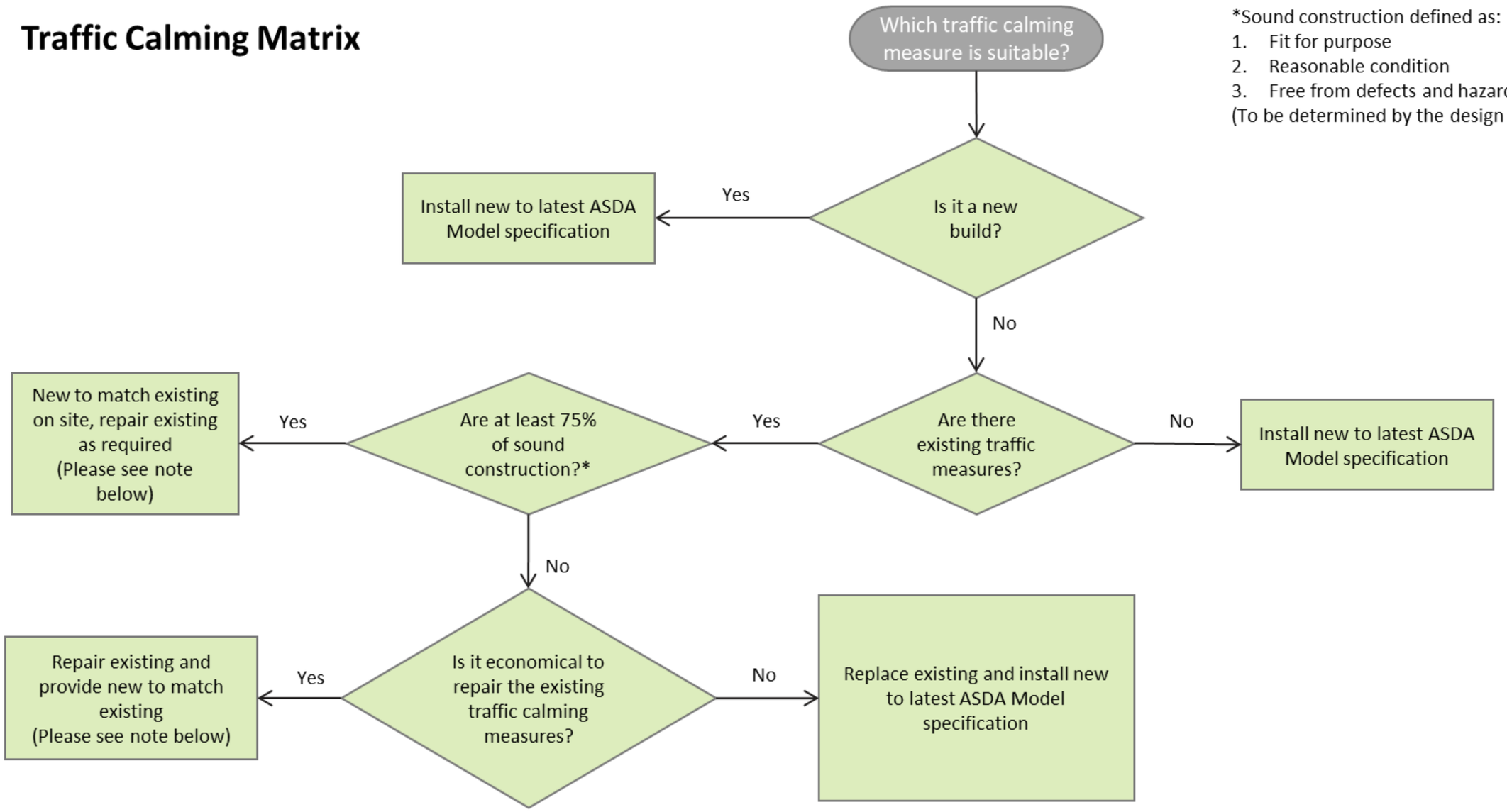




7. Additional Car Park Provisions

7.6 Traffic Calming

Traffic Calming Matrix



*Sound construction defined as:
1. Fit for purpose
2. Reasonable condition
3. Free from defects and hazards

(To be determined by the design team architect)

The above flow chart is intended as a guide to provide options in cases where traffic calming measures are required.

The matrix should guide the designer/specifier through a range of step by step processes based on an existing situation and the range of options available.
The ultimate aim is to arrive at a best fit solution that is acceptable to Asda which defaults to align to the Asda Model specification best practice.

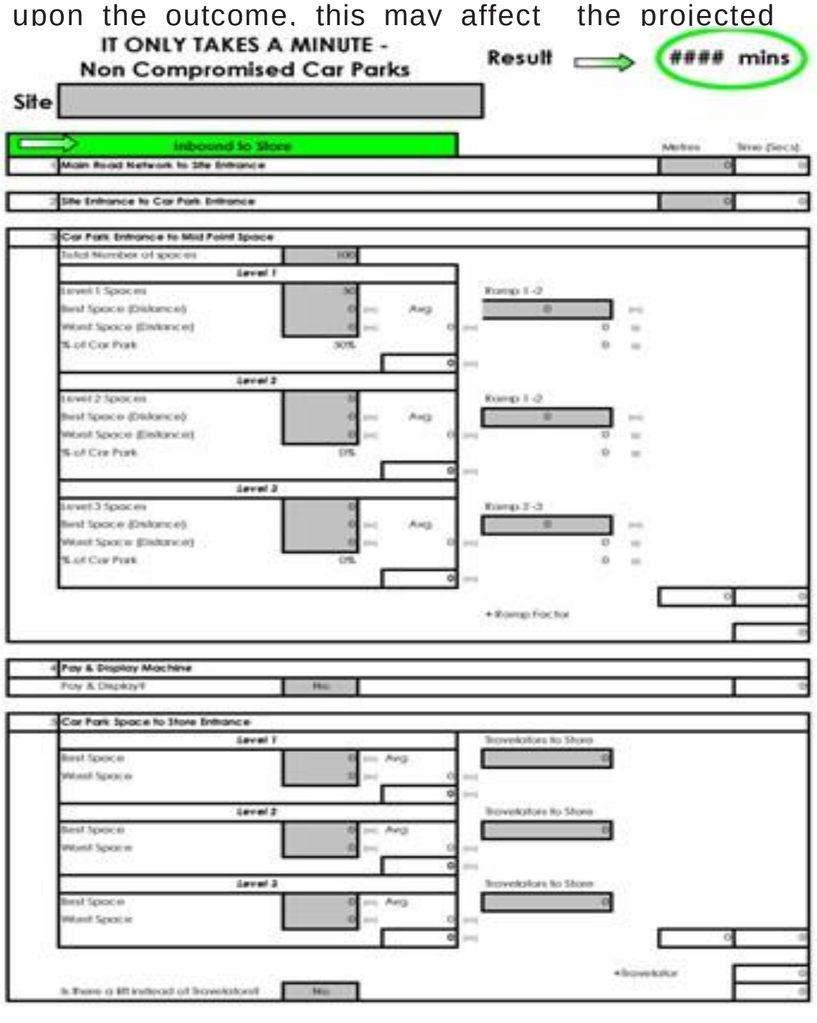
Note for existing repair: Please see attached typical details for no model speed bumps.

8. It Only Takes A Minute (IOTAM)

8.1 It Only Takes A Minute Assessment

GENERAL

The IOTAM assessment is a measure used to assess a store's accessibility from a through-the-eyes-of-the-customer of the customer's journey to the store by measuring the distances along the most probable route as they visit the store. These measurements are taken on a best and worst case scenario, i.e. nearest and furthest space to the store entrance., and on the understanding that the customer will take the most direct route when navigating the car park. These distances are then inserted into a calculator which provides a time taken that is then appraised a Red, Amber, Green (RAG). Depending upon the outcome, this may affect the projected



CAR PARK DESIGN MANUAL

>13mins IOTAM score is **greater than 13 mins**

>8 but <13 mins IOTAM score is **between 8 mins and 13 mins**

<8mins IOTAM score is **less that 8 mins**

Single Storey Schemes

In order to calculate a proposal's score, the following distances must be taken from the scheme;

- Driving distance from nearest main road to site boundary
- Driving distance from site boundary to Car Park entrance.
- Driving distance from Car Park entrance to best customer parking space (nearest store entrance, not including Parent and child or disabled).
- Driving distance from Car Park entrance to worst customer parking space (Space furthest from the sales floor). This route may be convoluted as customer is likely to try and park as close to the store as possible prior to parking in worst space.
- Walking distance from best customer parking space to sales floor.
- Walking distance from worst customer parking space to sales floor

The above measurements are then repeated in reverse. Be aware however that whilst some measurements may be identical, for example the walking distances, some may differ. The distance from worst space to car park exit for example is often shorter as a result of it often being the parking located nearest to the car park entrance which is the furthest point from the store entrance.

In addition, the following metrics are also required

- Total number of Asda designated car parking spaces.
- Is the car park intended to be pay and display?

Distance	Travelling speed over distance
Driving between main road and site boundary	30
Driving between site boundary and car park entrance	10
Driving between car park entrance and parking spaces	5
Walking between parking space and sales floor	5

SCHEMES WITH MULTIPLE STOREYS

In cases where schemes incorporate a multi-level car park the following measurements and metrics must also be made;

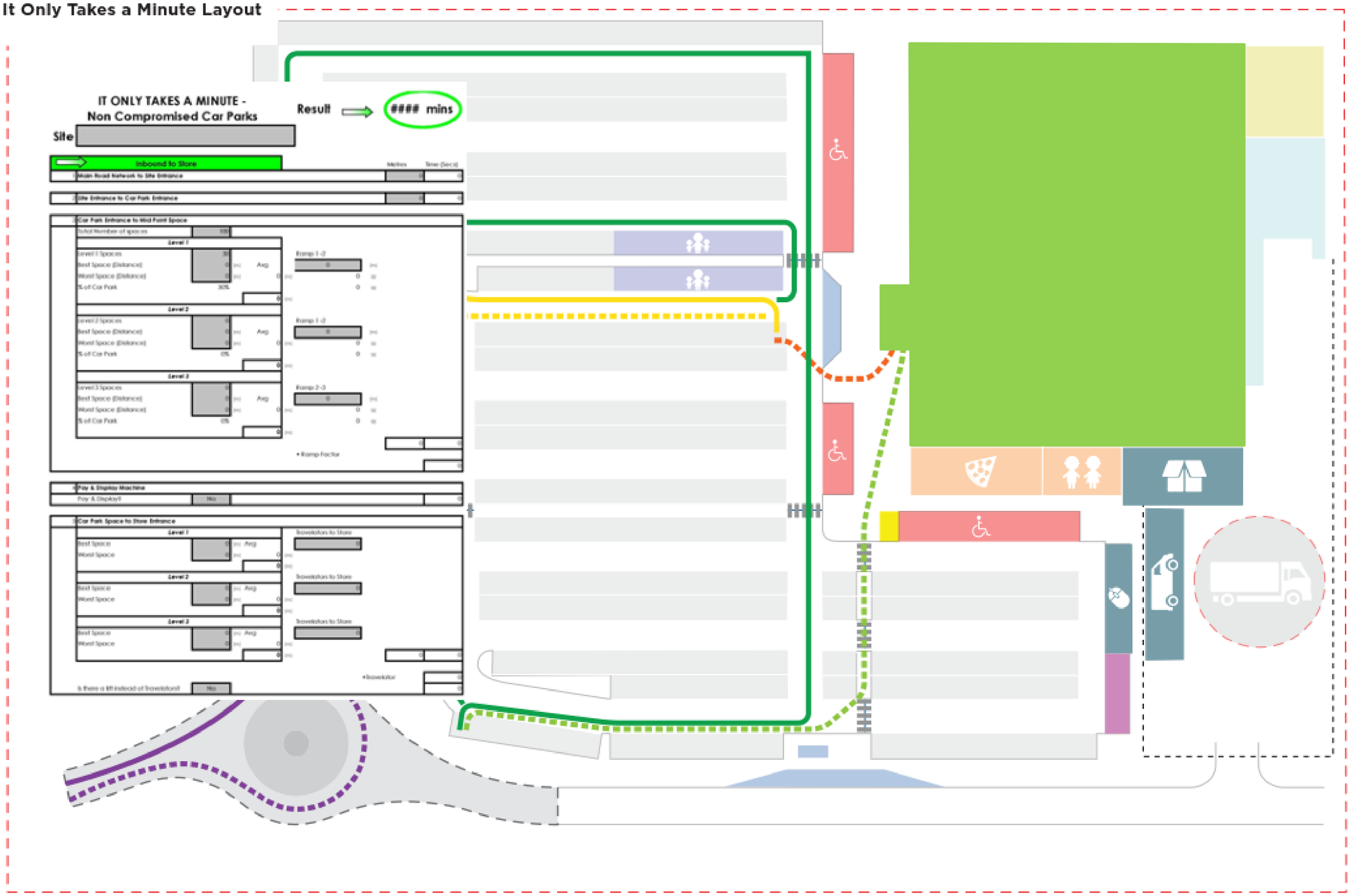
- Breakdown of customer parking space per floor
- Length of vehicle ramps upon assent and descent
- Number of travellators per storey upon assent and descent. (Length of travellator is deducted from walking distance between best and worst parking spaces and sales floor
- If no travellators are included is a lift provided?

These metrics are then inserted into the relevant IOTAM Calculator, either IOTAM template 70_30 split or IOTAM template 50_50 Split

The choice of which template is used should be made upon a scheme-by-scheme basis and is dependant upon its complexity. On a standard scheme the 70_30 split template should be utilised. In this template both the average driving distances from and to the car park entrance / exit to the best and worst spaces and walking distances to and from the store are weighted 70:30 in favour of the shortest distance vs. the greatest distances. This weighting reduces to 50:50 on the 50_50 template to reflect the compromised nature of the store. Template 50_50 should only be used in extreme cases as agreed by Market Development.

8.1 It Only Takes A Minute Assessment

It Only Takes a Minute Layout



It only Takes a Minute Measures (IOTAM)

- Main road to site thre
- Site threshold to car threshold
- Car park threshold to parking space
- Car park threshold to worst parking space
- Best parking space tc store entrance
- Worst parking space store entrance
- Store entrance to be parking space
- Store entrance to wc parking space
- Best parking space tc park threshold
- Worst parking space car park threshold
- Car park threshold to threshold
- Site threshold to mair road

9. Petrol

9. Petrol

Ideally the PFS should be located right hand side when entering the site, being primarily accessed on the outbound journey. A right-hand turn lane must be provided for incoming traffic to ensure vehicles waiting to turn into the PFS do not detrimentally affect access into the main store car park.

Segregation should be provided between the access/ egress to the PFS and the main store car park. This is to ensure effective management of traffic flows at peak time and to help manage conflicting movements as customers move between the store car park and PFS, as demonstrated on the site plan on the following page.

Sufficient stacking provision must be provided within the PFS footprint to provide stacking at peak trading times, without detrimentally impacting the main store access or car park operations. Stacking capacity should be confirmed by tracking and CAD drawing analysis with results approved by Asda.

TRACKING

The design of PFS layout should permit the following vehicles free access to all routes relevant to them:

- 15.24m fuel tanker (special Asda design)
- 7.5T panel van
- 4.6T light van
- Range Rover

The petrol tanker must enter and exit the PFS layout in a single forward motion. This is particularly crucial in case of an emergency where the tanker must quickly leave the station.

VISIBILITY

Careful consideration should be given to inter-visibility when entering / exiting the PFS. Anything that restricts visibility at these points such as buildings, signage, street furniture etc, should be designed out wherever possible to reduce the risk of vehicle collisions.

On sites where an automated PFS is to be incorporated, a suitably trained colleague must be able to reach the PFS within 5 mins in case of emergency.

At sites where a shop is to be included, the attendant must have visibility of all pumps from the shop. This is to ensure the colleague can authorise all transactions and reduces the risk of drive offs. Where direct visibility is not achievable, CCTV provision must be incorporated to cover each pump.

ENVIRONMENTAL ISSUES

When identifying the preferred location for a PFS, the designer should ideally seek to position the offer away from any site conditions that may have implications on the designer / operations of the PFS and neighbouring developments.

Examples of these conditions may include but are not limited to;

- Neighbouring residential properties
- Watercourses;
- Known under or overground utilities;
- Underground / overground transport

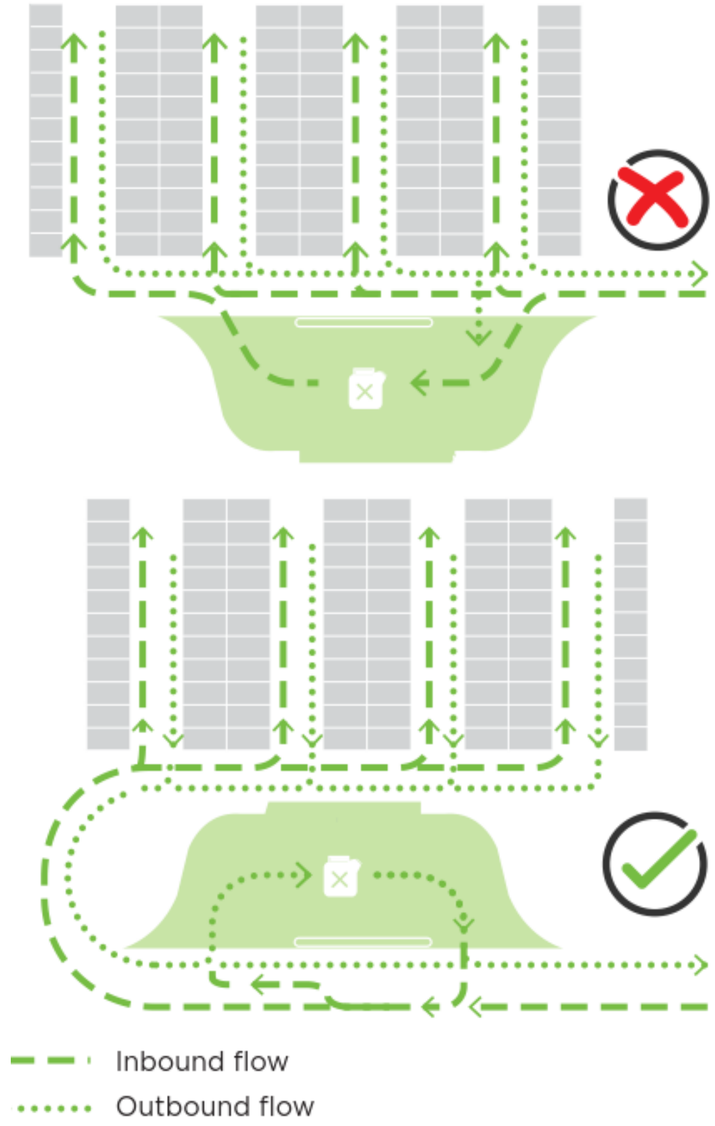
Particular consideration should be given to issues relating environmental impact and environmental health such as;

- Acoustic impact;
- Arboriculture
- Wildlife protection;
- Water contamination;
- Light pollution.

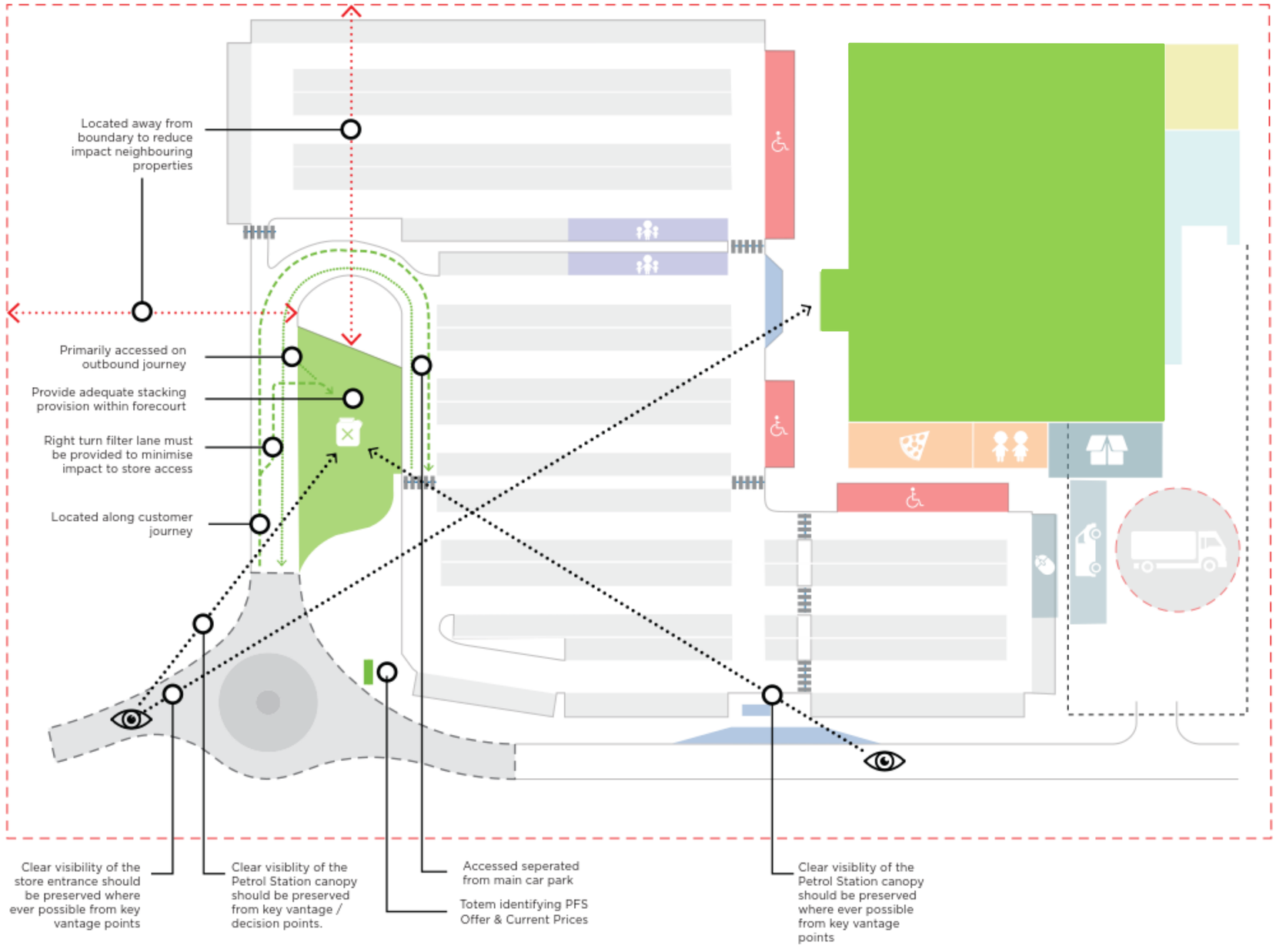
Where these issues are present, special consideration may need to address any undesirable consequences resulting from the incorporation of a PFS.

FORECOURT SPECIFICATIONS

All areas of tarmac and concrete specification should be reviewed to ensure acceptable to accommodate tanker



9. Petrol



CORE PETROL FILLING STATION (PFS) PRINCIPLES

Asda has a variety of PFS formats and sizes that can be deployed dependent upon the market opportunity at any given location. Although these formats can take many different arrangements, they are primarily based upon one of the following;

- Automated PFS
- PFS with Shop
- Drive to pay kiosk

The scale and provisions included within a PFS should be confirmed with Asda's Market Development Team on a site by site basis and ratified by the Asda Petrol Team.

Whether new or existing scheme, careful consideration should be given to its location and access arrangement. This is to ensure an optimal solution is achieved and does not jeopardise access into the main store.

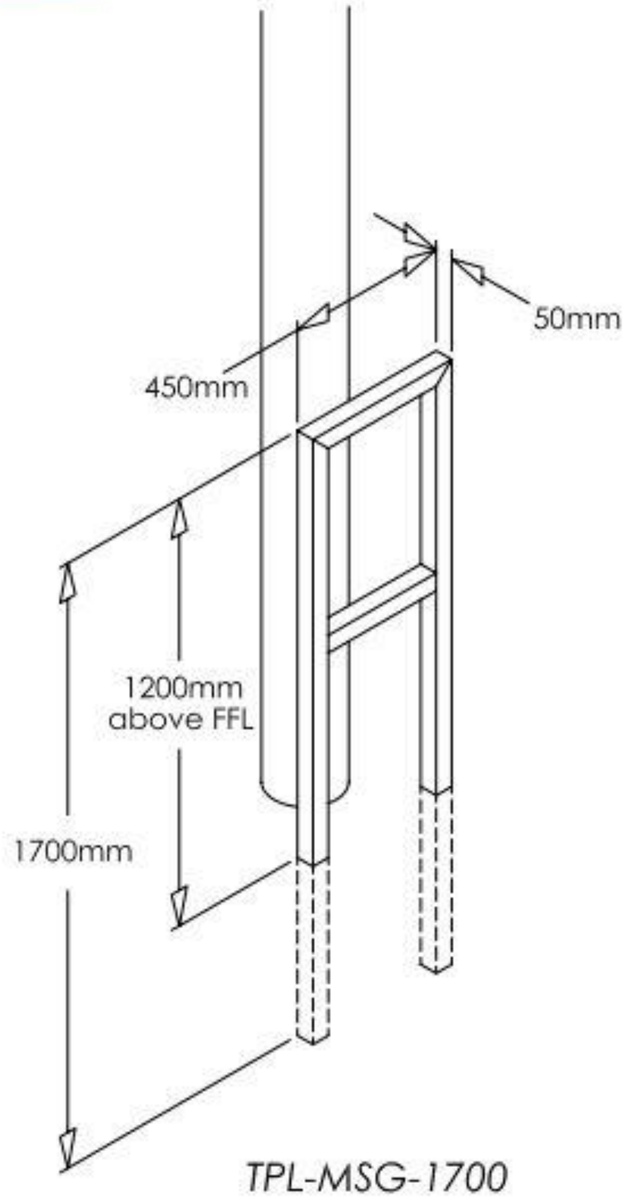
The PFS should be located along the customer journey to / from the store, as close to the main access point wherever possible. However, this should not impair visibility of the main store entrance from key vantage points. Visibility of the offer from passing traffic is also key to ensure maximum impact. Where this is not possible signage is a fundamental requirement. A totem including current petrol prices should be deployed at the main access point to highlight the offer.

10. Lamp-post protection

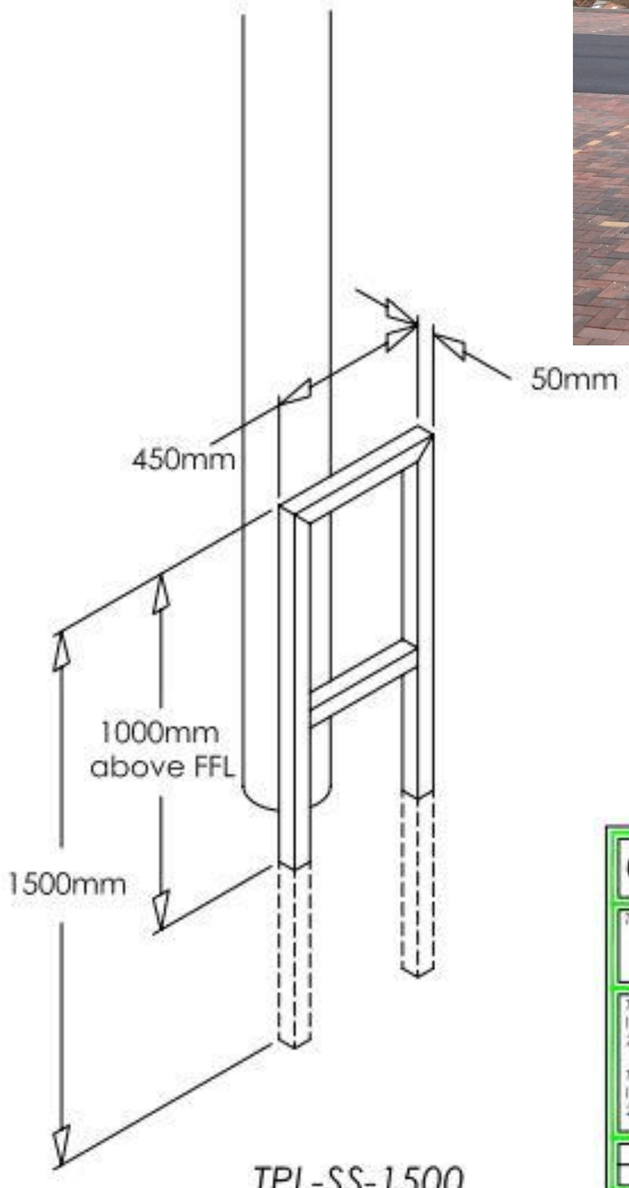
10. Lamp-post protection

Customer Drawing

Title: Tree/Post Protector



TPL-MSG-1700



TPL-SS-1500

Customer Drawing

Title: Tree/Post Protector

TPL-SS-1500 Notes:
1. Material: Grade 304 Stainless Steel
2. Finish: Satin Polish 240 Grit

TPL-MSG-1700 Notes:
1. Material: Mild Steel
2. Finish: Hot Dip Galvanised

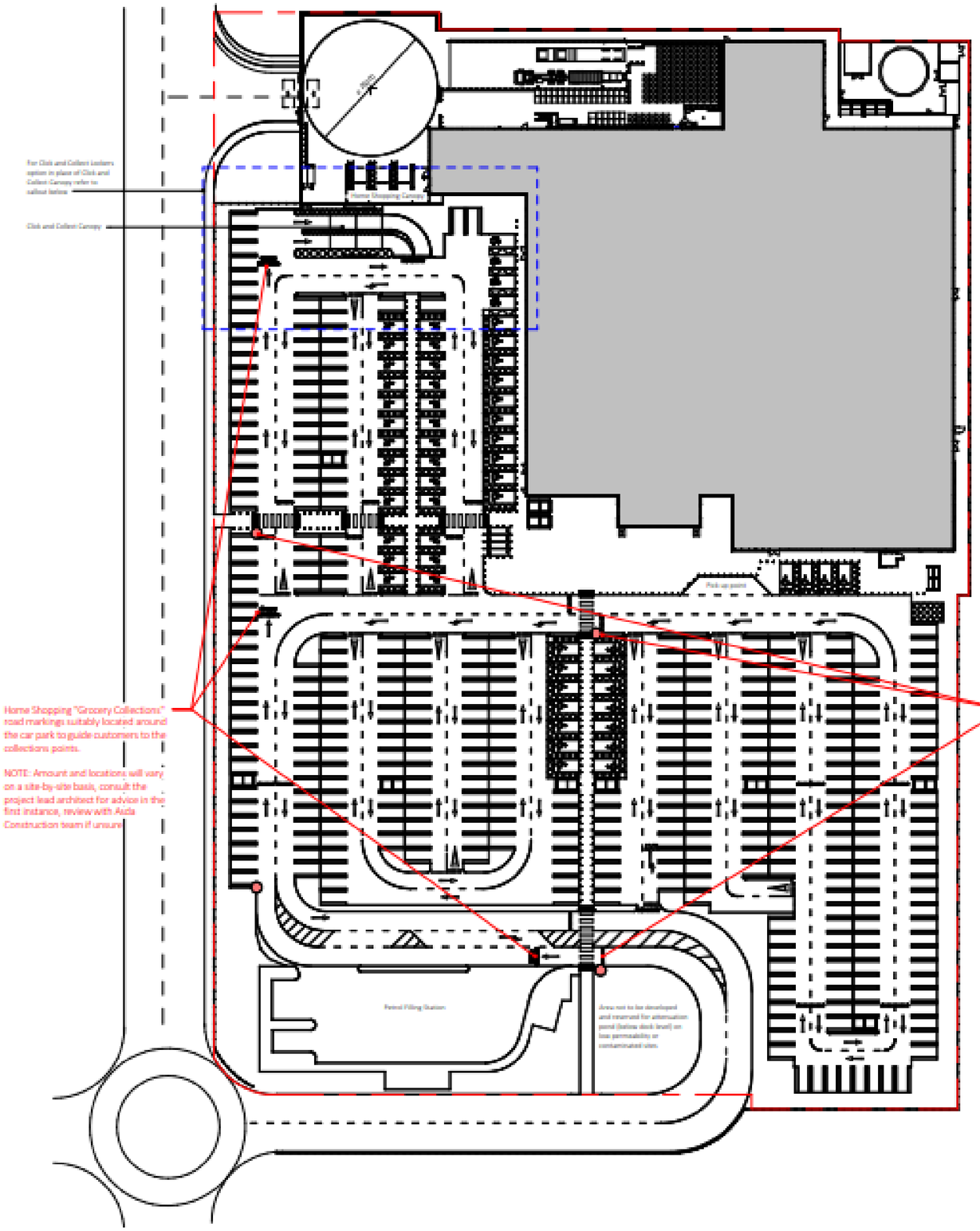
Part No	Rev	Scale	Size	Sheet
N/A	-	NTS	A4	1 of 1

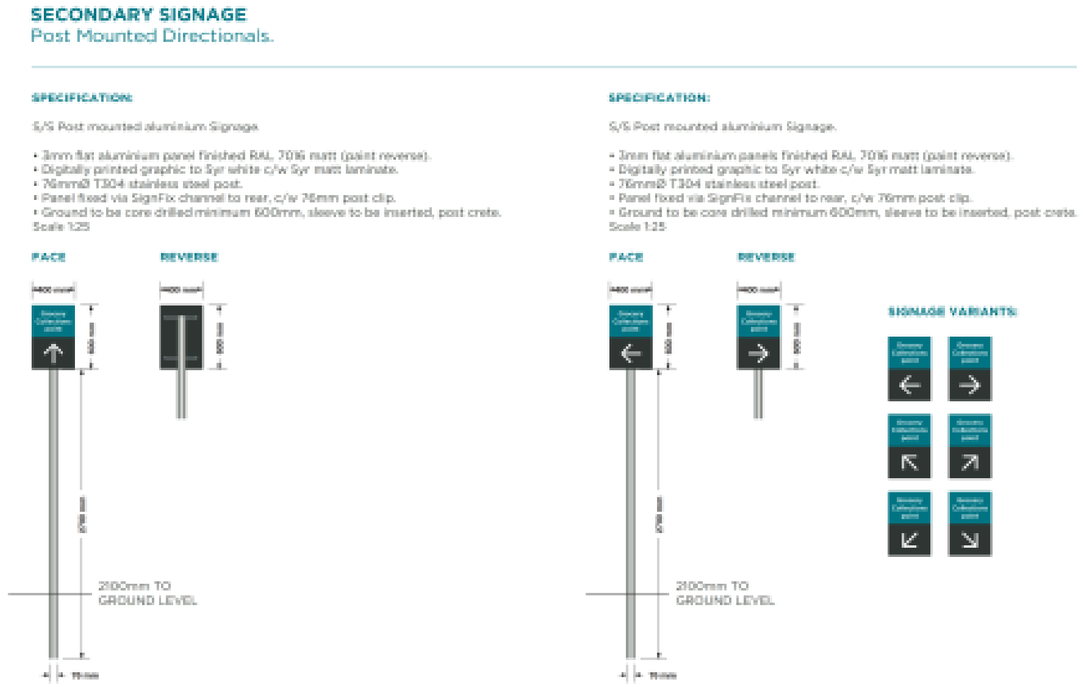
McCue Corporation
Mount House, Bond Avenue
Mount Farm, Milton Keynes
Tel: (01908) 365 511
Fax: (01908) 365 527
www.mccuecorp.co.uk

11. Home Shopping Signage location

11. Home Shopping Signage location

(see drawing SST40-WCA-SI-ZZ-DR-A-0002-S2-P1)





Home Shopping "Grocery Collections" post-mounted signage markings suitably located around the car park to guide customers to the collections points.

NOTE: Amount and locations will vary on a site-by-site basis, consult the project lead architect for advice in the first instance, review with Asda Construction team if unsure

ASDA