West Midlands Regional Logistics Study – 2009 Update

A Technical Report Prepared for the West Midlands Employment Land Advisory Group

by

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CONTENTS

1. INTRODUCTION

1.1 Background

The Regional Spatial Strategy for the West Midlands (RSS11) was published in June 2004. The logistics sector is addressed in Policy PA9, which promotes the development of Regional Logistics Sites at key locations across the region. Regional Logistics Sites (RLS), which are intended to provide opportunities for the concentrated development of warehousing and distribution uses, can be expected to perform four roles, namely:

- Support the delivery of aims and objectives set out in public policy documents at a national and regional level, principally RSS11 but also other national/regional transport and planning policies;
- Meet the future needs of the logistics sector through the provision of suitable sites which are able to accommodate the next generation of large distribution centres demanded by the market, demand which cannot be satisfied by the existing general site supply across the West Midlands;
- Meet the future needs of the logistics sector through the provision of suitable sites which offer transport modal choice, including good quality access to the railway network, accommodating distribution centres where (by virtue of their supply chain characteristics) some flows of goods show a propensity to use rail freight and those logistics operators who will in future demand access to rail freight services for some of their transport requirements; and
- Generate the benefits which result from concentrating logistics activity at one site.

In order to ensure an adequate supply of RLS over the life of the spatial strategy, the Regional Planning Body (RPB), working in conjunction with other key stakeholders, commissioned a study of the logistics sector in the region. The resultant study (*West Midlands Regional Logistics Study Stage 2*) was undertaken by *MDS Transmodal*, *Savills* and *Regeneris* during 2005[1]. In brief, the Stage 2 study brief required the consultants to:

- Review the RLS identification and assessment criteria (as detailed in Policy PA9);
- Recommend the number, size and broad location of RLS required by the Region up to 2021; and
- Provide advice on drafting future RSS policy.

The final Stage 2 report was presented to the RPB in September 2005. Overall, the study identified a range of scenarios for future growth in the land required for RLS, varying from *161 and 176 hectares* based on a continuation of current trends to between *309 and 336*

[1] *West Midlands Regional Logistics Study Stage 1* was undertaken by King Sturge and concentrated on identifying the factors influencing the logistics industry in the short, medium and long term at both the national and regional level.

hectares based on a higher proportion of large warehouses locating on RLS[2]. The study also concluded that RLS should be located at rail-linked sites (railway lines with a generous loading gauge and available freight capacity) which also possess good access to the strategic road network. The corridor stretching from Rugby to Stafford/Telford, broadly following the West Coast Mainline and M6/M6 Toll, was identified as offering the most competitive locations for future RLS. The study also concluded that a geographic choice of RLS across the region should be available at any point in time.

The Stage 2 study report had the status of a technical document which has informed the subsequent development of Policy PA9 during the partial review of RSS11. The Preferred Option for Policy PA9 which emerged from the review would require future RLS to have good quality access to the regional rail and highway network and to have a choice of RLS available at any point in time. The revised Policy PA9 will be tested at the Examination in Public (EiP) which commences in April 2009.

However, the Stage 2 study is now four years old and was based on 2003 data. In addition, the Stage 2 study was also based on the period to 2021 whereas the RSS end date has subsequently been extended to 2026. The West Midlands Employment Land Advisory Group (WMELAG) and Advantage West Midlands (AWM) therefore deemed it appropriate to commission an update of the land use demand forecasts contained in the Stage 2 report. Consequently, MDS Transmodal and Savills were jointly appointed in January 2009 to undertake an objective quantitative update of the Stage 2 forecasts published in September 2005.

The main aims of the update study are to:

- Extend the timeframe of the land use forecasts to 2026;
- Consider current market trends and the implications of the current economic downturn on the logistics sector and future demand for RLS;
- Update the current supply of land for RLS and review progress on key sites; and
- Examine whether large-scale logistics operations are being directed to less desirable locations, given that the supply of RLS has diminished.

The full study Terms of Reference are reproduced in Appendix 1.

This written document contains our conclusions on the requirements detailed in the study Terms of Reference. Similar to the Stage 2 report, this document has the status of a 'technical document' which will inform the forthcoming EiP. It is therefore a 'factual' document, and the results presented and views expressed are those of the consultants and should not be interpreted as necessarily representing those of the RPB.

[2] The 'Sustainable with Consents' option, which planned for a high percentage of new floor space locating at RLS but also accounted for sites with existing consents for B8 development.

Section 2 provides an analysis of the current supply of large scale warehousing across the West Midlands region. Section 3 undertakes a review of current market trends, in particular assessing recent warehouse new-build trends and the latest available data concerning the trade and transport of unit load cargo. Section 4 presents the results of the updated warehouse demand forecast to 2026, together with an explanation of the methodology adopted. Section 5 considers existing RLS supply and arrives at conclusions regarding the future quantum of land likely to be required at RLS over the life of the RSS.

This study only considers demand for 'large scale' warehousing, which is generally considered to be individual units with a floor space greater than 10,000 square metres (approx 100,000 sq feet). These are buildings which generally require the larger plots available at purpose built distribution parks e.g. RLS (smaller units can often locate at general industrial sites or on 'recycled land within/close to urban areas).

1.2 Forecasting Tools

The principal forecasting tool utilised for this study has been the MDS Transmodal GB Freight Model. This model was developed by MDS Transmodal to analyse current and forecast future freight flows within, to and from Great Britain by mode, origin/destination and commodity. The current version is GB Freight Model Version 5 (GBFM v5).

GBFM v5 consists of several modules; including:

- A multi-dimensional base matrix, built up from several sources, which describes the origin, destination and commodity of goods moving within Great Britain and to/from Great Britain. Sources include the Continuing Survey of Road Goods Transport (CSRGT), Network Rail billing data, Revenue and Customs trade data and Maritime Statistics;
- A calibrated cost model which replicates rates in the market and 'explains' mode choice by route and the routeing of cargo (by ferry/shipping route/Channel Tunnel) between Great Britain and mainland Europe;
- A vehicle choice and load factor model used to 'convert' road tonnes into HGV numbers; and
- A rail assignment model that is based upon current operating behaviour (route choice, tonnes/trains by commodity).

The model has been audited by ITEA and it has been adopted by the Department as part of the National Transport Model. GBFM Version 5.0 Report, submitted to DfT in March 2008, fully documents latest version of GBFM (available on DfT website).

Recent major projects which have employed use of the GBFM include:

- Network Analysis of Freight Traffic. A recently completed a study for the Department for Transport examining freight flows and their contribution to network usage. The

study established current daily HGV demand between each link (junction) on the M6 together with producing a modelled assessment of traffic origins and destinations, commodities being conveyed, the domestic/international split and mean length of haul. Rail freight demand and forecasts on the parallel West Coast Mainline were also produced. The results are summarised in the recent DfT publication 'Delivering a Sustainable Transport System: The Logistics Perspective' (available on DfT website).

- Dartford Crossing Study for DfT. Using the GBFM v5 to establish current HGV volumes on the Dartford Crossing by origin/destination and domestic/international. Forecasts were subsequently produced to estimate traffic by 2030 on the existing crossings and via a number of potential new crossings.
- Producing the National Port Demand forecasts for the DfT (2006 and 2007 update);
- Producing high level rail freight forecasts for the freight industry. This forecasting exercise included an extensive consultation phase with industry, supervised by the Freight Transport Association (FTA) and the Rail Freight Group (RFG), to ensure that the various forecasts enjoyed 'buy in' from industry. The forecasts subsequently informed the development of the HLOS, Railways White Paper and Network Rail's Freight RUS; and
- East Midlands Strategic Distribution Study (for East Midlands Development Agency). The model was used to forecast future land requirements for distribution buildings in the region up to 2026.

GBFMv5 is currently calibrated to 2004. Calibrating it to a more recent year would take at significant amount of extra time and resources which would be beyond the scope of this study. GBFMv5 has therefore been run in 'forecast mode' to produce traffic outputs for 2008. However, the traffic data and forecasts produced for this study are consistent with the above forecasting exercises.

In addition to the GBFMv5, data compiled by the Valuation Office Agency (VOA) and new-build market trend data collated by Savills has been utilised.

2. CURRENT WAREHOUSE SUPPLY

The main aim of this section is to establish the current supply of large scale warehousing in the West Midlands region, including an analysis of supply by location. This has been based on a 'census' of commercial property data complied by a Government agency. This data will establish the current size of the industry in the region and the locational choices made by the market over the past 25-30 years. It will also form the starting point of the warehouse demand forecast to 2026 (Section 4).

The *Commercial and Industrial Floor Space Statistics* document, published by the Department of Communities and Local Government (DCLG) annually, presents statistics summarising the stock of industrial and commercial floor space by type for each English region and Wales. The latest edition (published in 2008 and containing 2007 data) suggests that the West Midlands region together with the neighbouring East Midlands, South East and North West regions have the following stock of 'warehousing'.

Table 1: 'Warehouse' Floor Space by Government Office Region 2007

Government Office Region	Floor Space (000s sq metres)
West Midlands	***22,895***
East Midlands	16.950
South East	27,709
North West	29,087

Source: Commercial and Industrial Floor Space Statistics 2008, DCLG

However, a large 'health warning' must be attached to the DCLG data, as it significantly overstates the amount of warehousing floor space currently available. Definition notes in the document indicate that the figures cover all floor space which is used to 'store goods', including spaces like retail store rooms, factory stockholding areas and even car showrooms, which in both planning and logistics terms are not warehouses. In addition, the published data in the DCLG document cannot be 'broken down' further, meaning that larger scale distribution buildings above 10,000 square metres cannot be quantified.

However, the DCLG regional figures are a summary of more detailed data collated by the Valuation Office Agency (VOA). The VOA records the amount of floor space by type within individual commercial properties across England and Wales[3]. This data is available 'on-line' showing, for individual properties, their location and amount of floor space by type[4]. This

[3] The VOA quantifies floor space by type in order to calculate business rates. As different floor space types attract differing rateable values, one single building may be divided into two or more floor space types for business rates calculations e.g. a supermarket may be sub-divided into retail, warehouse and office for rateable value purposes, though in planning terms the entire floor space is 'retail'.
[4] '2005 Ratings List. Includes property occupied at the time of the most recent valuation in 2005 plus buildings constructed since.

data has consequently been interrogated, enabling the identification of all large scale warehouses (over 10,000 square metres) in the West Midlands region together with the neighbouring East Midlands, South East and North West regions. As a result, it has been possible to quantify the existing stock of large scale warehousing across the West Midlands region. The table below shows the amount of floor space in large scale warehouses for the West Midlands, East Midlands, South East and North West.

Table 2: Large Scale Warehousing by Government Office Region 2008

Government Office Region	Floor Space (000s sq metres)
West Midlands	***3,869***
East Midlands	4,733
South East	1,764
North West	4,148

Source: VOA 2005 Ratings List

Within the West Midlands, some 3.87 million square metres of floor space in large scale warehouses can be identified. The table below shows how this total figure is divided between the counties of the region.

Table 3: Large Scale Warehousing West Midlands Region 2008 by County

County	Floor Space (000s sq metres)	Number of buildings
Hereford And Worcester	338	21
Shropshire	110	6
Staffordshire	1,790	74
Warwickshire	528	21
West Midlands	1,102	63
Total	**3,869**	**185**

Source: VOA 2005 Ratings List

3. KEY ISSUES AND MARKET TRENDS

3.1 Key Issues

The West Midlands region occupies a competitive position in the UK for the distribution sector and it has continued its growth in terms of take up nationally. The core regions, which include the South East, East Midlands and West Midlands, continue to generate the highest level of demand.

Take up in the West Midlands was at its highest in 2006, however this figure was distorted by the 800,000 sq ft (approx 73,600 sq metres) letting to Tesco at Fradley, Lichfield. If this letting is set aside, it is evident take-up in the region started to slow in 2006; partly due to lack of available land in preferable locations in addition to a slow down in occupier requirements.

Since 2005, the amount of speculative space developed in the West Midlands, in buildings larger than 100,000 sq ft (approx 9,200 square metres) has continued to grow. However this has been the product of a buoyant market, developer confidence and the availability of cheap finance in a period where the current economic downturn was not anticipated.

Evidence of a slow down in take up and thus occupational demand is derived from the high proportion of speculative accommodation developed in 2007 and 2008 still available.

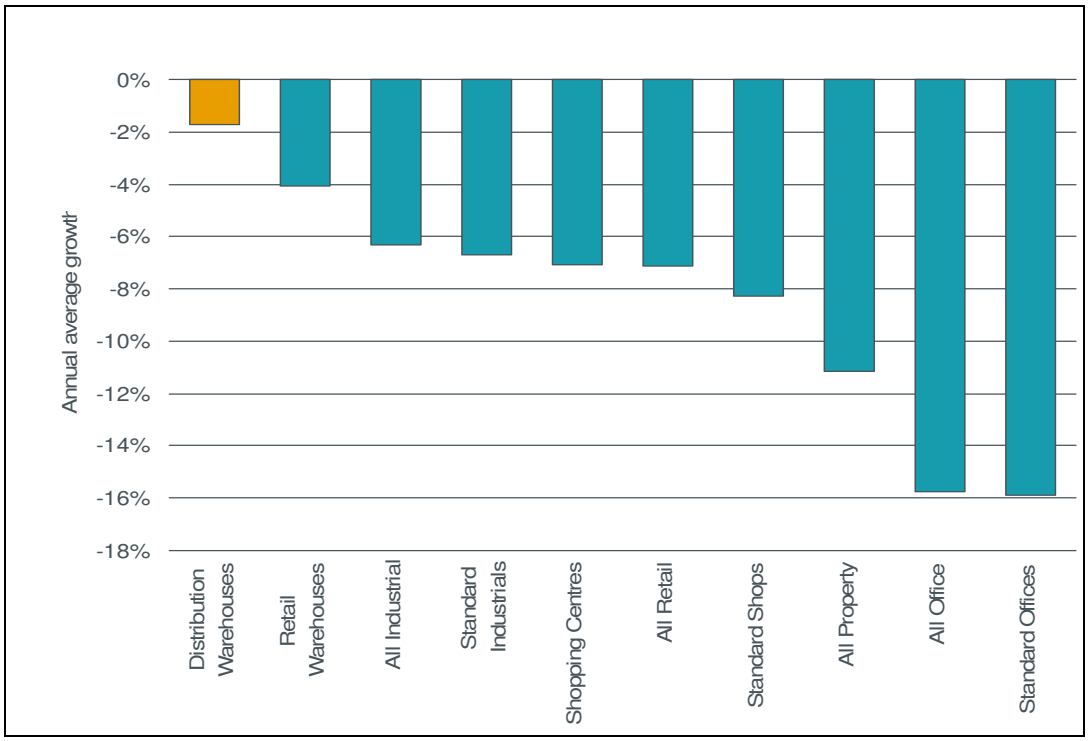
With the changes to empty rates relief (effective from 1st April 2008), whereby vacant industrial premises now only receive 6 months relief on rates payable and pay the full amount thereafter, as well as rising build costs and yield decompression, there will be a slow down in the amount of speculative schemes developed over the next few years. However, market projections up to 2026 should not be based on current trends as it is anticipated these will only be prevalent for the short term.

Retailers have continued to dominate transactions since 2005 and, despite the economic downturn and the immediate impact on the retail sector, it is expected this trend will continue albeit at a lower level. It is anticipated third party operators will continue to work closely with large retailers to increase market share.

There is also evidence of a growing sub-sector within the logistics industry known as ‘reverse logistics’, whereby products are returned through the supply chain. It is estimated £6 billion worth of goods in the UK form part of this sector which is unlikely to be adversely affected by current financial difficulties.

During the last economic downturn in the early 1990s, the value of property fell across the board. However, the distribution warehouse sector performed well; despite the sector having a strong reliance on the retail market, the recessionary impact was relatively light in terms of growth deficit compared with other sectors. The figure below demonstrates this trend.

Figure 1: Annual average capital growth between 1990-1992 by sector



Source: Investment Property Databank

The current economic downturn will inevitably affect the level of demand for large warehouses. In difficult market conditions there tends to be a "flight to quality" by occupiers; the most optimal and sustainable locations (and thus the most cost-effective in terms of function and operations but the most expensive in terms of rental levels) attract the greatest level of demand. In recognition of this, developers are increasingly becoming more flexible in terms of lease lengths and incentives.

Market influences as outlined in the Stage 2 study including import substitution, increasing road transport costs and congestion remain prevalent issues in today's market. These issues also become increasingly important concerns as land supply in optimal locations diminishes and operators become more aware of the requirement for cost saving.

The increasing awareness of the sustainability agenda and emphasis on Corporate Social Responsibility over the past few years has impacted the market in the following ways:

- Introduction of EPCs has evolved into a high EPC rating being used as a marketing tool; and
- Cost saving measures, such as improved airtightness and a greater proportion of roof lights, are becoming more important in large warehouse specifications.

The recent completion of Blue Planet Chatterley Valley, the UK's first 'zero carbon' warehouse, will be a test of whether the sustainability agenda drives occupier requirements.

3.2 The West Midlands Distribution Centre Trend Analysis

The Stage 2 report included a detailed analysis of the trends in distribution location and size in the West Midlands. This has been updated to include the period 2005-2009. Reference should be made to the Figures in Appendix 2.

Location

The geographical sub-sectors of the West Midlands region used in this analysis replicate the sub-regions displayed in the Stage 2 study (Map 1 in Appendix 1 of Stage 2 study).

Figure 1 (Appendix 2) identifies the location and size of every distribution building built and occupied in the West Midlands region in the period 1996 – 2009 in units above 100,000 sq ft (approx 9,200 square metres). In the Stage 2 study, a clear trend was identified showing an increase in demand for buildings in excess of 250,000 sq ft (approx 23,000 square metres) since 2000. Figure 1 shows that there has been a slow down in the take up of new-build distribution space however, when viewed in conjunction with Figure 7, the rate of development of buildings in excess of 250,000 sq ft, including those speculatively built, has continued.

In terms of all distribution space built (in excess of 10,000 sq ft) three key areas are identified in the Stage 2 study:

1. M42/A5
2. M6/M69 Coventry/Nuneaton/Rugby
3. M6 Birmingham and Solihull.

The respective percentages in each of these three key locations has decreased since the last study was carried out. The previous study outlined the cumulative total for the three areas represented 64% of take up in excess of 100,000 sq ft and 60% of total take up in excess of 250,000 sq ft. The updated take up figures are now 51% and 43% respectively. However, these areas have not become less preferable in terms of location, the lower proportion of take up in fact highlights the depleting land availability in these key areas.

The A38/A5 area was noted as an emerging corridor in the previous study and this has been demonstrated by increasing levels of take up in excess of 100,000 sq ft from 8% to 14% respectively; and in excess of 250,000 sq ft from 14% to 18% respectively. North and South Staffordshire have also both increased their respective proportions.

Size

In the period 1996 – 1999 five buildings were built in excess of 250,000 sq ft. In the period 2000 – 2005 twenty one buildings were built in excess of 250,000 sq ft, the largest being 733,000 sq ft (approx 67,400 square metres) purpose built for VW/TNT at Birch Coppice, Dordon. In the period 2006 – 2009, six buildings have been taken up in excess of 250,000 sq ft with a further twelve buildings built speculatively bringing a total of eighteen buildings built in the West Midlands region between 2006 and 2009. The largest purpose built warehouse constructed was for Tesco of 800,000 sq ft (approx 73,600 sq metres) at Fradley Business Park. The largest speculatively developed building is known as Flare at Rugeley and is 697,740 sq ft (approx 64,100 square metres). In terms of all distribution space built in excess of 100,000 sq ft the average size of the unit built has changed only marginally from the previous study, rising from 235,643 sq ft (approx 21,600 square metres) to 236,240 sq ft (approx 21,700 square metres) (see Figure 5).

Figure 5 identifies total take up in excess of 100,000 sq ft by size range. As noted above, the proportion of buildings built over 400,000 sq ft (approx 36,800 square metres) declined from the previous period 2000 – 2004, the respective proportion for buildings between 100,000 sq ft - 200,000 sq ft has increased slightly from 45% to 49%. The most significant change is the greater number of buildings in the 200,000 – 300,000 sq ft size range (approx 18,400-27,600 square metres) that have been taken up, increasing from 17% in the period 2000 – 2004 to 27% 2005 – 2009.

Total Take Up

The bar chart at Figure 6 provides analysis of total annual take up and new-build B8 space in the period 1996 – 2009. This analysis includes all distribution space taken up in excess of 10,000 sq ft. The annual average rate of take up from 1996 – 2009 is 2,507,997 sq ft per annum (approx 230,700 square metres). 2001 saw the highest level of take up of the time period with 3,631,000 sq ft (approx 334,000 square metres) and 2008 recorded the lowest level over the same period of 1,396,000 sq ft (approx 128,500 square metres). To date in 2009 there have been no significant distribution transactions.

Speculative development

The analysis at Figure 7 plots the size of speculatively developed buildings in excess of 100,000 sq ft across the West Midlands region, from 1996 – 2009. Figure 7 also identifies speculatively developed buildings that are currently unoccupied and their geographic location in relation to the RLS sub-regions.

As has been noted above the development of buildings in excess of 250,000 sq ft has continued since 2005. The development of speculative space is reactive to demand trends in the B8 markets. As noted in Figure 7, demand has been comparatively strong in the 200,000 – 300,000 sq ft size range, as a consequence of which the speculative market has

provided a number of units in that size range. However, as a result of a number of factors, the rate of speculative build has decreased substantially. As mentioned previously, these factors include the removal of rate relief on vacant buildings, the lack of available finance since the 4th quarter of 2007, the resultant economic recession and its effect on occupier demand. There are no new speculative development starts anticipated in 2009.

3.3 Recent Trends: Unit Load Cargo

As discussed in Section 4, goods which at some stage in the supply chain pass through a large scale warehouse (distribution centre) are generally transported in some form of unit load e.g. HGV, maritime container. Statistics which record the volume of goods lifted in unit loads (and the number of unit loads moved) can provide an indication of trends within the logistics sector, particularly with respect to the volume of cargo passing through distribution centres. An analysis of recent statistics, therefore, could help assess the short term implications of the current economic downturn on the logistics sector.

However, the full set of statistics for 2008 is not yet available, meaning that the complete 'picture' for 2008 compared with other recent years cannot be compiled at present. Despite this position, some data sets are now available, thereby allowing a partial assessment to be made of the short term implications of the current economic downturn on the volume of goods and the number of unit loads moved. The following statistics are now available:

- Trade data recording total unitised imports into the UK from other EU states for 2007 and 2008 (Source: Eurostat); and
- Trade data recording total unitised imports into the UK from outside the EU for 2007 and 2008 (Source: Eurostat).
- Imports into Great Britain via Roll-on roll off ferry services for 2007 and 2008 (Source: CFI); and
- Maritime containers moved by rail freight in 2008 and 2007 (Source: GBFM).

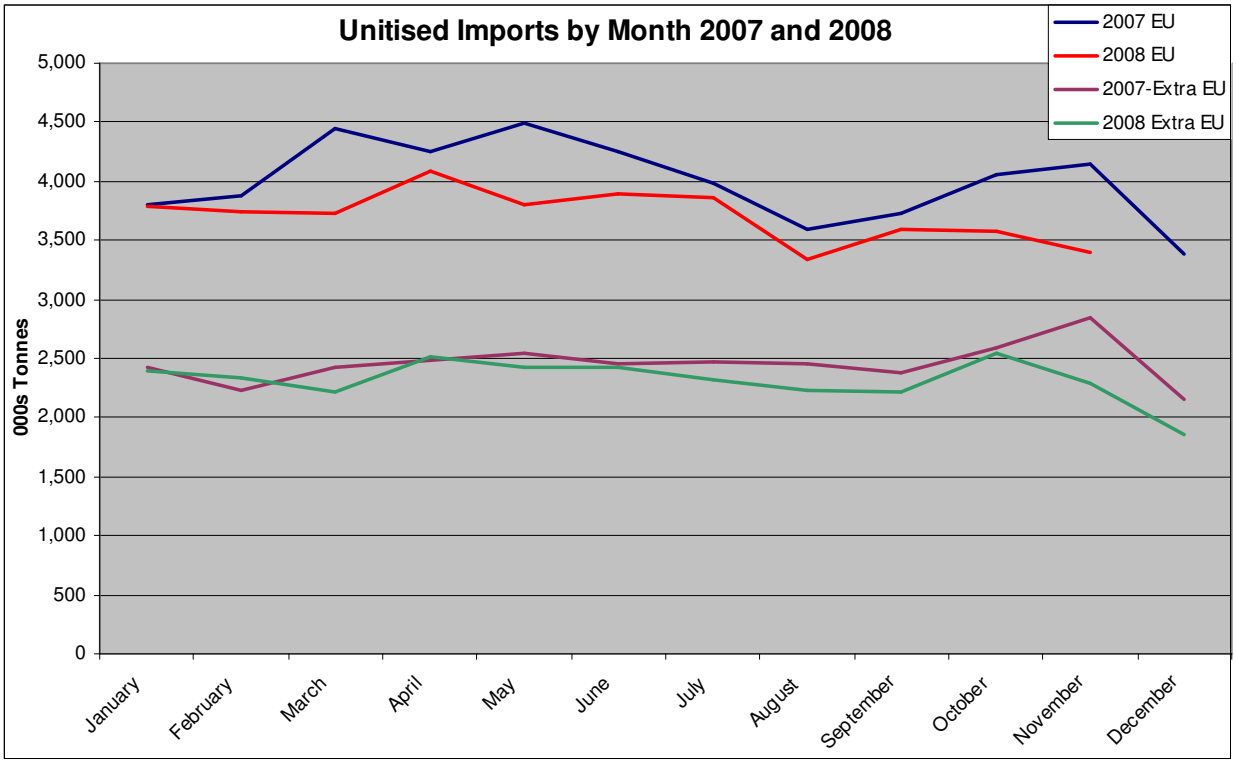
Other important data sources for 2008, such as Maritime Statistics and the Continuing Survey of Road Goods Transport, are published in the Autumn of 2009.

Eurostat data records the trade in goods between EU states and from outside the EU. The table and graph below shows the volume of unitised[5] cargo (expressed as tonnes lifted) imported into the UK during 2007 and 2008, from other EU states and from outside the EU.

[5] Cargo conveyed in lift-on lift-off containers, accompanied HGVs and unaccompanied trailers on RoRo ferry services (including Eurotunnel), containers on RoRo ferry services and direct rail freight via Channel Tunnel.

Table 4: Unitised Imports 2007 and 2008

000s Tonnes	From EU			From Outside EU		
	2007	2008	% (+/-)	2007	2008	% (+/-)
January	3,801	3,783	-0.46%	2,431	2,397	-1.43%
February	3,881	3,747	-3.45%	2,223	2,332	4.89%
March	4,448	3,727	-16.20%	2,423	2,210	-8.80%
April	4,246	4,090	-3.69%	2,490	2,517	1.10%
May	4,492	3,802	-15.37%	2,540	2,431	-4.31%
June	4,257	3,889	-8.65%	2,453	2,421	-1.30%
July	3,982	3,864	-2.98%	2,466	2,324	-5.75%
August	3,590	3,340	-6.96%	2,451	2,238	-8.69%
September	3,733	3,589	-3.85%	2,379	2,218	-6.75%
October	4,055	3,583	-11.65%	2,590	2,541	-1.88%
November	4,142	3,404	-17.82%	2,842	2,287	-19.53%
December	3,390		N/A	2,152	1,862	-13.48%
Total	**48,017**	**N/A**	**N/A**	**29,441**	**27,779**	**-5.65%**



Source: Eurostat
Intra EU for December 2008 not yet available

Despite intra-EU trade figures for December 2008 not yet being available, the general pattern emerging from both EU and non-EU trade is fairly clear – unitised cargo volumes in 2008 are lower compared with 2007. For imports from other EU states, every month in 2008

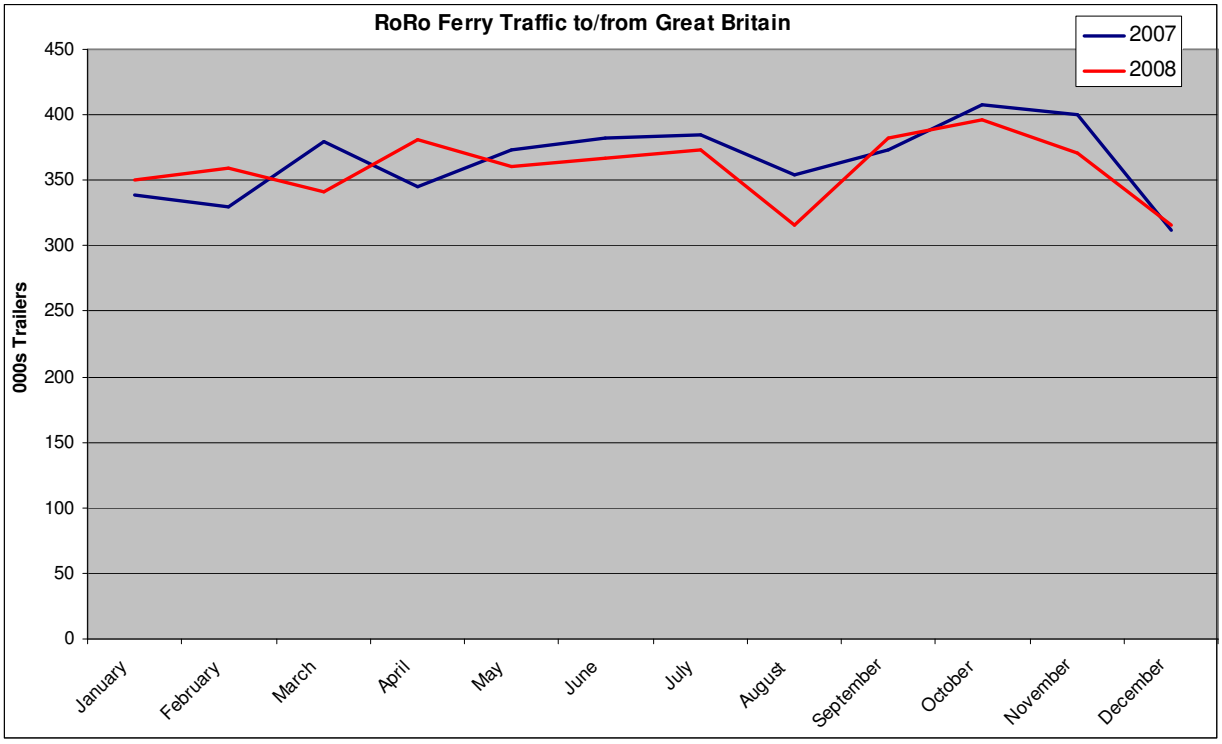
is recording lower volumes compared with 2007. With the exception of February and April, the same pattern emerges for trade from non-EU countries. The complete year for non-EU imports is recording a 5.65% decrease in trade compared with the previous year.

The table and graph below shows the number of trailers (accompanied and unaccompanied) conveyed on Roll-on Roll-off (RoRo) ferry services by month during 2007 and 2008. Equivalent Eurotunnel HGV data is provided for the whole year.

Table 5: Roll-on Roll-off Ferry Traffic by Month 2007 and 2008

	000s Trailers			
	2007	2008	2009	% (+/-) 2007-2008
RoRo Ferry Traffic				
January	339	350	287	3.4%
February	330	360		8.9%
March	379	342		-10.0%
April	345	382		10.5%
May	374	360		-3.7%
June	382	367		-3.9%
July	384	374		-2.8%
August	354	315		-11.0%
September	374	383		2.5%
October	408	396		-3.1%
November	400	370		-7.3%
December	312	316		1.3%
Total	*4,382*	*4,314*		*-1.5%*
Eurotunnel				
Total - Year	*1,415*	*1,254*		*-11.4%*
TOTAL RoRo	**5,797**	**5,568**		**-3.9%**

Source: CFI
Eurotunnel data recorded by quarter

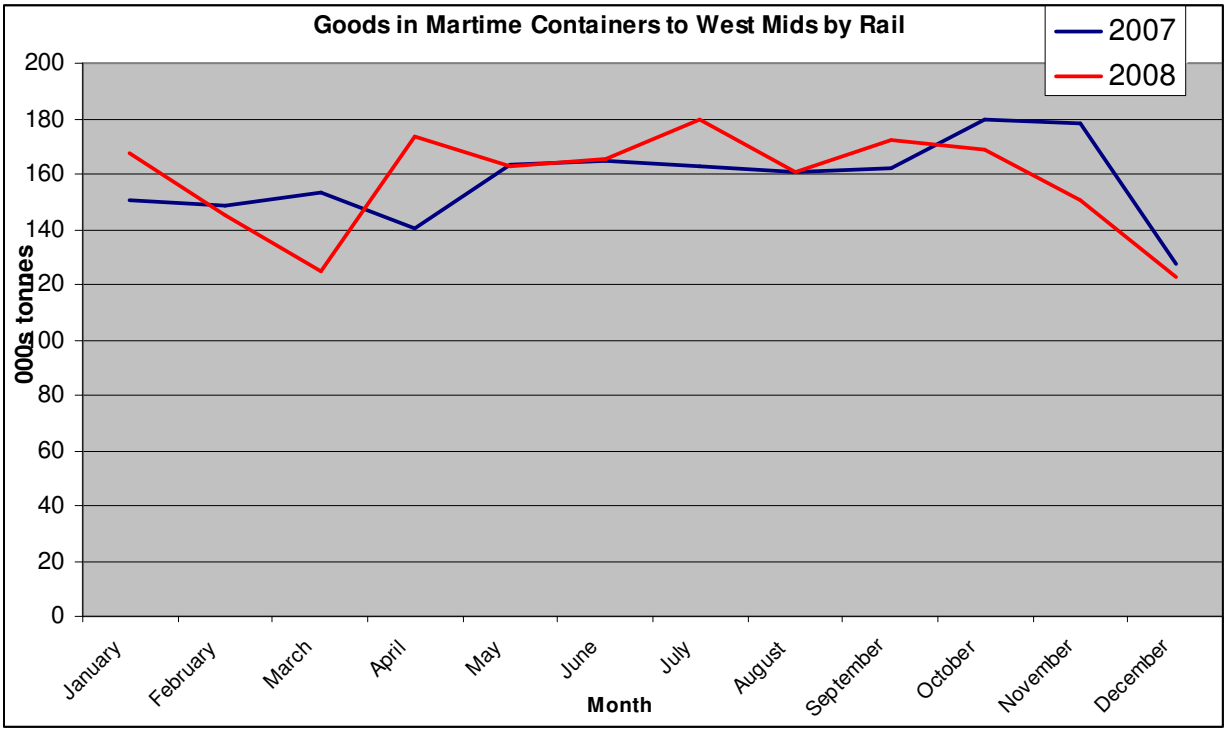


It is important to note that this data is recording both import and export traffic. However, a broadly similar pattern is emerging to the overall trade data presented above. Overall, RoRo volumes in 2008 are down by around 4% compared with 2007. The individual ferry/Eurotunnel figures may be misleading as the fire in the Channel Tunnel during September may have lead to a degree of diverting to the ferries.

The table and graph below shows the volume of cargo imported in maritime containers and subsequently delivered to rail terminals in the West Midlands during 2007 and 2008.

Table 6: Maritime Containers Delivered to West Midlands by Rail Freight 2007 and 2008

000s Tonnes (goods + container)			
	2007	2008	% (+/-)
January	151	167	11.00%
February	148	145	-2.29%
March	153	125	-18.32%
April	140	173	23.36%
May	163	163	-0.19%
June	164	166	0.76%
July	163	179	10.31%
August	161	160	-0.33%
September	162	172	6.17%
October	179	169	-5.84%
November	178	150	-15.65%
December	127	123	-3.53%
Total	**1,891**	**1,893**	**0.12%**



Source: GBFMv5

The month-by-month pattern shown in 2007 is broadly what is expected for maritime container imports. The early months of the year are generally 'flat' as retailers undertake 'Sales' to clear obsolete stock and consumers avoid 'big item' purchases after Christmas. From spring onwards, import volume can be expected to increase into the summer months

as retailers (or their suppliers) re-stock in anticipation of demand for seasonal items (e.g. summer clothes, garden equipment etc.). Autumn generally shows a 'step' increase in trade as retailers/suppliers buy in extra stock for the 'Christmas shopping' period (December volumes are generally show a fall from November).

However, 2008 shows two distinct deviations from the expected pattern, namely:

- A significant fall in trade from January to March; and
- A continual fall in trade through the autumn/early winter months when trade can usually be expected to increase pre Christmas.

Maritime container imports have been growing 4-5% compound per annum over the past 15 years and rail freight has been gaining market share from road transport. If economic growth had continued in line with the recent trends, we would have expected the 2008 rail volumes to be significantly higher than 2007. However, 2008 volumes are broadly similar to those in 2007, with the final months of the year showing lower volumes of cargo shipped to the West Midlands in maritime containers. Given that unitised imports from outside the EU (predominantly maritime containers) declined by 5.65% between 2007 and 2008, the fact that rail volumes to the West Midlands in 2008 are broadly the same as 2007 suggests that rail managed to increase its market share slightly in a falling market.

A number of caveats must be attached to the above analysis. Firstly, the data is incomplete and the full picture will not emerge until later in 2009. Secondly, the data is recording all unitised trade not just warehouse traffics (some cargo will be destined for factories or other production facilities). Finally, this data is assessing international trade, and the impact on domestic traffic is currently not included. The falling value of Sterling against other major currencies may also have led to some impact 'at the margins' on imports. However, the incomplete data does suggest that unit load traffics entering Great Britain fell by around 4-5% during 2008 (compared with 2007), with the final quarter showing the greatest decline. 'Warehouse traffics' are likely to have shown a corresponding decline in 2008 compared with 2007.

Additionally, it is important to appreciate that the above analysis is a very short term trend (purely comparing 2008 with 2007), most likely reflecting the current economic downturn. However, long term trends show that unit load trade has grown consistently over the past 15-20 years and the 'long term' forecasts continue to show such traffics growing, particularly imports in containers and RoRo units. A return to economic growth is likely to witness a return to the long term pattern.

3.4 Benefits of Warehousing on Rail-linked Sites

The development of rail-linked RLS will generally provide three wider benefits, namely:

- An overall reduction in HGV trips on the national road network resulting from a 'modal switch' of traffic to rail freight (though traffic levels in the immediate hinterland of a rail-linked site can increase);
- A financial benefit resulting from lower door-to-door transport costs; and
- Lower emissions of Carbon Dioxide resulting from a 'modal switch' of traffic to rail freight.

The following table illustrates the typical formation of a maritime container train.

Table 7: Maritime Container Train – Typical Formation

Wagon type	60ft/18.5m flats (TOPS Code:FSA and FTA)
Wagon capacity	3 TEU i.e. 1 x 20ft and 1 x 40ft or 3 x 20ft
Wagons per train	24
Theoretical train capacity	72 TEU i.e. 24 x 20ft and 24 x 40ft or 72 x 20ft
40ft to 20ft ratio	2:1
Train capacity at current 40ft to 20ft ratio	60 TEU 24 x 40ft containers; and 12 x 20ft containers
Equivalent HGVs	36

1. The railway computer tracking system, TOPS, allocates a three letter code to all wagon designs
2. TEU = Twenty Foot Equivalent Units

Both Freightliner and GBRf (the two main maritime container train operators) utilise intermodal platform wagons with a 18.5m (60ft) loading deck. Each wagon is therefore capable of conveying 3TEU when fully loaded (either 1 x 20ft container and 1 x 40ft container or 3 x 20ft containers). Most trains are operated at a maximum trailing length of 24 wagons per train, generating a theoretical capacity of 72TEU per train.

The FSA/FTA wagon was originally designed when the numbers of 20ft and 40ft containers in circulation were broadly equal (i.e. ratio of 1:1, hence the space for one container of each size). However, there now exists a worldwide imbalance between 20ft and 40ft containers, meaning that currently there are approximately 2 x 40ft containers for every 20ft container in operation (i.e. ratio of 2:1). Essentially, there are not enough 20ft containers to completely fill a train. In practice, therefore, the capacity of a typical train formed of 24 wagons is 60TEU or 36 container units (i.e. 24 x 40ft containers and 12 x 20ft containers). Assuming each container was transported by a separate HGV, a typical train formed of 24 wagons and operating at its practical capacity would therefore equate to 36 HGV trips.

However, the mean load factor for 40ft containers is around 75%, implying that a typical train formed of 24 wagons would actually convey 27 container units at the current average load

factor and 40ft:20ft ratio[6]. A large rail-linked RLS could be expected to attract up to 8 train services per day to/from the container ports. Assuming 5 working days per week at 27 container units per train, the aforementioned RLS would 'remove' *112,320 HGV trips* from the wider road network per annum compared with an equivalent sized non rail-linked RLS (i.e. 8 trains x 5 days x 52 weeks = 2,288 trains x 27 units per train x 2 directions).

However, it must be appreciated that any 'modal switch' resulting from the development of rail-linked RLS will manifest itself on the wider strategic road network nationally. In the case of a West Midlands RLS, the greatest benefit will be felt on the major routes to/from the deep sea container ports i.e. M1, M40/A34, A14 etc. At a local level, large rail-linked RLS will generate additional HGV traffic.

Large RLS generate financial benefits to distributors of cargo resulting from lower door-to-door transport costs. This is particularly the case for flows from the main import ports, longer distance movements (e.g. Midlands-Scotland) and short distance flows from other rail-linked sites.

Rail freight rates are not generally published, meaning it can be difficult to compare the costs of moving goods by rail and road transport (hauliers will generally quote 'spot rates' when requested). However, a number of spreadsheet based cost models have been developed by MDS Transmodal which represent the capital and operating costs for different types of road goods vehicles and rail freight equipment. These models form an integral element of the GB Freight Model. Using these models, it is possible to compare the costs of moving cargo by rail freight with road haulage. The table below shows the estimated cost of transporting a 40ft container from Southampton and Felixstowe to Hams Hall (rail-linked).

Table 8: Estimated Road and Rail Costs ex Felixstowe and Southampton

	Cost per 40ft Container		
	Road	Rail	Saving
Southampton to Hams Hall	£270	£145	-£125
Felixstowe to Hams Hall	£290	£160	-£130

Source: MDS Transmodal

Clearly, rail freight provides significant cost benefits compared with road transport. For a non rail-linked facility close to Hams Hall, the door-to-door transport costs would be broadly similar on the basis that a local road 'shunt' from Hams Hall to an off-site destination would be in the region of £120.

The other wider benefit of rail-linked RLS is lower emissions of Carbon Dioxide (CO_2) resulting from a 'modal switch' of traffic to rail freight. Carbon Dioxide emissions are directly

[6] 75% x 24 wagons = 18 x 40ft containers plus 9 x 20ft containers at 2:1 ratio

proportional to the consumption of diesel fuel (2.65kg of CO_2 are produced for every litre of diesel burnt). Using this ratio and knowing the fuel consumption rates of a typical HGV and diesel railway locomotive, it is possible to estimate CO_2 emissions. The table below shows the estimated CO_2 emissions per 40ft container unit moved by road and rail freight for the aforementioned flows from Felixstowe and Southampton to Hams Hall. This assumes the train is hauled by a Class 66 diesel locomotive.

Table 9: Estimated Carbon Dioxide Emissions by Road and Rail Freight

	kg of Carbon Dioxide per container		
	Road	Rail	Saving
Southampton to Hams Hall	270	106	-164
Felixstowe to Hams Hall	234	88	-146

Source: MDS Transmodal

4. WAREHOUSE DEMAND TO 2026

A forecast of future demand for new-build large scale warehousing in the *West Midlands* region has been undertaken. The output from this exercise is an estimate of the total gross warehouse new-build which can be expected up to 2026. Planners often consider the 'net change' in floor space, but for warehousing the gross new-build rate is the more important figure as, in many cases, new capacity has to locate at new sites e.g. RLS (see Section 5). From the new-build figure, the amount of 'new' land required can consequently be estimated.

The traditional approach to employment land forecasting is to relate employment levels to floor space. More specifically, future growth in employment is related to future demand for floor space/land. While this provides a robust forecasting method for many land-use types (e.g. B1), applying the same approach to the logistics sector is unreliable and ultimately produces inaccurate results, for three main reasons:

- The correlation between employment and floor space in the logistics warehousing sector is weak. Facilities of broadly the same floor space have widely varying employment densities, as employment levels are generally related to cargo type and site activity. Also, in some parts of the logistics sector employment levels are highly seasonal in nature;
- Demand for floor space is related to cargo volume and throughput; and
- It takes no account of the fact that there is a continual need to replace old warehouse stock which becomes ‘life expired’.

Given this position, a different approach to forecasting future warehouse new-build is required. This needs to take into account the fact that new-build warehousing is a combination of two factors, namely:

- The *replacement* of existing warehouse capacity which is 'life expired'; and
- *Additional floor space* which is required to handle growth in traffic volumes (growth build).

Some newly built floor space is a 'like-for-like' replacement for old warehouse stock. This is for a number of reasons. Firstly, the useful life of a modern warehouse building is around 30 years (many developers will write down their warehouse stock over a 25-30 year economic life), after which the building is normally demolished and the plot 'recycled' for new buildings (which may be another warehouse or other uses). Secondly, 'economies of scale' can be gained through merging operations based at multiple sites to one new location e.g. 2 x 20,000 square metres warehouse operations are combined at one new 40,000 square metres facility – the new-build rate is 40,000 square metres but the net change will be zero on the basis that the old warehouses are demolished.

Finally, changing market conditions, both within specific companies/sectors and in the wider economy, means that warehouse operations might need to relocate in order to remain

competitive. Operations which previously sourced goods from domestic suppliers but now predominantly import from deep-sea markets are having to relocate eastwards towards the east coast ports (and in some cases within the ports) or to rail-linked sites in order to remain competitive.

As a result, a proportion of newly built floor space is simply to 'stand still' (i.e. will be built anyway regardless of traffic growth). Research by the Cranfield Institute found that over the decade since 1995, around 60% of strategic distribution centres built have replaced other warehousing/distribution centres which have subsequently closed and been demolished.

However, demand for warehouse floor space is also linked to cargo volume. Therefore, even taking into account future efficiency gains, in terms of tonnes handled per square metre of floor space, future growth in traffic volumes will lead to increasing demand for additional warehouse floor space. Consequently, new warehouses are constructed partly to accommodate growing traffic volumes. For example, the new distribution centres which have been commissioned by the major grocery retailers over the past few years has partly been to accommodate their expansion into 'non-food' lines i.e. volume growth.

Another factor to consider is the trend towards replacing domestically manufactured goods with those sourced from lower cost markets in eastern Europe and the Far East. Domestically manufactured goods would normally have been stored at the factory site prior to despatch to the retailers distribution networks. However, imported goods still require facilities in which they can be stored before they are required by the retailers. Given that port storage is at a premium (containers cannot be stored at ports for long periods), this implies a growing need for additional warehousing floor space simply to store imported goods which are seasonal in nature and/or have long lead times (i.e. need for 'buffer storage').

On this basis, the forecasting methodology accounts for the replacement build and growth build elements separately in the first instance. The two elements are then added together to produce an estimate of total gross warehouse new-build.

4.1 Replacement Build

In order to estimate the 'replacement build' element, the existing large scale warehouse stock in the West Midlands region needs to be considered. Section 2 of this document showed that in 2008 there was *3.87 million square metres* of warehouse floor space in large scale units, as quantified by the VOA.

On the basis that the useful life of a modern warehouse building is 30 years, up to 2026 we could expect around 60% of the existing warehouse stock in the West Midlands region to require replacement (i.e. 18 years/30 years = 60%). Given that there is currently 3.87 million square metres of floor space in the West Midlands, this means that between up to 2026 we can expect around *2.32 million square metres* of new warehouse floor space to be built

simply to replace existing stock i.e. the 'replacement build' element. This is shown in the table below.

Table 10: Existing Large Scale Warehouse Floor Space in West Midlands and Replacement New-Build to 2026

	000s sq metres	
	2008	2026
Existing distribution centre stock[1]	3,869	
Replacement build[2]		2,321

Source data and assumptions

1. VOA 2005 ratings list

2. 60% of existing stock, based on 30 year life i.e.18 years/30 years

4.2 Growth Build

In order to estimate the growth build element, two factors need to be considered, namely:

- The proportion of current (2008) total cargo delivered in the West Midlands which is initially destined for a large scale warehouse; and
- The growth in traffic destined for the West Midlands up to 2026.

Using generally accepted 'conversion factors' which relate annual tonnage throughput and floor space at large scale 'high bay' type warehouses, the total amount of cargo handled by the West Midlands' existing warehouse stock in 2008 can be estimated. These are presented in the table below for both National Distribution Centres (NDCs) and Regional Distribution Centres (RDCs).

Table 11: Floor Space and Volume Throughout Relationships at RDCs and NDCs

	NDC	RDC	West Midlands
Tonnes per pallet	0.6	0.8	0.66
Pallets per sq m	1	1.5	1.16
Stock turns p.a.	12	26	16.5
Floor space utilisation[1]	85%	85%	85%

Source: MDS Transmodal

1. On average, around 85% of total floor space is utilised at anyone time. The 'buffer space' is used for peak periods.

At NDCs, due to the type of commodities handled and their origins (imports, seasonal goods and products with long lead times), we would expect longer dwell times (mean of 4 weeks compared with a 2 week mean at RDCs) and a slightly less efficient use of the floor space available. However, warehousing in the West Midlands is a mixture of NDCs and RDCs serving the wider Midlands area. We estimate that NDC floor space accounts for around two-thirds of the region's warehouse stock. Consequently, the final column in the table above shows the floor space/volume throughput factors we have used in this analysis, based on a 'weighted average' of 66% NDC floor space.

Applying these floor space/volume throughput factors suggests that the existing West Midlands warehouse stock handled around 37.6 million tonnes of cargo in 2008. This is shown in the table below.

Table 12: Floor Space Throughput West Midlands Region 2008

Total floor space	3,869	000s sq m
Mean floor space utilised	3,288	000s sq m
Pallets in store at anyone time	3,798	000s pallets
Pallets handled 2008	62,667	000s pallets
Tonnage throughput 2007	**37,600**	**000s tonnes**

The total volume of goods which was delivered in the West Midlands during 2008, for both road and rail freight, can be quantified using the GBFM v5. The outputs from GBFM v5 can be divided into different commodity groups. Recognising that some types of goods are not handled at distribution centres, the volume of goods delivered in the West Midlands (tonnes lifted) during 2008 for those commodities which at some stage in the supply chain will pass through a large scale warehouse were identified and quantified (from here onwards called 'unitised goods'). Goods which are not handled at distribution centres, i.e. bulk materials such as coal, petroleum products, aggregates and waste, were therefore excluded from the analysis. The table below summarises this analysis.

Table 13: Total Unitised Goods Delivered in the West Midlands 2008

	000s Tonnes		
Origin Region	Road	Rail	Total
East Midlands	6,421	0	6,421
East of England	4,395	1,132	5,527
Greater London	1,929	0	1,930
North East	1,079	1	1,080
North West	7,980	3	7,984
Scotland	788	39	827
South East	4,350	900	5,250
South West	3,375	2	3,377
Wales	2,682	82	2,764
West Midlands	47,442	1	47,444
Yorks&Humb	3,414	0	3,414
Total	**83,856**	**2,161**	**86,018**

Source: MDS Transmodal GBFMv5

During 2008, around 86.02 million tonnes of unitised goods were delivered in the West Midlands. However, the analysis above suggests that the existing warehouse stock handled around 37.6 million tonnes of cargo. The difference can be explained by the fact that the GBFM's baseline data for road transport flows is derived from the DfT's Continuing Survey of Road Goods Transport (CSRGT). The CSRGT effectively records goods each time they are 'lifted' as they pass from manufacturer/port to distribution centre to retail outlet. In the above table, therefore, the road freight data accounts for an element of double and triple counting (i.e. one tonne of cargo transferred from a port to NDC to RDC to retail outlet would be recorded as 3 tonnes in the CSRGT).

The inward rail freight flows to the West Midlands in the commodity categories selected are exclusively containerised imports or domestic intermodal flows. Given the nature of this traffic, it is reasonable to assume that 100% of these flows will be direct to a distribution centre, either on the same site as the rail terminal or (more normally at present) via a road haul.

Taking the above into account, it is estimated that around 44% of all unitised goods delivered in the West Midlands during 2008 were direct to a large scale warehouse. The remainder of the unitised traffic is being delivered direct to store or to other facilities. This is summarised in the table below.

Table 14: Unitised Goods Delivered to the West Midlands 2008

	000s Tonnes		
	Total Delivered West Mids	To Warehouse West Mids	% to West Midlands Warehouse
Road	83,856	35,439	42%
Rail	2,161	2,161	100%
Total	**86,018**	**37,600**	**44%**

Source: MDS Transmodal GBFMv5

A similar 'filtering' exercise was undertaken during the original RLS Stage 2 study. For that study, the GBFM quantified traffic flows by road transport to Postcode Districts exhibiting high levels of employment in transport services or distribution. The analysis, based on 2003 data, suggested that around 33.8 million tonnes of the goods currently destined for the West Midlands by road transport were inward flows direct to warehousing. This equated to 41% by volume of all tonnes delivered by road transport. The approach adopted above therefore is generating a broadly similar result accounting for traffic growth in the intervening years.

The above exercise has effectively been re-run for 2026, as follows:

- Using GBFM v5 to forecast the total volume of unitised goods delivered in the West Midlands in 2026; and
- Estimating the volume of goods likely to be delivered directly to large scale warehouses in the West Midlands in 2026.

From this exercise, the *growth* in the volume of goods likely to be delivered directly to large scale warehouses in the West Midlands up to 2026 can be calculated. The 'growth tonnes' can then be equated as the need for additional floor space i.e. *the growth build element*, using the 'conversion factors' which relate annual tonnage throughput with floor space.

Using GBFM v5, the total volume of unitised goods delivered in the West Midlands in 2026 has been forecast. This traffic forecast is consistent with the major forecasting exercises described in Section 1. Importantly, they reflect the development of numerous rail-linked warehousing sites throughout the country (9 million square metres nationally), thus removing the cost of a local road haul from the rail terminal, and creating a 'network effect' between the terminals. The results are summarised in the table below.

Table 15: Unitised Goods Delivered in the West Midlands 2026

	000s Tonnes		
Origin Region	Road	Rail	Total
East Midlands	7,518	0	7,518
East of England	5,274	2,454	7,728
Greater London	2,426	5	2,431
North East	1,261	27	1,288
North West	9,366	33	9,399
Scotland	339	665	1,003
South East	6,496	1,439	7,935
South West	3,978	42	4,019
Wales	3,205	15	3,220
West Midlands	52,397	0	52,397
Yorks&Humb	4,135	2	4,137
Total	**96,394**	**4,682**	**101,076**
Total 2008	***83,856***	***2,161***	***86,018***
Growth 2008-2026	***12,538***	***2,521***	***15,058***

Source: MDS Transmodal GBFMv5

It is reasonable to assume that the proportion of goods being delivered directly to large scale warehouses in the West Midlands region in 2026 to be the same as the 2008 percentage. On this basis, the volume of unitised goods likely to be delivered directly to large scale warehouses in 2026 can be calculated. This is shown in the table below.

Table 16: Unitised Goods Delivered to the West Midlands 2026

	000s Tonnes		
	Total Delivered West Mids	To Warehouse West Mids	% to West Midlands Warehouse
Road	96,394	40,738	42%
Rail	4,682	4,682	100%
Total	**101,076**	**45,420**	**45%**

Source: MDS Transmodal GBFMv5

Knowing the volume of goods being delivered direct to large scale warehouses in 2008 and the equivalent forecast tonnage for 2026, the forecast growth in the volume of goods being delivered directly to large scale warehouses in the West Midlands up to 2026 can be calculated. The 'growth tonnes' can then be equated as the need for additional floor space

i.e. the growth build element, using the 'conversion factors' described above which relate annual tonnage throughput with floor space. This is shown in the table below.

Table 17: Forecast Unitised Goods Delivered in West Midlands 2026 and Consequent Growth New-Build

To warehouse 2008	37,600	000s tonnes
To warehouse 2026	45,420	000s tonnes
Growth tonnes to warehouse	7,819	000s tonnes
Additional floor space required	**923**	**000s sq m**

4.3 Total New-Build

By combining the 'replacement build' and 'growth build' elements, the total gross warehouse new-build which can be expected by 2026 can be calculated. This is shown in the table below together with the associated land requirements.

Table 18: Total New-Build Floor Space in West Midlands and Associated Land Requirements to 2026

	2008	2026	
Existing distribution centre stock[1]	3,869		000s sq m
Replacement build[2]		2,321	000s sq m
Growth Build[3]		923	000s sq m
Total New-build		**3,244**	000s sq m
Land Requirement - all new-build to RLS		**811**	**ha**

Source data and assumptions

1. VOA 2005 ratings list

2. 60% of existing stock, based on 30 year life i.e.18 years/30 years

3 Based on traffic forecasts (GBFMv5)

The above analysis has therefore concluded that the total gross warehouse new-build which can be expected up to 2026 across the West Midlands region is in the order of *3.24 million square metres by 2026*. On the basis that all of the new-build were to locate at RLS and that the actual warehouse floor space occupied 40% of a plot footprint, this implies a requirement for *811 hectares* at RLS up to 2026.

5. SITE SUPPLY AND FUTURE LAND REQUIREMENTS

5.1 Quantifying New-Build at Regional Logistics Sites

The new-build forecast (Section 4) suggests a requirement for 811ha of land, on the basis that all of the forecast demand will require plots on RLS. However, expecting all new-build warehousing to locate at RLS is unrealistic from both a planning and logistics market perspective. Consequently, the figure forecast is a 'gross requirement', and it does not represent the amount of additional land which will need to be brought forward at RLS up to 2026 as it has not taken into account the following:

- The amount of land currently available at existing RLS which have vacant plots and already have consents for B8 development;
- Land available at other suitable rail-linked sites which could act as RLS, either with consent for B8 development or currently being considered through the planning system;
- The amount of land at other existing B8 sites 'in the pipeline' (rail and non rail-linked); and
- The amount of land at suitable previously developed sites (recycled land).

However, it is also important to understand that:

- In many cases new-build floor space will not 'fit' onto existing plots at general industrial sites or on 'recycled' brownfield land. Essentially the size and configuration of existing sites will often be unsuitable for the type of modern buildings demanded by the market. Also, previously developed sites may now be unsuitable for servicing by modern large HGVs (this can present an opportunity to 'release' land for other uses, such as housing);
- Planning policy (in general) is encouraging new warehousing to be located at more 'sustainable' locations, such as rail-linked sites;
- West Midlands RSS Policy PA9 promotes the development of rail-linked RLS for new major logistics facilities; and
- The logistics market, particularly operators of large distribution centres, are demanding facilities located alongside rail terminal facilities.

On this basis, new rail-linked RLS with large plots are likely to be required for a significant proportion of the forecast gross new-build, while the balance can be accommodated at existing B8 sites, 'pipeline sites' and recycled land. The implication of the above is that new rail-linked RLS will need to be brought forward over the long term in order to satisfy future market demand and the requirements of planning policy at the national and regional level. Given this position, the proportion of the total forecast new-build which is likely to require plots at RLS needs to be estimated.

In order to undertake this estimation, the following needs to be appreciated:

- It is large scale warehouses greater than 25,000 square metres that will require the large plot sizes offered at RLS. Recent new buildings suggests that the market is increasingly demanding facilities in excess of 50,000 square metres (12.5ha plot). Plots of this size are generally not available at existing general industrial sites or on 'recycled' brownfield land, meaning that new logistics sites will be required; and
- It is warehousing above 25,000 square metres that will benefit from or be of a nature to be attracted to rail terminal facilities. This is be deduced by the size of facilities which have located at major rail linked logistics sites such as Daventry International Rail Freight Terminal (DIRFT), Birch Coppice and Hams Hall. At DIRFT, seven of the new distribution centres are greater than 25,000 square metres.

Taking into account the above, estimating the amount of land which will need to be provided at RLS up to 2026 can be considered a two-stage process, namely:

- Estimating the proportion of the total forecast new-build to 2026 which is likely to be in units greater that 25,000 square metres; then
- Establishing the percentage of floor space in units greater that 25,000 square metres which is likely to demand a plot at a RLS.

5.1.1 Warehouse Floor Space in Units Greater 25,000 square metres

Existing Warehouse Stock in Region

Estimating the proportion of the forecast new-build to 2026 which is likely to be in units greater that 25,000 square metres needs has considered the following:

- The current proportion of large scale warehouse floor space which is located in units greater than 25,000 square metres; and
- Recent trends in the size of new-build units in the West Midlands.

Referring to the existing stock of large scale warehousing across the West Midlands region (Section 2), analysis at an individual unit level indicates that *45% of existing large scale floor space* is located in warehouses greater than 25,000 square metres. On the basis that future new-build broadly reflects existing stock in the region, around 1.46 million square metres of new large scale warehousing can be expected in units greater than 25,000 square metres. This equates to a land requirement of 365ha on the basis that all of the new-build were to locate at RLS (40% of plot footprint). This is shown in the table below.

Table 19: Forecast Demand for New-build Units Greater than 25,000 square metres up to 2026 and Land Requirements (based on % of existing warehouse stock)

Total new-build to 2026	3,244	000s sq m
of which:		
In units greater 25,000 sq m (45%)	1,460	000s sq m
Land Requirement - to RLS	**365**	**ha**

Source: VOA and MDS Transmodal Forecasts

New-Build Trends

However, the existing stock of large scale warehousing includes units which were built 25-30 years ago to support the 'retail boom' of the early-mid 1980s. The largest units required by the market at that time, taking into account 1980s operating conditions and expected changes in the market over the next 25 years or so, were generally in the 25-35,000 square metres range, with many other operators requiring smaller facilities. Consequently, the 45% figure reflects these older buildings which over the next few years can be expected to close.

Recent new-build trends (Section 3) suggest that operators now require much larger facilities. Warehouse units of 40-50,000 square metres are now considered 'the norm' for a major retail outlet while many operators are commissioning even larger facilities. It is therefore more appropriate to consider new-build trends over the past decade, rather than the totality of the existing stock. The analysis of new-build trends since the mid-late 1990s (see Section 3) suggests that around *54% of new-build* warehouse floor space is in units greater than 25,000 square metres. On the basis that new-build trends over the past decade are likely to form a more realistic guide to future trends, around *1.75 million square metres* of new large scale warehousing can be expected in units greater than 25,000 square metres. This equates to a land requirement of *438ha* on the basis that all of the new-build were to locate at RLS (40% of plot footprint). This is shown in the table below.

Table 20: Forecast Demand for New-build Units Greater than 25,000 square metres up to 2026 and Land Requirements (based on recent new-build trends)

New-build trends >25,000 sq m		
Total new-build to 2026	3,244	000s sq m
of which:		
In units greater 25,000 sq m (54%)	1,752	000s sq m
Land Requirement - RLS	**438**	**ha**

Source: Savills and MDS Transmodal Forecasts

5.1.2 Demand at Regional Logistics Sites

Option 1: Existing Percentage of Rail-linked Floor Space to RLS

This option considers the amount of large scale warehouse floor space in the region which is currently located on a rail-linked site, and assumes that a similar proportion of the forecast new-build for units greater than 25,000 square metres will also locate at a rail served site. Referring to the analysis of the current stock of large scale warehousing across the West Midlands region (Section 2), we have established the amount of floor space which has been developed to date at the existing RLS (Hams Hall) and the other two major rail-linked sites in the region (Birch Coppice and Coventry Colliery). This analysis suggests that around *16% of existing floor space* in the region is currently located at a rail-linked site. This is shown in the table below.

Table 21: Rail-linked Floor Space in the West Midlands

	000s sq metres
Hams Hall	217
Birch Coppice	235
Coventry Colliery*	182
Total Rail-linked	**634**
Floor Space West Midlands	3,869
% floor space rail-linked	**16%**

** No intermodal terminal, rail link by means of sidings alongside some buildings*
Source: VOA Ratings List

Assuming that a broadly similar percentage of the forecast new-build for units greater than 25,000 square metres also located at a rail-linked site, around 280,000 million square metres of new large scale warehousing can be expected to locate at a RLS. This equates to a gross land requirement of 70*ha* at RLS up to 2026 (40% of plot footprint). This is shown in the table below.

Table 22: Gross Land Requirements at RLS to 2026 (Excising % of Rail-linked Floor Space)

16% of floor space >25,000 sq m to RLS		
Total new-build units greater 25,000 sq m	1,752	000s sq m
of which:		
To RLS (16%)	280	000s sq m
Land Requirement - RLS	**70**	**ha**

Source: Savills and MDS Transmodal Forecasts

Option 1 would result in broadly the same proportion of total warehouse floor space being located at a rail-linked site in 2026 as is the case currently. However, planning and transport policy (at national and regional level) encourages large scale developments which generate significant freight volumes to locate at rail served sites. Two further options have therefore been considered which are based on a much higher proportion of new-build floor space locating at rail-linked sites.

***Option 2: All Demand to RLS (*Fully Sustainable Option)**

Based on market need alone, we should expect a much higher proportion of new-build warehousing to locate on rail linked sites. Also, taking into account regional and national planning and transport policy (including the sustainable transport system agenda), a case could be made for requiring all new-build facilities which generate significant volumes of freight traffic (in this case greater than 25,000 square metres) to locate at rail-linked sites. On that basis, *1.75 million square metres* of future new-build floor space to 2026 can be expected to locate at a RLS, equating to a gross land requirement of *438ha* (see Section 5.1.1).

Option 3: Sustainable with Consents

However, from both a planning and logistics market perspective, it is perhaps unrealistic to expect all the forecast demand for units greater than 25,000 square metres to locate on RLS, given:

- Existing land supply and planning consents; and
- Market choice, recognising that not all operators will demand or require access to rail terminal facilities, meaning a need to provide a choice of sites (both rail and non-rail-linked) across the region.

The original RLS Stage 2 study suggested that *70%* of future demand for units greater than 25,000 square metres could be expected to locate on RLS, taking into account the above but also considering the policy need for new large scale warehousing to be located at more 'sustainable' locations and that operators of large distribution centres, particularly those handling imported cargo, are increasingly demanding facilities located alongside rail terminals.

On that basis, around 1.23 million square metres of new large scale warehousing can be expected to locate at RLS across the West Midlands. This equates to a gross land requirement of *307ha* at RLS up to 2026 (40% of plot footprint). This is shown in the table below.

Table 23: Gross Land Requirements at RLS to 2026 (Sustainable with consents)

70% of floor space >25,000 sq m to RLS		
Total new-build units greater 25,000 sq m	1,752	000s sq m
of which:		
To RLS (70%)	1,226	000s sq m
Land Requirement - RLS	**307**	**ha**

Source: Savills and MDS Transmodal Forecasts

Summary

Based a land use strategy which promotes a higher proportion of new-build floor space locating at rail-linked sites (compared with the existing situation), a gross land requirement at RLS of between *307ha and 438ha* is forecast up to 2026.

5.2 Land Supply

The next stage of the analysis has been to examine and quantify current land supply, and to consider the land remaining at the existing RLS and those sites which, considering their requisite characteristics, are essentially performing a RLS role i.e. other rail-linked sites. A number of changes have occurred since 2005 with an increase in the shortage of land available in what are considered to be the preferred locations.

The availability of land has inevitably influenced take up trends of greater than 250,000 sq ft, with the most significant growth since 2005 evident in:

- A38/A5 and M6 Toll – Burton, Lichfield, Sutton Coldfield;
- M6 – North Staffordshire; and
- M6 – South Staffordshire

Whilst growth in these areas is partly applicable to displacement as a result of poor land supply elsewhere, sub-regions such as North Staffordshire boast lower land values and an abundant supply of brownfield land in close proximity to a large mature labour pool which meets a number of criteria for logistics operators, particularly in terms of cost savings.

5.2.1 Current Land Supply

There are no sites which meet currently the minimum size criteria of 50ha. Prime Point, Stafford and Fradley Park, Lichfield were two sites identified in the Stage 2 study as having land available between 40 and 50ha (albeit with no rail connection). An update on land availability at these two sites is as follows:

- Prime Point, Stafford – 4.77 ha, with planning consent for two warehouse buildings totalling 125,000 sq ft (approx 11,500 square metres); and
- Fradley Park, Lichfield – a design and build opportunity for 430,000 sq ft (approx 39,500 square metres) warehouse is currently available (estimated 10ha/25 acres). A potential phase 4 offers 69ha.

5.2.2. Pipeline Supply with Planning Consent

There are currently no sites in the pipeline with planning consent which fully meet the recommended site selection criteria, most notably a site size of at least 50ha and good rail connections

<u>Hortonwood, Telford</u>

Telford International Freight Park at Hortonwood is now being marketed. The 18.6 ha site incorporates a rail terminal hub and 9.7ha of developable land. The terminal will be operational by May 2009 and will be the first rail terminal to the west of the West Midlands

conurbation. The land is available in two plots of 2.23ha and 7.6ha capable of accommodating up to 90,000 sq ft and 400,000 sq ft respectively. The site is surrounded by existing manufacturing and warehousing facilities.

DIRFT, near Rugby

DIRFT Phase II still has 50ha; although technically in the East Midlands, the market does not adhere to regional boundaries and the site effectively serves both the National and West/East Midlands markets.

Meaford Power Station, Stafford

43ha at Meaford remains available albeit below the 50ha threshold.

5.2.3 Further Analysis

A summary of land supply at the region's most significant large sites is outlined below (data supplied by landowner/developer or their agents where necessary).

Site	Remaining land (ha)	Plots available (ha)	Comments
Prime Point, (J14, M6)	4.77	4.77	Two speculative units of 127,200 sq ft and 230,000 sq ft remain available Planning for two warehouse buildings totalling 125,000 sq ft.
Fradley Park, Lichfield (A38)	69	Phase 4 – 69	Tesco took a pre-let of 800,000 sq ft in 2006. Three speculative units of 55,000 sq ft, 104,014 sq ft and 29,250 sq ft are available to let. Potential for 430,000 sq ft unit (design and build) also currently available. Outline planning permission for 278,000 sq m (2,992,390 sq ft) B1/ B2/B8, but works to A38 and Hilliards Cross would be required.
Birch Coppice, North Warwickshire (J10, M42)	7.426 48.6 (without planning)	E2 3.0 E4 4.426	Adjoining land in same ownership.

Site	Remaining land (ha)	Plots available (ha)	Comments
Meaford Power Station, Stafford (A34)	43		Relatively poor location and road access.
Hams Hall (J9, M42)	7.6 developable 20 (without planning)	1 3.55 3b 2.02 6 (part) 5.18 +10 3.85	Restricted by overhead cables – development not possible. Restricted to two buildings of 110,000 sq ft and 140,000 sq ft 3.45 ha asbestos tip (not developable), 0.4 ha developable Brownfield site of former Power Station 'B' – being promoted through Local Plan.

The already restricted land supply at Hams Hall, the only existing Regional Logistics Site, has depleted further since 2005 and the remaining land does not match market demand.

Birch Coppice, which has a dedicated rail link and a rail freight terminal still performs a quasi Regional Logistics Site role. However, the land supply at this location has depleted further and available plots restrict development potential.

Fradley Park still remains the site with the greatest flexibility in terms of total land supply but it does not have a rail connection and therefore does not meet the recommended criteria for RLS.

5.3 Demand for RLS and Site Supply

On this basis therefore, we estimate that there is currently *24.7ha* of land available with consent on the existing RLS (Hams Hall), at Birch Coppice (which is performing a quasi RLS role) and at Telford (rail-linked but below 50ha threshold). This results in a shortfall of between 282ha and 413ha of land required at RLS for the period to 2026. A further 68.6ha of land is also vacant, but without planning consent, at Hams Hall and Birch Coppice. Including these sites, for Options 2 and 3 there is a shortfall of between 213ha and 345ha of land required at RLS by 2026. This is shown in the table below.

Table 24: Land Requirements at RLS to 2026 and Existing Supply

	Hectares		
	Option 2 100% to RLS	Option 3 70% to RLS	Option 1 16% to RLS
Gross requirement	***438***	***307***	***70***
With Consent			
RLS			
Hams Hall	7.6	7.6	7.6
Other sites			
Birch Coppice	7.4	7.4	7.4
Telford	9.7	9.7	9.7
Total supply (a)	***24.7***	***24.7***	***24.7***
Shortfall	**413**	**282**	**45**
Without Consent			
RLS			
Hams Hall	20.0	20.0	20.0
Other sites			
Birch Coppice	48.6	48.6	48.6
Total (b)	***68.6***	***68.6***	***68.6***
Possible total supply (a+b)	**93.3**	**93.3**	**93.3**
Shortfall	**345**	**213**	**-23**

Source: Savills and MDS Transmodal Forecasts

This implies a need for between 4 and 6 new RLS to be brought forward across the West Midlands region by 2026.

Summary

As identified in the Stage 2 study, smaller sites or residual plots on larger schemes are able to respond to a cross-section of general occupational requirements and will absorb a proportion of current and future demand in the logistics sector. However it remains the case that existing supply, which has depleted significantly since 2005, is unable to properly respond to overall market demand. Even with falling market demand in the current economic climate, the existing requirements still demand optimal locations and there is very limited capacity in terms of land supply to cater for this (albeit lower) level of demand. In addition,

any remaining supply does not conform to or has not yet had the opportunity to respond to the policy requirements of the emerging RSS.

There a number of sites in the West Midlands currently being promoted as RLS, which are at varying stages of the development/planning process. However these sites are all subject to RSS policy and the application of its criteria.

5.4 Rail Freight Forecasts and Terminal Demand

We have conducted an additional 'check' on the analysis undertaken above. Given that RLS will incorporate intermodal terminal facilities, it is important that the number of RLS required is appropriate for the forecast rail demand, and that neither an 'under' or 'over supply' in terminal capacity will result. The rail freight forecast volumes to 2026, as presented above in Section 4, have been represented as forecast daily train numbers. From these figures, intermodal terminal demand in 2026 can be established. The results from this exercise are shown in the table below.

Table 25: Forecast Non-Bulk Trains to the West Midlands 2026

Non-bulk rail to West Midlands 2026	4,682	000s tonnes
Mean cargo volume per train	340	tonnes
Trains arriving in West Midlands 2026	13,770	
Operating days per annum	250	
Trains arriving in West Midlands per day 2026	**55**	

Source: MDS Transmodal GBFM

The table shows that by 2026, there will need to be sufficient terminal capacity in the West Midlands region to handle 55 arriving trains per day. A typical inland intermodal terminal can handle around 6 trains per day with reach-stacker equipment or 8 trains per day using rail-mounted gantry-cranes. This suggests a need for between *7 and 9* new intermodal terminals across the West Midlands region by 2026.

Given that there are currently 3 active intermodal terminal in the region (Hams Hall, Landor Street and Birch Coppice), this suggests a need for an additional 4 to 6 new intermodal terminals by 2026. The conclusions above suggest a need for between 4 and 6 new RLS to be brought forward across the West Midlands region by 2026.

APPENDIX 1

Regional Logistic Site Study - Stage 2 Update

Background

The Regional Spatial Strategy for the West Midlands (RSS11) was published in June 2004. The RSS acknowledges that warehousing and distribution is an important and fast growing sector of the regional economy. However, it also recognised that a better understanding of the sector today and in the foreseeable future was needed before translating the requirements of the sector into land use decisions at a strategic level. The RSS, therefore, required the RPB working in conjunction with other partners, to undertake a study to ensure an adequate supply of Regional Logistic Sites and identify the number, size and broad location of any additional facilities required.

The study has been undertaken in 2 stages. Consultants King Sturge were appointed by Advantage West Midlands in 2004 to undertake the stage 1 study. The purpose of Stage 1 was to identify the factors influencing the logistics industry in the short, medium and long term at both the national and regional level, and identify robust criteria for assessing and choosing Regional Logistics Locations and Regional Logistics Sites. The stage 1 report was completed in June 2004.

The second stage of the study builds on the King Sturge work by identifying the level of need and the number, size and broad location of additional logistics facilities for the region. Consultants MDS Transmodal in association with Savills and Regeneris were commissioned by the Regional Planning Body to undertake the Stage 2 Study. The stage 2 study was completed in September 2005.

The RLS Studies are technical documents which have informed the development of Policy PA9 - Regional Logistic Sites in the Preferred Option of the Regional Spatial Strategy. The proposed changes to Policy PA9 would require future RLS to have dedicated access to the regional rail and highway network. The policy proposes that the Region should have a choice of RLS available at any point in time. Priority should be given to the upgrading of Birch Coppice near Tamworth to a RLS followed by the realistic extension of existing RLS and the potential for new facilities to serve the Black Country and North Staffordshire. The public examination into the Preferred Option commences in April 2009.

Prior to the examination it has been agreed that an update to the Stage 2 study would be desirable. Since the publication of the study the UK and world economy has undergone considerable change with the UK economy suffering a significant downturn with the recession likely to continue for possibly the next 2 years. The Stage 2 study was also based on the period to 2021 whereas the RSS end date was subsequently extended to 2026.

Purpose of the study

The main aims of the study are as follows:

- Extend the timeframe of the study to 2026
- Consider current market trends and the implications of the current economic downturn on the logistics sector and future demand for RLS
- Update the current supply of land for Regional Logistic Sites and review progress on key sites.
- Is there any evidence that large-scale logistic operations are being directed to less desirable locations as the supply of RLS has diminished?

Methodology and other requirements

The study should use the same methodology as that used in the Phase 2 study. In addition, the views of commercial property consultants should be used to provide a market input.

Timetable

The study needs to be completed before the commencement of the public examination into Phase 2 of the RSS which begins April 2009. The following timetable should be followed:

Appointment of consultants - 26th January
Inception meeting - 29th January
Draft Report - 9th March
Draft discussed at WMELAG meeting (TBA)
Final report - 31st March

Budget

The budget for the study is £15,000 exclusive of VAT

Steering Group

The study will be overseen by Advantage West Midlands and the West Midlands Employment Land Advisory Group (WMELAG).

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APPENDIX 2

Figure 1

Take Up New Build B8 Space 1996 – 2009

(In excess of 100,000 sq ft) West Midlands Region

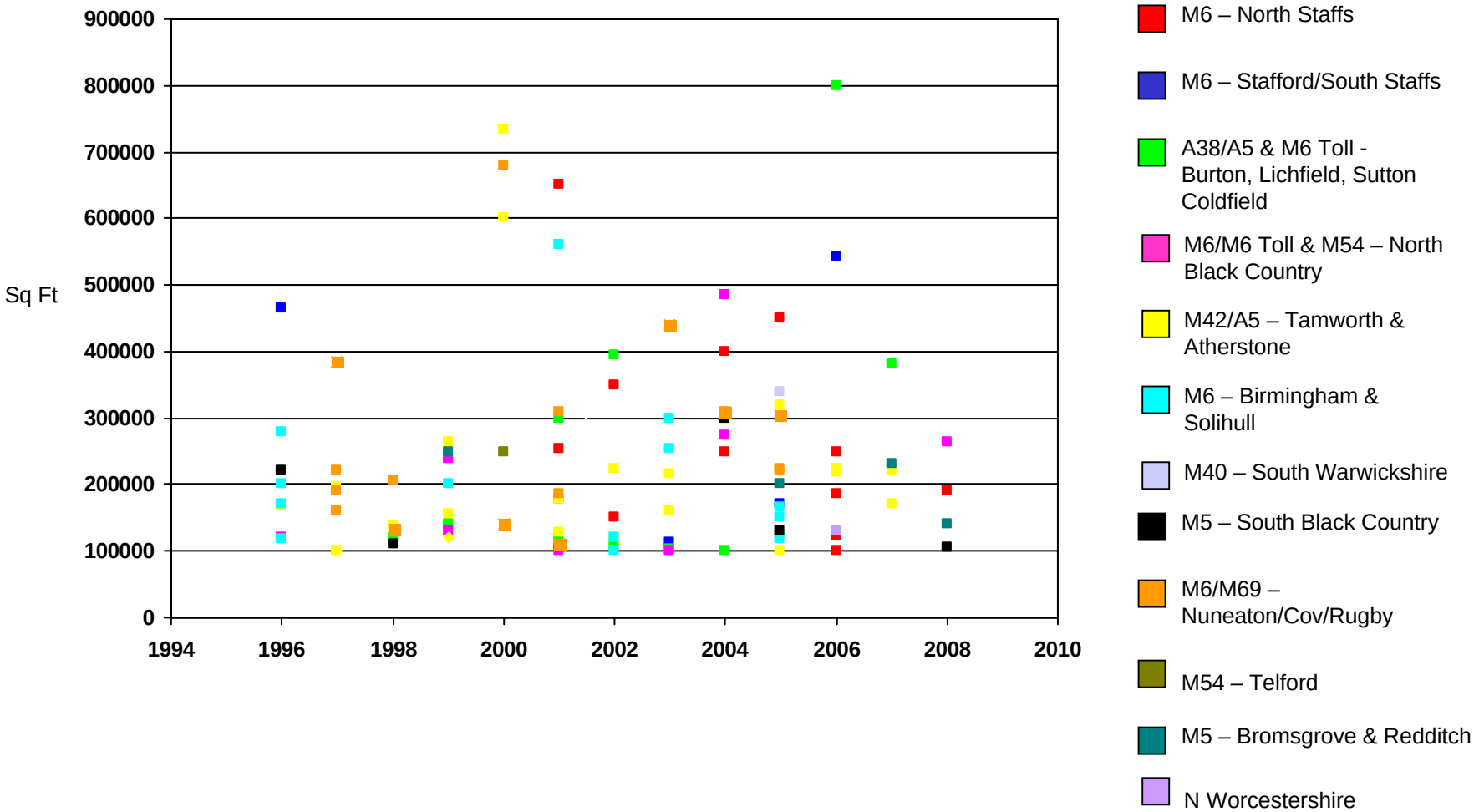
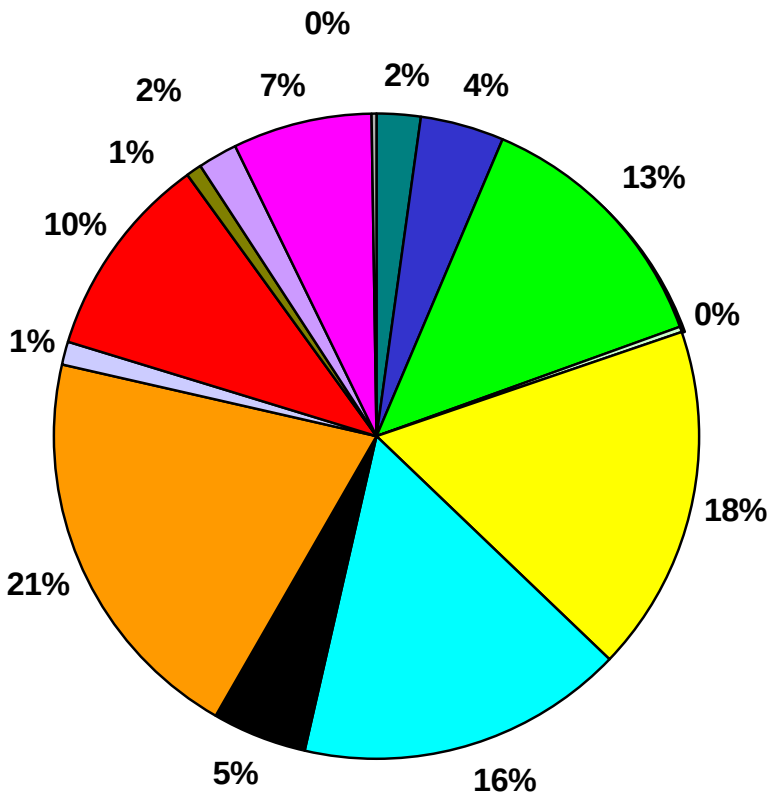


Figure 2

Total Take Up New Build B8 Space 1996 - 2009

West Midlands Region



M6 – North Staffs

M6 – Stafford/South Staffs

A38/A5 & M6 Toll – Burton/Lichfield/Sutton Coldfield

M6/M6 Toll & M54 – North Black Country

M42/A5 – Tamworth & Atherstone

M6 – Birmingham/Solihull

M5 – South Black Country

M6/M69 – Nuneaton/Coventry/Rugby

M40 – South Warwickshire

M5 – Bromsgrove & Redditch

M54 – Telford

A49 & A5 - Shropshire

M5 – South Worcestershire

A49 – Hereford & N.Worcester

Note – Minimum size of unit counted is 10,000 sq ft

Figure 3a

New Build B8 Space 1996 – 2009
(in excess of 250,000 sq ft)
West Midlands Region By Floor Area

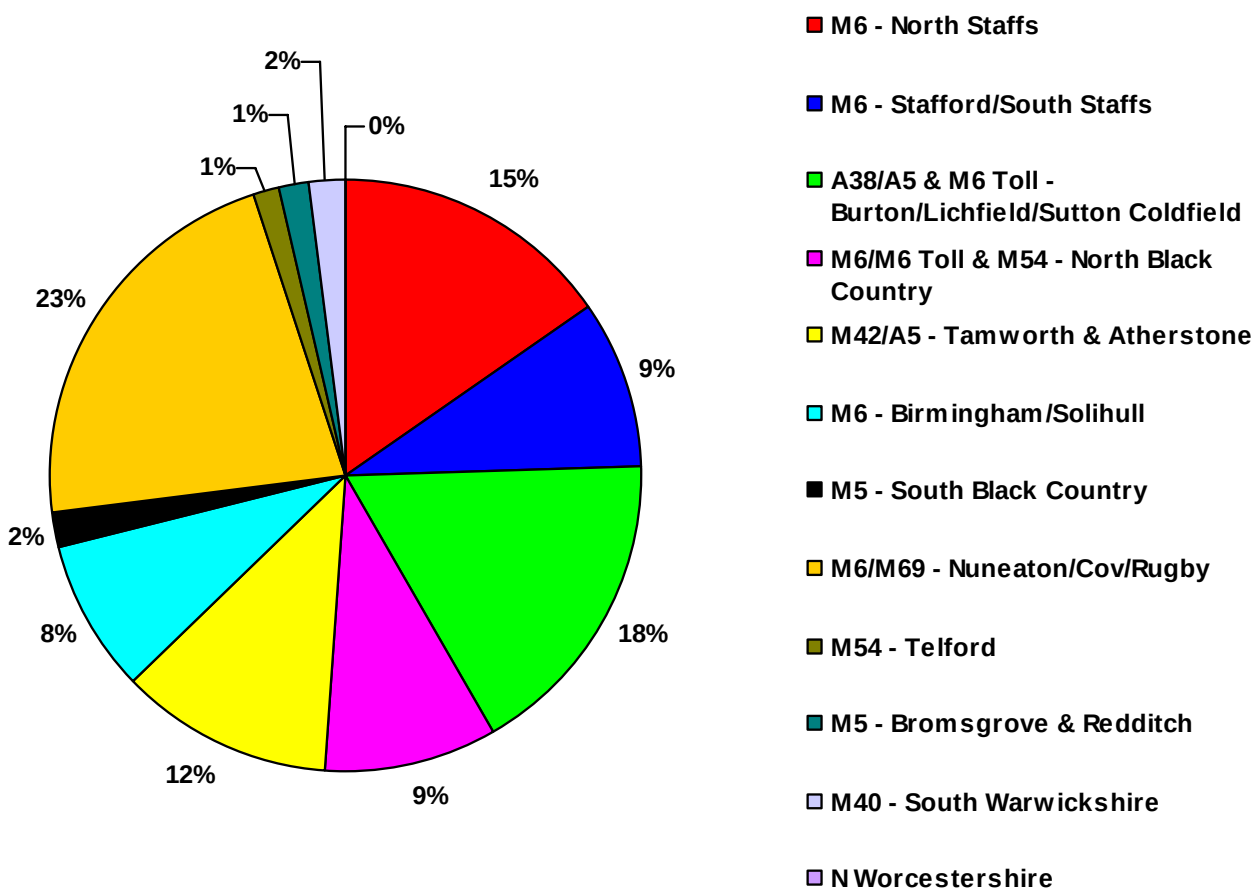
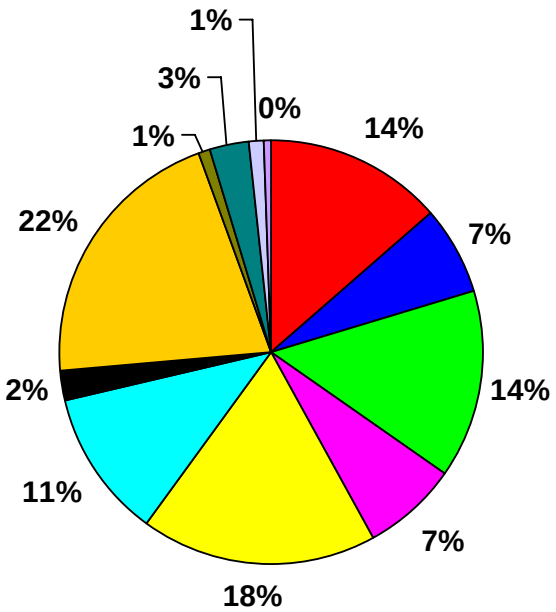


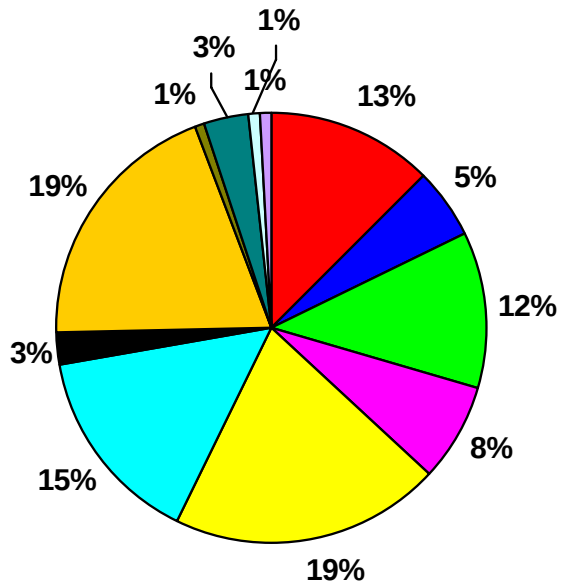
Figure 3b

Take Up New Build B8 Space 1996 – 2009
(in excess of 100,000 sq ft)
West Midlands Region



By Floor Area

- M6 - North Staffs
- M6 - Stafford/South Staffs
- A38/A5 & M6 Toll - Burton/Lichfield/Sutton Coldfield
- M6/M6 Toll & M54 - North Black Country
- M42/A5 - Tamworth & Atherstone
- M6 - Birmingham/Solihull
- M5 - South Black Country
- M6/M69 - Nuneaton/Cov/Rugby
- M54 - Telford
- M5 - Bromsgrove & Redditch
- M40 - South Warwickshire
- N Worcestershire



By No. of Units

Figure 4

New Build B8 Space 1996 – 2009 Average Unit Size (in excess 100,000 sq ft)

West Midlands Region

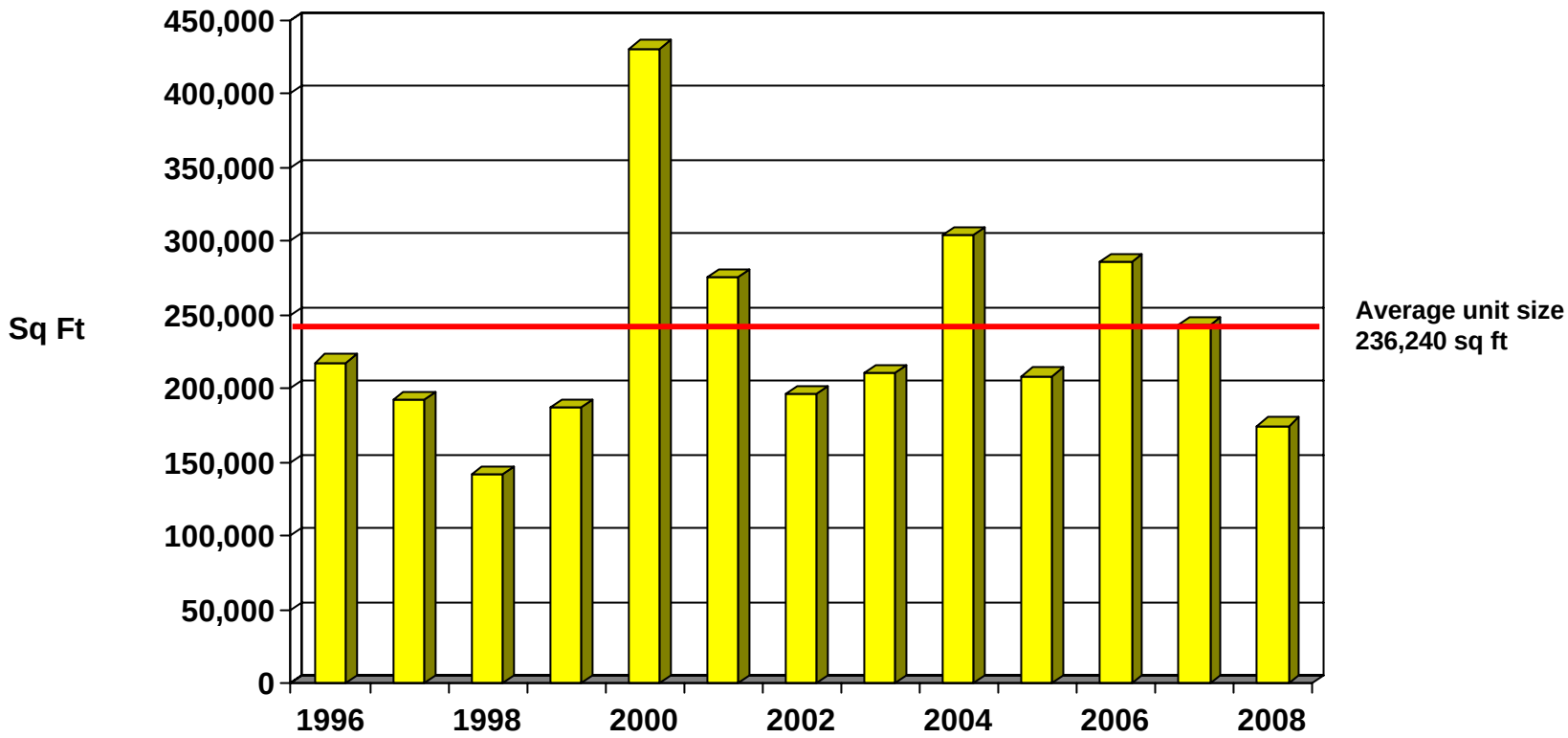


Figure 5a

Size Range of New Build B8 Units

(In excess of 100,000 sq ft) West Midlands Region

(by number of buildings built)

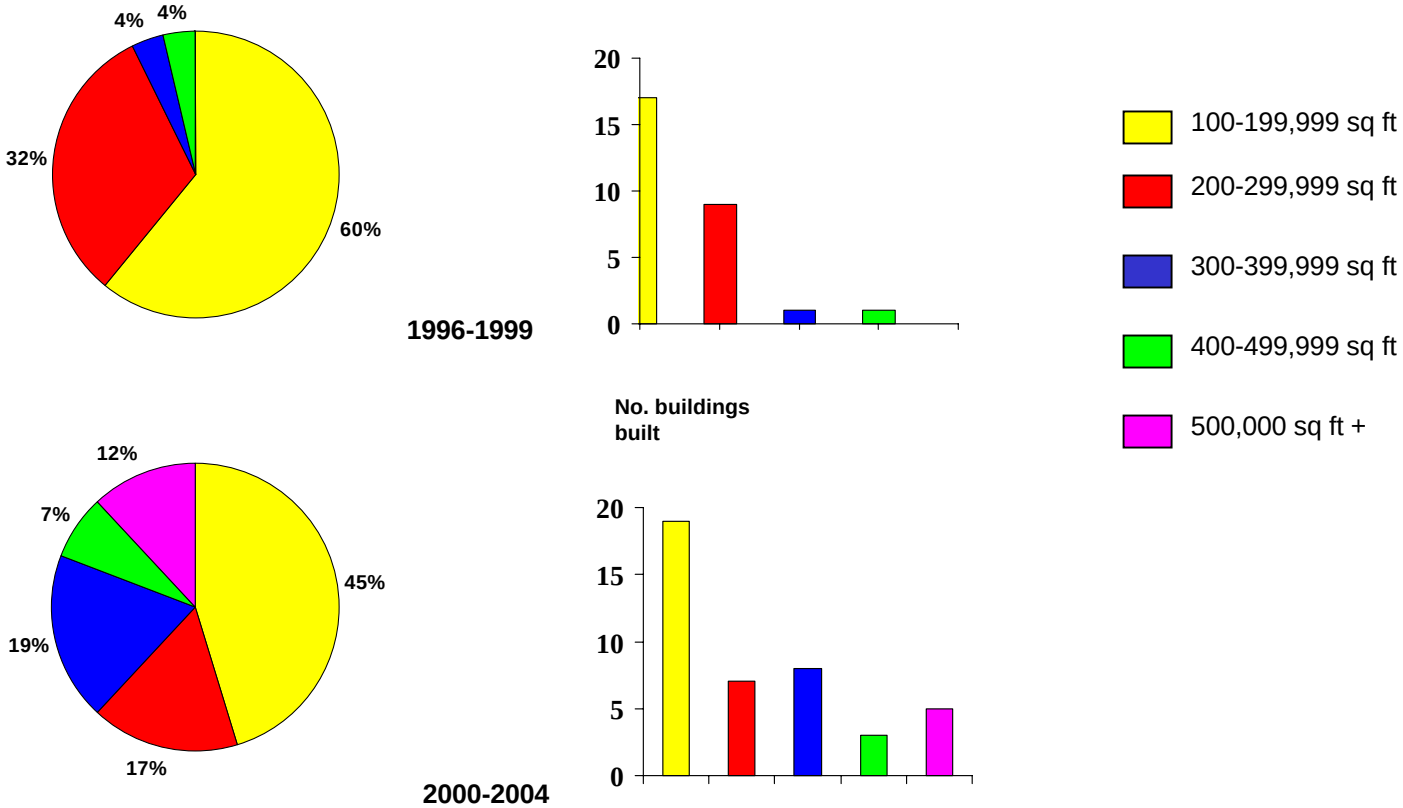
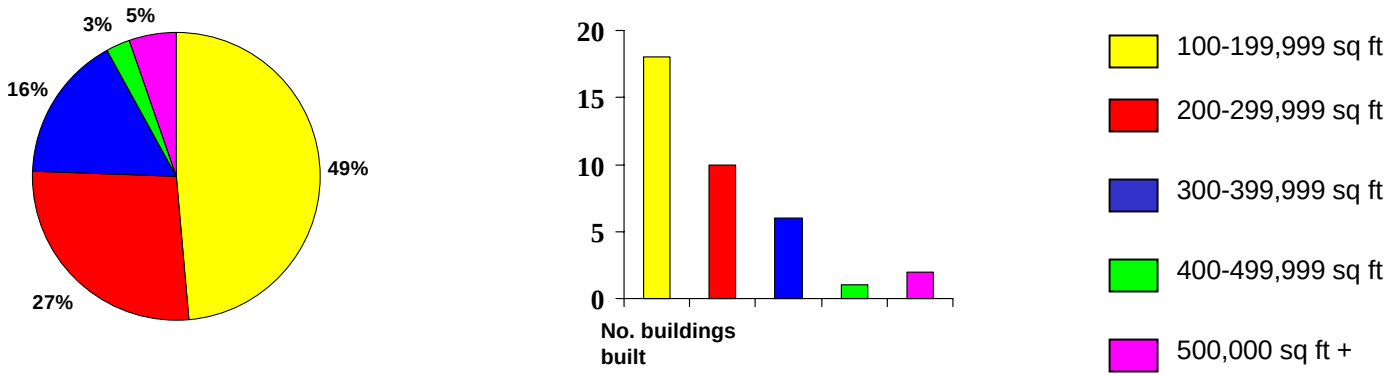


Figure 5a

Size Range of New Build B8 Units

(In excess of 100,000 sq ft) West Midlands Region

(by number of buildings built)



2005-2009

Figure 5b

Size Range of New Build B8 Units 1996 - 2009

(In excess of 100,000 sq ft) West Midlands Region

(by number of buildings built)

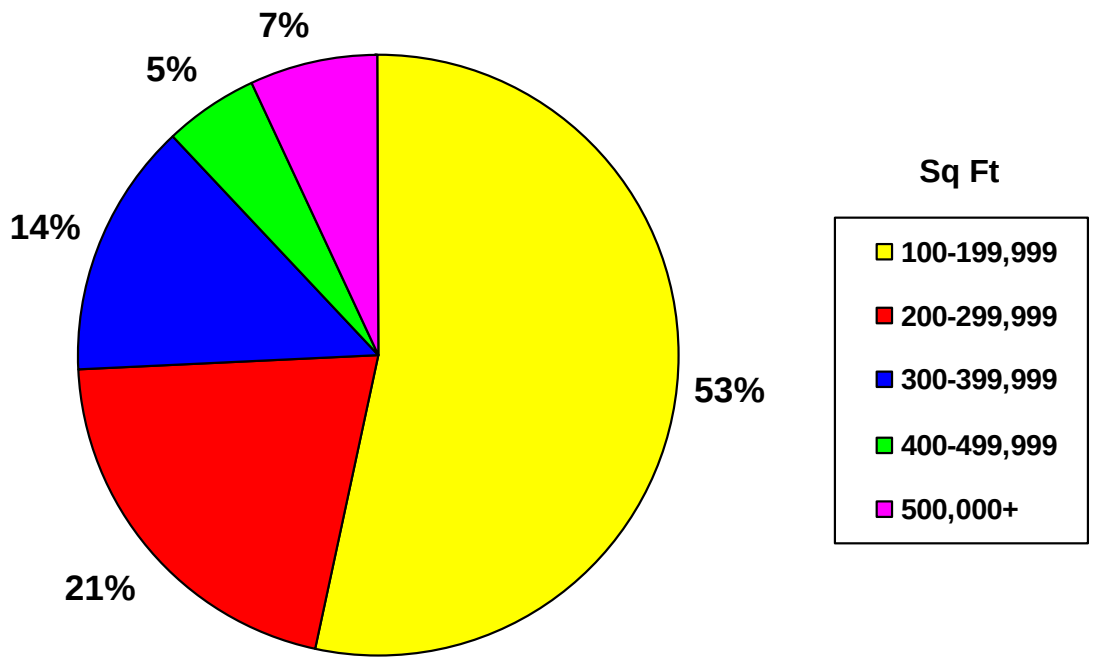
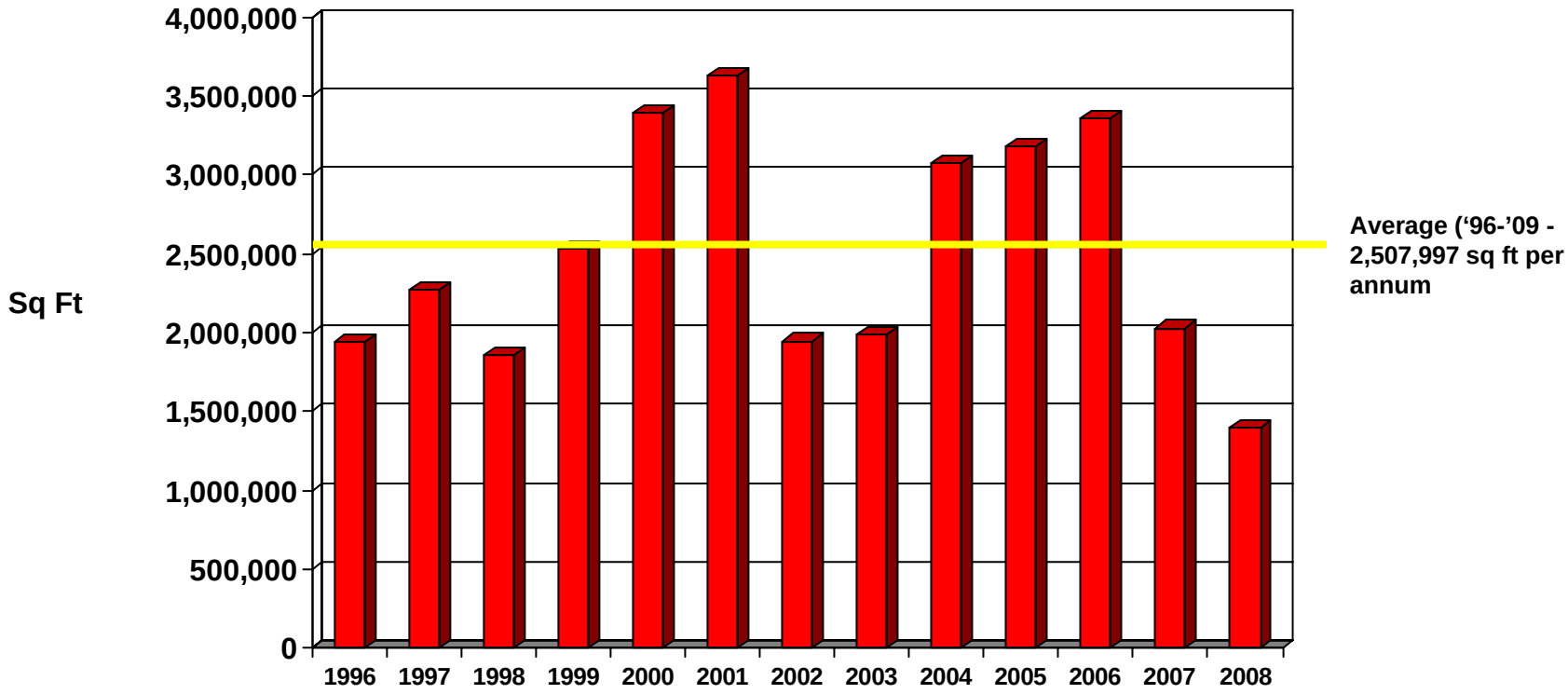


Figure 6

Total Take Up - New Build B8 Space 1996 – 2009

West Midlands Region



Note – Minimum size of unit counted is 10,000 sq ft

Figure 7

Speculative Space Developed – West Midlands Region

(In excess of 100,000 sq ft) - 1996-2009

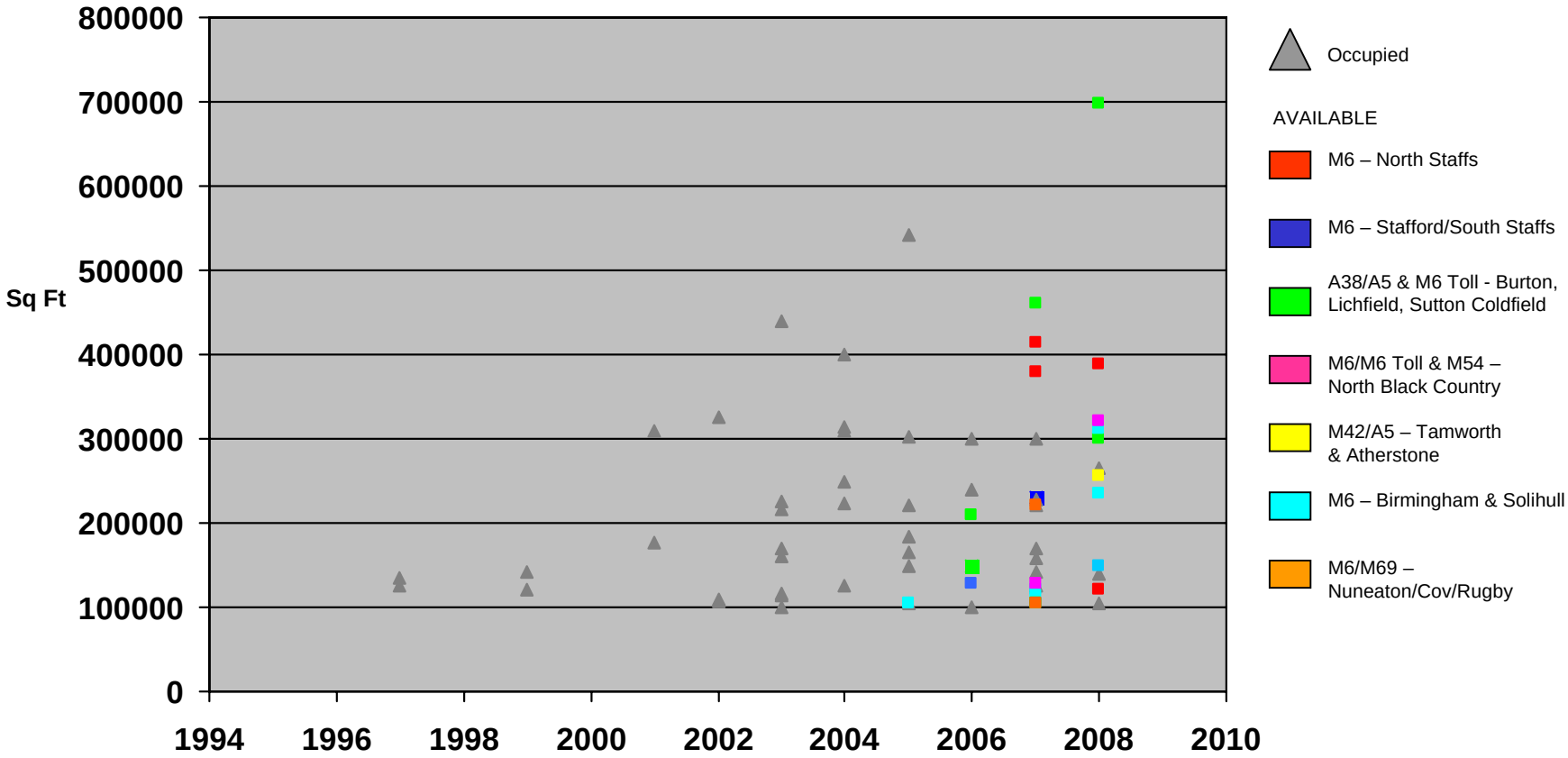


Figure 8

New Build B8 Space 1996 – 2009

(In excess of 100,000 sq ft)

West Midlands Region/Hams Hall/Prologis Park,Coventry/DIRFT

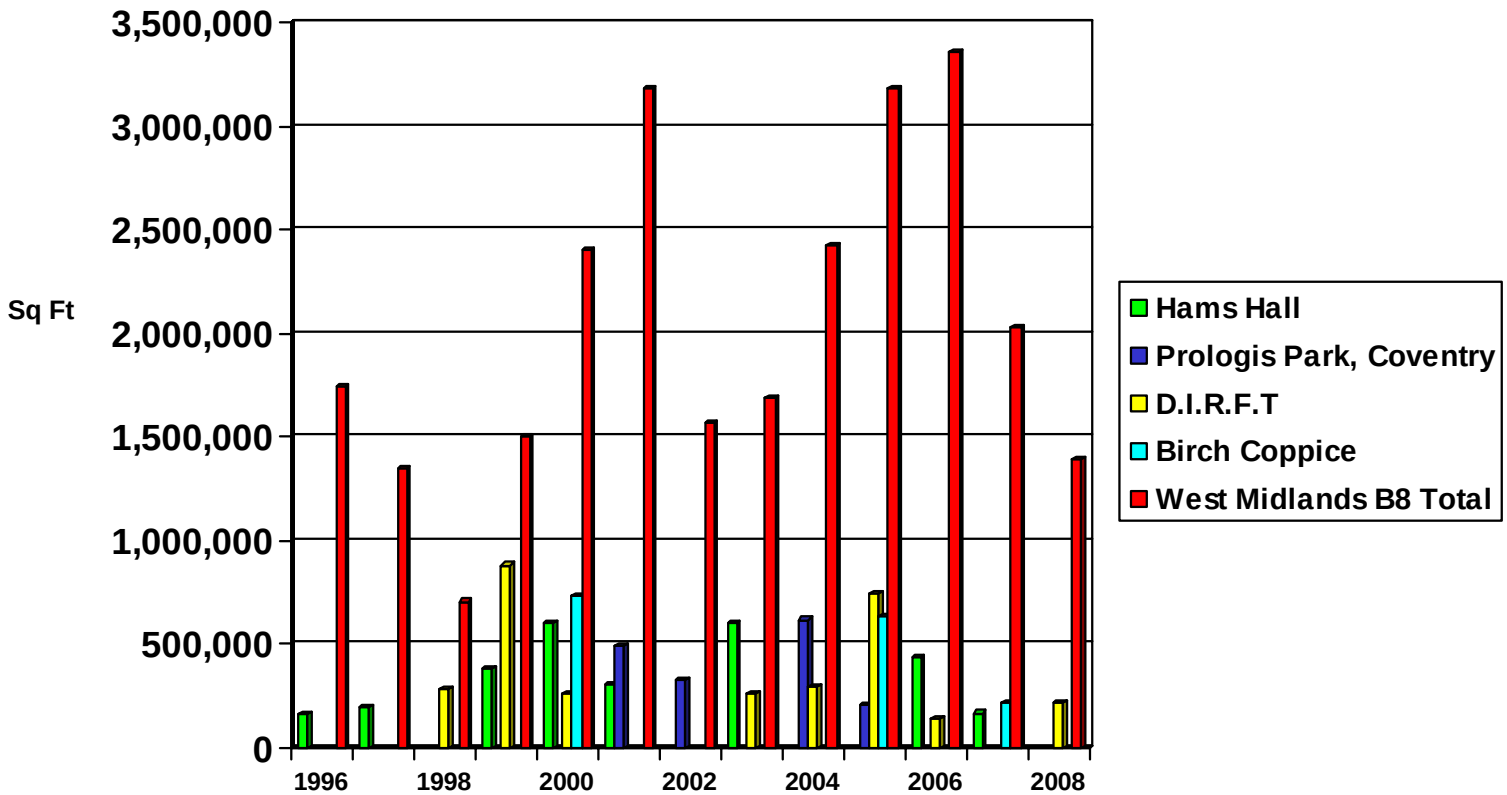


Figure 9

New Build B8 Space 1996 – 2009

(In excess of 100,000 sq ft)

West Midlands Region/Hams Hall/Prologis Park,Coventry/Birch Coppice

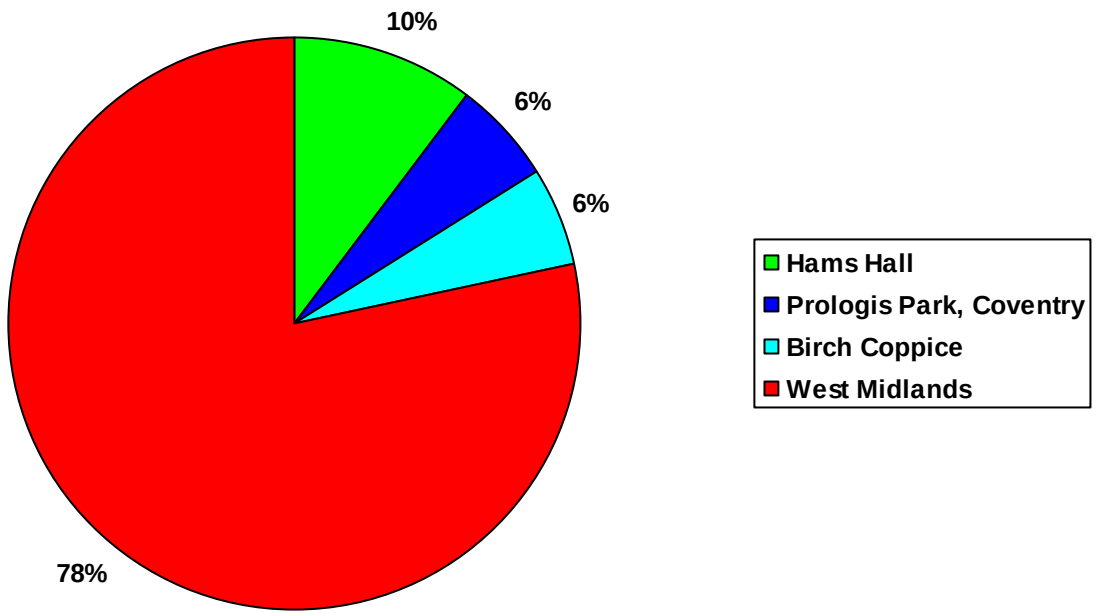


Figure 10

New Build B8 Space 1996 – 2009

(In excess of 100,000 sq ft)

West Midlands Region/Hams Hall/Prologis Park,Coventry/

Birch Coppice plus DIRFT