

## Submission Document SD22

# LIVERPOOL CITY REGION SUPERPORT

AN ANALYSIS OF THE SUPPLY OF, AND DEMAND FOR,  
DISTRIBUTION SPACE WITHIN THE LIVERPOOL CITY REGION



The background of the document is a photograph of a port at sunset. The sky is a deep red, and the silhouettes of port cranes and shipping containers are visible. The containers have labels such as 'K LINE' and 'HANJIN'. The word 'SUPERPORT' is written in large, dark red, semi-transparent letters across the bottom of the image.

# SUPERPORT

March 2014







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# Executive Summary

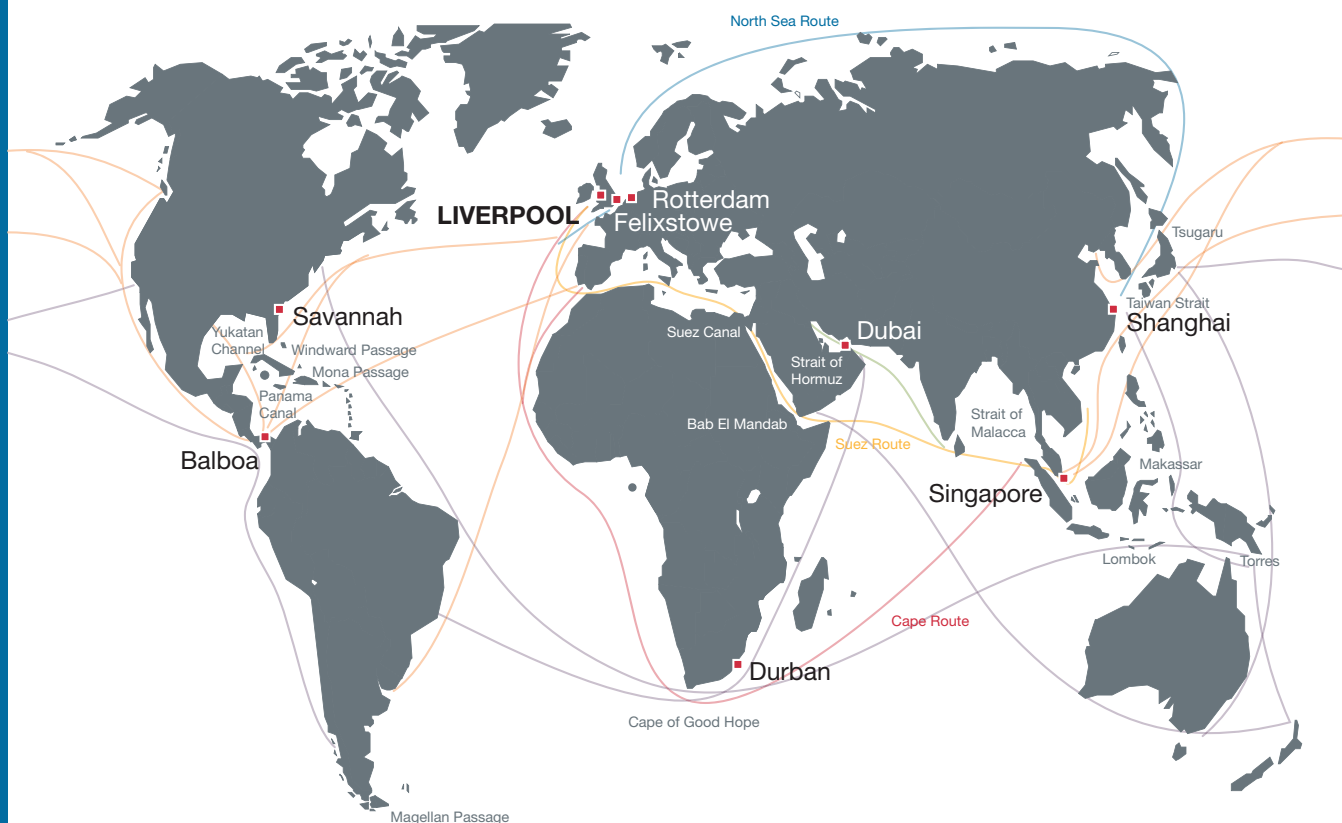
Investment in Liverpool **SUPERPORT** presents a generational opportunity to place the port and surrounding logistics infrastructure at the heart of business in the UK and to claw back trade from it's natural hinterland lost to the South East.

The growth of ports on the south and east coast have distorted patterns of trade, taking business from the natural hinterland of the City Region. In order to redress that situation Liverpool aims not to be just on a par with Felixstowe, London Gateway or Southampton – but to be better.

Liverpool aims to become a byword for innovative, cost-efficient, sustainable port operation that can be replicated around the world. This requires a passionate, coherent commonality of vision, strategy and cooperation amongst all the stakeholders . Liverpool **SUPERPORT** embodies this ambition.

This report presents an audit of demand for land, looking at the factors that drive demand and changes in the global and national context over the next twenty years that will affect **SUPERPORT**. The report then goes on to examine the planned supply of sites in the City Region that could meet the demand generated by the local economy. These sites are evaluated taking into account size, quality and suitability and matched against the demand profile generated using three different scenarios.

## LIVERPOOL IN RELATION TO OTHER MAJOR TRADE ROUTES



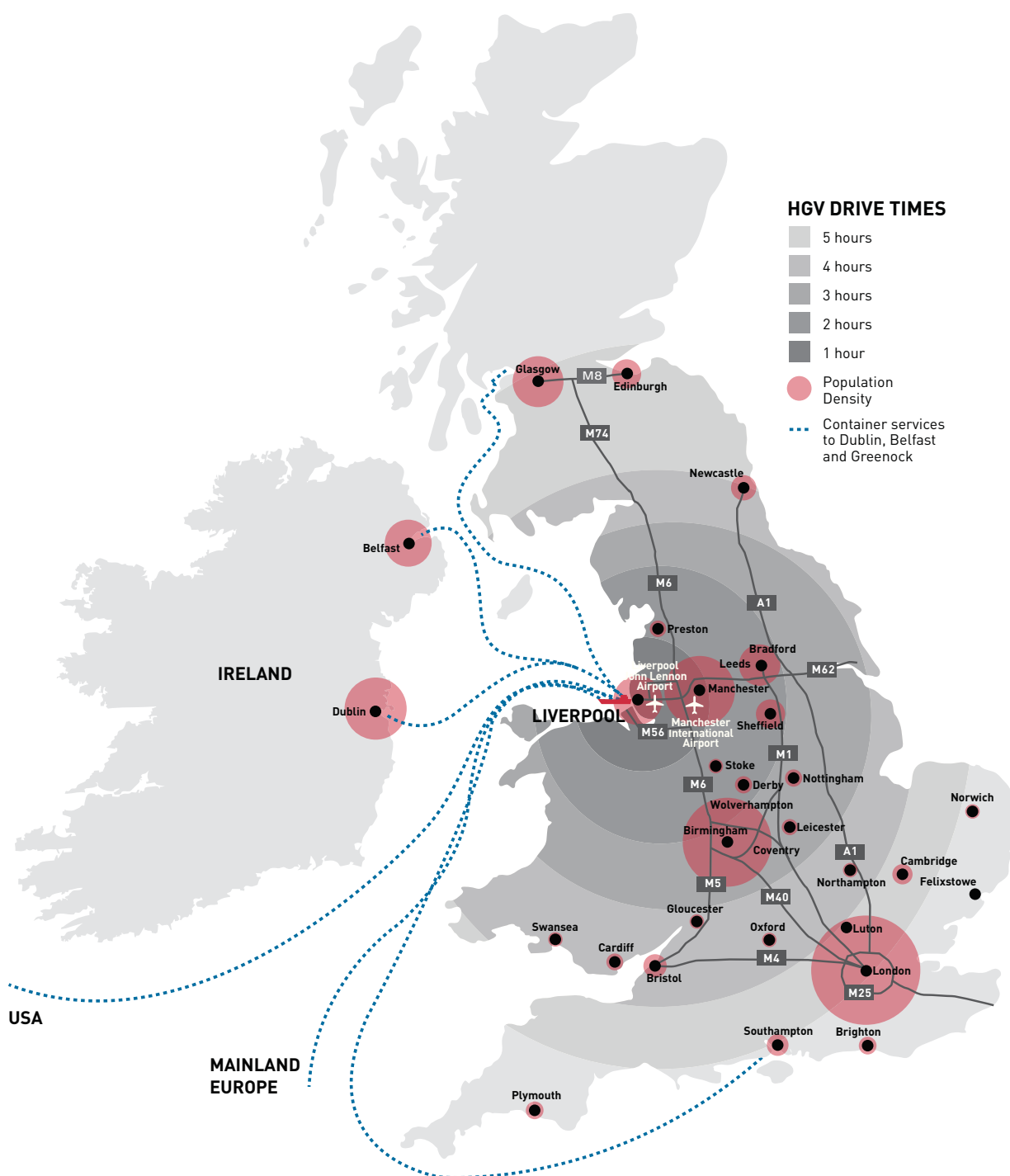
## KEY POINTS

- Competition in the future will not be between ports but between supply chains. To be successful Liverpool aims to be seen, and see itself, as a major component in a global supply chain. To drive this vision, Liverpool **SUPERPORT** will build alliances with shipping lines and consortia that will facilitate the inclusion of the port as the UK call as well as courting importers of goods into the UK with the Liverpool offer. As far as exporters are concerned, particularly from the Midlands, the availability of a service call at Liverpool will make it easier to justify the use of the port as direct services to the Port are increased.
- This report takes the forecast growth in containers from the Mersey Ports Master Plan (MPMP) and redraws it in the context of 2013. Twenty Foot Equivalent Unit (TEU) data for 2012 has been used as the baseline and the same rates of growth assumed in the Master Plan have been used to roll the growth in numbers forward. Two other scenarios are considered in a sensitivity analysis that evaluates a range of criteria that will impact on demand for logistics space.
- Changes to all the assets that form part of **SUPERPORT** are likely to generate demand for between 644 and 709 hectares of industrial land over the next twenty years depending upon the scenario adopted. This implies that annual average take up of logistics space will almost double over this period.
- Although this report is focussed primarily upon logistics, assessment of the supply of, and demand for, land can only take place in the context that some land suitable for logistics will go for manufacturing use. Because manufacturing operations typically generate more jobs per square metre, with higher employment multipliers than logistics, increased manufacturing has a significant impact on employment generation and thereby the local economy. Depending on the assumptions used about the mix between the two sectors, the next twenty years will likely see between 30,000 and 50,000 jobs created.
- A ready supply of high quality and readily accessible sites will be crucial to the ability of the City Region to realise demand rather than just providing a gateway to other parts of the country. This study shows that there is an effective shortfall in the supply of high quality, accessible sites for logistics use in the medium to long term.
- Although there is a great deal of industrial land in the City Region, only a proportion of it is suitable to meet demand. In total the study identifies 12 sites with 232.76 hectares of land to service an estimated 158 hectares of demand over the next 5 years. If as scenario 3 shows (page 41), there is a higher proportion of take up in manufacturing, the demand for land rises.
- In order to provide choice to clients an over supply of sites would be beneficial.



Liverpool – Mersey Gateway

## CONNECTIVITY TIMES AND CENTRAL LOGISTIC PROXIMITY TO OTHER UK CITIES AND PORTS



- While a significant number of sites are currently available, the majority are below 5 hectares in size. These are evenly distributed throughout the City Region, offering potential solus locations for specific user requirements but provide limited opportunity for the development of a logistics cluster and the benefits that critical mass would bring.
- Only twelve sites have been assessed as the highest quality, the largest site being 3MG (61.54ha) and the next Omega South (48ha). There are no other sites with planning consent capable of accommodating a Strategic Rail Freight Terminal and only one high quality strategic-size distribution site (Omega South) over 40ha in size. Parkside in St Helens has been identified as a strategic site for logistics with 259 acres capable of delivering 2.5m sq ft of space alongside the M6 motorway and West Coast Main line.
- Landside connectivity is crucial to the servicing of demand at the container port particularly. Innovative use of the Manchester Ship Canal is welcome, extending a green corridor to Manchester. Rail connections will be extended to Liverpool2 to facilitate a more extensive use of rail. Very little air freight is handled at John Lennon airport and it is likely that this will remain the case in the short term until more scheduled passenger routes are established and bespoke freight services are developed.
- Improvements to road infrastructure around the port, especially the A5036 from the port to the motorway, will enhance the efficient operation of the port. This, the main road link into and out of the port will come under increasing pressure as container volumes rise and significant infrastructure investment is planned.
- Almost without exception firms are distributing both to the local market and beyond, demonstrating the accessibility of the Liverpool hinterland for retailers and manufacturers alike. Its central position, with excellent connection to the national motorway and rail network, enables logistics operators to service both Scotland and the South with same day delivery. This position also allows ready access to large centres of population – with 35 million people living within 150 miles.

The Catch-22 for any port centric economy is that getting goods in and out of a port efficiently is a prerequisite for shippers, yet the more landside connectivity improves, the easier it becomes for shippers to bypass the local economy. The extent to which serviced, accessible sites are made available to business will determine how much of that trade sticks instead of passing through. Shortening the supply chain, by minimising the haul from ship to warehouse, gives the closest sites a competitive advantage to their occupiers.



Princess Dock development – Liverpool



# 1. Introduction

**SUPERPORT** is the name given to the coordination of projects, investment and activity across the Liverpool City Region to develop a multimodal freight hub to rival such international locations as New York, Dubai and Singapore. The vision of **SUPERPORT** is “to bring together and integrate the strengths of the Ports, Airports and Freight Community to create a **SUPERPORT**<sup>1</sup> for freight and passenger operations within the Liverpool City Region that will become a key driver of its economy. It will create the most effective and cost efficient environment for freight cargo logistics and passenger transit in the UK”.

The area of **SUPERPORT** includes the City Region's six local authorities (Halton, Knowsley, Liverpool, Sefton, St Helens, Wirral) plus the wider natural hinterland of West Lancashire, Warrington and Cheshire. For the completion of this study we have defined **SUPERPORT** as one hours' drive time from the Port of Liverpool. It's population catchment of 35 million within 150 miles makes it both a port and population centric location.

Approximately £1 billion of investment in Liverpool City Region's port and logistics assets is underway. This investment will deliver a transformation of the sector and significantly enhance the whole region's attractiveness for retail and manufacturing logistics operations.

## 1.1 ASSETS

### ■ The Port of Liverpool

The Port of Liverpool, part of the Peel Ports Group, is the most important UK deep sea container port for container services between Great Britain and North America. It is ranked 7th in the UK in terms of total tonnage, with 30 million tonnes per annum, and 4th largest for container traffic and is the main link to Ireland, with the RORO terminal handling over 30% of all freight to-and-from Great Britain.

Peel Ports have begun construction of Liverpool2; a £300 million project which will deliver a new deep water container terminal at the Port of Liverpool, removing the vessel restrictions imposed by the current in-lock container terminal. Liverpool2 will be configured to handle two 13,500 TEU ships simultaneously and has the potential, with further enhancements, to accept the largest vessels. The development will provide a new 16.5 metre deep berthing pocket adjacent to the quay wall, installation of ship to shore cranes and modern cantilever rail-mounted gantry cranes (CRMGs) together with associated supporting infrastructure.

### ■ The Seaforth Rail Freight Terminal

The Seaforth Rail Freight Terminal serves the Royal Seaforth Container Terminal in Port of Liverpool.

Peel Ports are committed to developing rail as part of a multimodal logistics offer and they are planning for significant growth in rail freight in and out of the Port.

### ■ Manchester Ship Canal

The Port of Liverpool and the Manchester Ship Canal are owned by one company and operated as a single integrated service. Transporting goods efficiently and cost effectively along this 'green' corridor to the major distribution hubs around the North West, is increasingly appealing. It offers a cheaper, carbon friendly, congestion-free alternative to the motorway network.

### ■ Mersey Gateway

The Mersey Gateway Project is at the heart of the proposals to deliver a dynamic and resilient £600m transport and infrastructure system across the Liverpool City Region. The new six-lane road bridge over the River Mersey between the towns of Runcorn and Widnes will provide a new fast and reliable strategic transport route that will link the Liverpool City Region and the North West with the rest of the country.

<sup>1</sup>.Global Logistics and Supply Chain Management, Mangan et al, 2008



It will provide a high standard congestion free route from the city and the M62 through to the M56 and onwards to the M6 connecting to the national motorway network. The bridge will ensure the connectivity essential to the realisation of the potential of the Liverpool City Region.

The project has national and international status, being one of the UK Government's Top 40 projects in the National Infrastructure Plan and has been recognised by KPMG as one of the Top 100 infrastructure projects around the globe.

#### ■ **3MG**

The Mersey Multimodal Gateway (3MG) offers 3.5 million sq ft of space for warehousing and distribution centres to create a bespoke solution, fully utilising the excellent links into the UK transport network.

The site currently provides 530,000 sq ft of existing distribution sheds, with existing occupiers including Tesco. It has outline consent for a total of 2.2 million sq ft of new buildings. The site provides rail connected high bay warehousing with direct access from the West Coast Main Line with daily rail links to deep sea ports. It is a fully operational intermodal terminal facility already handling over 120,000 containers per year with new reception sidings planned.

#### ■ **Potter Logistics Rail Freight Terminal**

Potter Logistics Rail Freight Terminal occupies a prime 21.7 hectare site on the edge of Knowsley Industrial Park providing 15,500 square metres of warehousing and extensive build to suit options. The high specification development includes secure, under cover rail offloading and full mechanical handling and storage facilities for cross docking, transhipment and intermodal operations.

The site offers full multimodal facilities connected to the West Coast Main Line and is just 6 miles from the Port of Liverpool and 1 mile from the M57/A580 junction.

#### ■ **Garston Freightliner Terminal**

Freightliner operates a rail freight terminal in Garston with good road and rail access. Regular container trains operate to Garston from various southern seaports.

In addition container train services link Garston with various major intermodal distribution hubs including Coatbridge Freightliner Rail Terminal in Scotland and occasionally South Wales International Freightliner Rail Terminal in Cardiff.

#### ■ **ABP Garston**

The Port of Garston, on the north bank of the River Mersey, is seven miles from Liverpool City Centre. This is a general cargo port specialising in dry bulk goods as well as scrap metal, steel products and cement.

#### ■ **Twelve Quays in Birkenhead**

The Stena Line Liverpool Port is located at Twelve Quays Terminal, Birkenhead, offering easy access to Liverpool and beyond. It offers daily RORO (Roll-on/roll-off) services to Belfast.

#### ■ **Liverpool John Lennon Airport**

LJLA handled over 4 million passengers in 2013 with flights to approximately 60 destinations in the UK and across Europe. The Airport has significant freight handling potential with 24 hour operations and excellent motorway access.



Mersey Multimodal Gateway (3MG)

## 1.2 SUPPLY CHAIN

The role of a port in a supply chain can vary from that of simple transshipment hub to an important logistics node, and in turn is heavily dependent upon the supply chain strategies of the port users. Investment in the port and in local infrastructure presents Liverpool with the opportunity to become one of the main ports of entry to the UK and to capture a significant proportion of the demand that this generates. The opportunity also exists to become a leading port of export for container cargos and for the automotive sector.

Viewed from within, the City Region is a collection of assets being packaged into a multimodal freight hub with a common purpose and a vision for the future. From a distance though **SUPERPORT** is a node in the supply chains that run through it. It follows that the efficiency and cost effectiveness of the supply chain are key determinants of the success of the port in the eyes of its users.

Increasingly, those same users are placing their supply chain at the heart of their business. Whether it is retailers adapting to multi-channel sales or manufacturers delivering customised products quickly to consumers, a seamless process that keeps stock in view throughout the entire supply chain is the core of their operation. Increasingly, their choice of location is being determined by efficiency, rather than history, which offers up another opportunity for Liverpool to shine.

This message of a supply chain at the core of business is an important one. Logistics is at the core of business and this increased weight needs to be evident across all areas from policy, through performance to practical implementation.

**“FUTURE COMPETITION WILL NOT BE BETWEEN PORTS AND INDIVIDUAL TRANSPORT CARRIERS PER SE, BUT BETWEEN A HANDFUL OF TOTAL LOGISTICS CHAINS”**

John Mangan  
Professor of Marine Transport & Logistics  
Newcastle University

This new, integrated supply chain is being driven by the green agenda with best practice built in to minimise the carbon footprint. For the last twenty years sustainability has risen up the corporate agenda and the need to demonstrate this to stakeholders through measured performance is increasingly important. The ability for **SUPERPORT** to contribute to this is key and rail and canal connectivity are both strong influences to help in the delivery of companies sustainability agendas.

## 1.3 COMPETITION

Running a port is a competitive business. Liverpool is not the only place targeting port-centric logistics users. Conventionally, the sell is a relatively easy one.

For importers, the City Region has over 6 million households within a two-hour HGV trip from the port – and 2 million within one hour, placing it second only to London Gateway in these terms. For exporters the North West has the highest proportion of manufacturing of any UK region and over 50% of the UK’s manufacturing employment sits within Liverpool’s natural catchment area, delivering a powerful population centric logistics offer.

With reference to John Mangan, Professor of Marine Transport & Logistics at Newcastle University, a successful port needs more than just manufacturing catchment and local market – it needs to be part of a total logistics chain that takes goods from a manufacturer in China or Brazil and brings them to the UK market and vice versa.

Competition between these network services will be the competitive battleground of the future. With the new container berths particularly, the City Region has the opportunity to build vertical alliances in target markets with manufacturers, forwarders, shippers and owners of warehouses in order to create total logistics chains passing through the **SUPERPORT**. The recently announced cooperation with the Port of Busan is a step in this direction.

In order to capture the demand generated by **SUPERPORT** and stop it leaking away to the rest of the UK four things are required:

- A skilled local workforce;
- Easy access to consumers;
- The availability of accessible and well-serviced sites; and
- Local and regional infrastructure that supports port activities.

This report is concerned primarily with the availability of sites but examines the potential impacts upon employment and skills.

Unlike many of its competitors, the Port of Liverpool is a city port. This manifests itself in many different ways. It means, for example, that there is a labour force available within close proximity to the port. It also means that

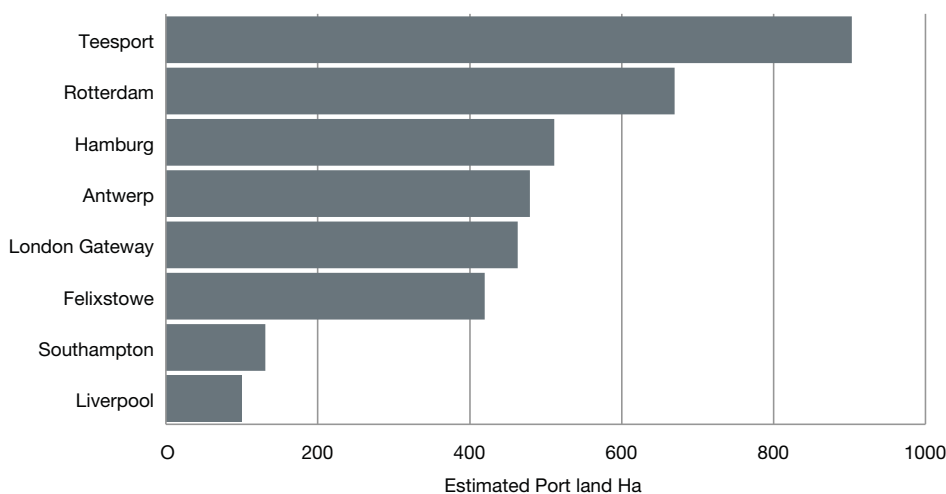
significant numbers of end users of the goods coming through the port are located within easy access of the port.

However, being an essentially urban environment brings with it constraints upon the availability of land to service demand generated by the port.

Figure 1 shows the estimated land available adjacent to selected ports.

### FIGURE 1 – PORT ADJACENT LAND

Although land supply is tight around the port itself there is a good supply of land around the City Region that could be used for port-centric activity. However this will require innovative ways of getting, particularly containers, to and from the port without reducing the efficiency of the supply chain that depends upon it.



## 1.4 OBJECTIVES

The objective of this report is to present an audit of supply and demand for land at Liverpool **SUPERPORT** and examine the impacts of that process on infrastructure and employment. The report covers three areas:

- A demand profile for the City Region: looking at the context to demand identifying any opportunities and threats; noting the drivers of demand for land and buildings; and quantifying the impact of increased throughput at the container port;

- A review of the suitability and availability of existing and potential sites within the City Region to meet that demand; and
- An assessment of the infrastructure likely to be required to support the sustainable development of the sites identified.





## 2. Demand

### 2.1 INTRODUCTION

It has been said that logistics involves getting, in the right way, the right product, in the right quantity and right quality, in the right place at the right time, for the right customer at the right cost. Demand for logistics at **SUPERPORT** is, in part, a function of the throughput at the port. In turn this is a function of a number of key stakeholders, in particular the shipping lines as primary customers of the port facilities and those shipping the goods: retailers in the case of imports; and manufacturers in the case of exports and imports or components and materials.

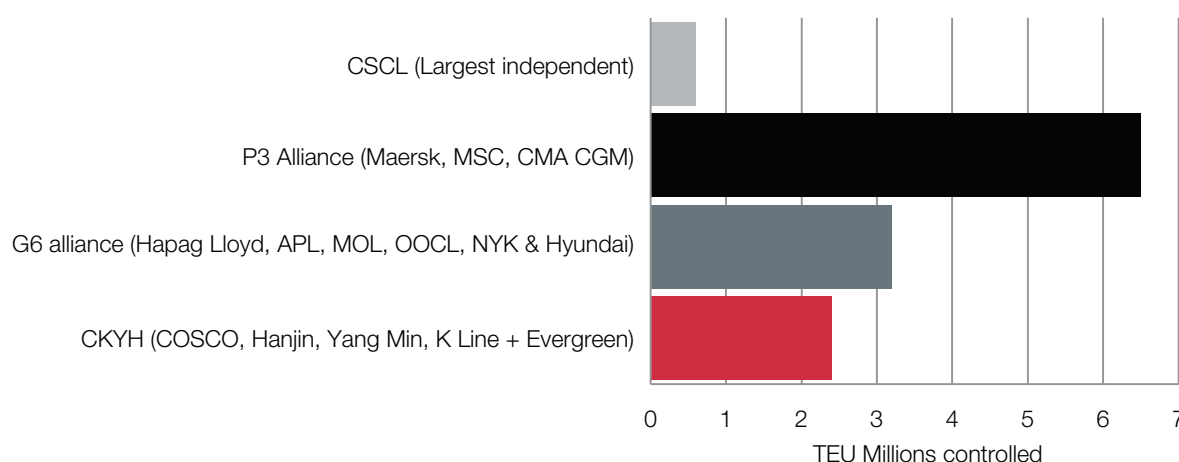
This section sets out the drivers of demand and the wider context over the next twenty years.

### 2.1.1 Shipper power

In a market in which over capacity has been rife, the response of shippers has been to band together in vessel-sharing alliances. The latest consolidation is between the world's three largest ocean carriers who plan to launch the P3 network in the second quarter of 2014. The P3 Network alliance between Maersk, Mediterranean Shipping and CMA CGM will operate a fleet of 255 ships with total capacity of 2.6 million Twenty Foot Equivalent Units (TEU) on 27 service loops in the

Asia-Europe, trans-Pacific and trans-Atlantic trades. This represents a reduction in the number of service loops from the original target of 29.

The alliance will operate eight services from Asia to North Europe and five transatlantic services as well as fourteen other services. Three of the four services from Asia to the U.S. East Coast will travel via the Suez Canal with strings of 8,500-TEU ships, while only one loop, the Everglades, will travel via the Panama Canal.



### FIGURE 2 – LINER ALLIANCES DOMINATE

On the transatlantic trade, the P3 carriers will operate four loops to the U.S. East and Gulf coasts. One will serve North Atlantic ports, one to South Atlantic ports, one to the South Atlantic and Mexico, and one to U.S. Gulf ports. The P3 also will operate one service from the western Mediterranean to the U.S. East Coast and another to Gulf Coast ports.

As well as a reduction in the fleet size from 346 to 255 vessels, the growth of alliances has implications for ports. In Europe, Antwerp and Jade Weserport at Wilhelmshafen are big winners while Rotterdam, Hamburg, Bremerhaven, Le Havre and Zeebrugge all lose some services as does Valencia. All three P3 partners have connections with terminal operators: Maersk is connected to APM Terminals through the AP Moller-Maersk Group, MSC to Terminal Investments Ltd (TIL) and CMA CGM To Terminal Link, and each has its own favoured ports.

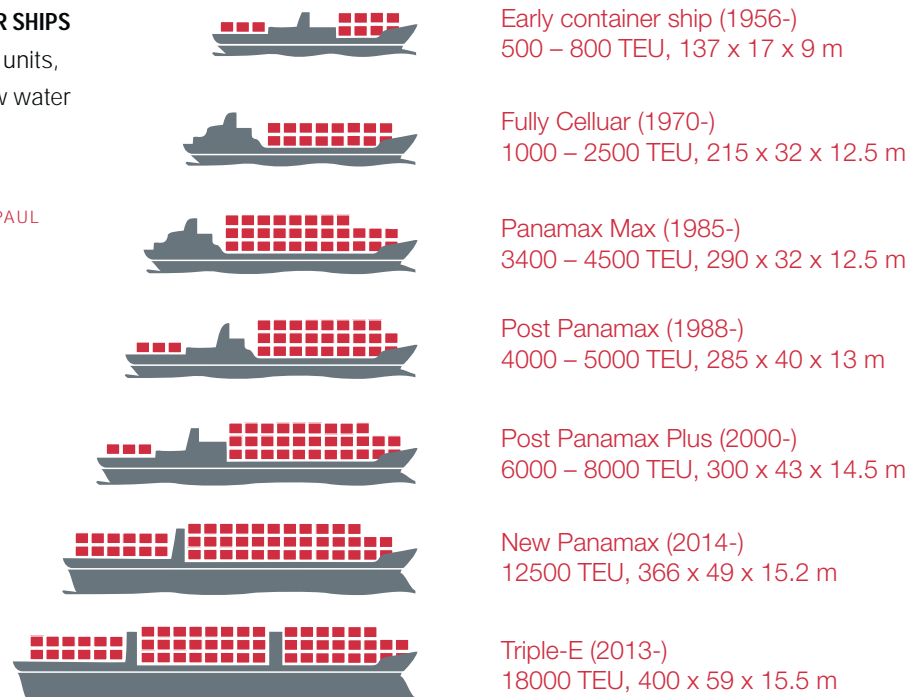
Significant concerns have been raised about the potential of the P3 alliance to eliminate effective competition in the world's main liner trades, ports and terminals, particularly as they represent around half the container carrying capacity on the routes served. The alliance remains subject to regulatory approval and P3's market share between Asia and Europe will exceed the 30% maximum allowed by the EU's competition regulations. While it is not a requirement that the European Commission's competition directorate formally approves the alliance, the very nature of its size – it is estimated that P3 members will control 80% of ships of 14,000 TEU and over – will ensure that the proposal comes under the regulatory microscope.

Consolidation of shipping lines may narrow the number of potential primary services that would call at the port but increase the potential for feeder traffic.

**THE EVOLUTION OF CONTAINER SHIPS**

TEU: twenty-foot equivalent units,  
length x width x depth below water  
in metres

SOURCE: THE GEOGRAPHY OF  
TRANSPORT SYSTEMS, JEAN-PAUL  
RODRIGUE



**FIGURE 3 – THE INCREASING SIZE OF CONTAINER SHIPS**

### 2.1.2 Retailer revolution

The evolution of the retail sector from a bricks-and-mortar-based business to an integrated, seamless, multi-channel offering means that major retailers have to fundamentally redesign their supply chains putting them at the heart of their operations.

For UK retailers there are three strategic issues that will shape their success or failure over the next decade:

- An ongoing migration to online shopping using a wide variety of devices;
- A structural oversupply of conventional retail outlets; and
- The need to strip carbon out of their operations.

The growth in online shopping, which has resulted in a corresponding increase in home deliveries, as well as click and collect services has been a feature of strategic planning amongst retailers for the past five years. Research from consultancy LCP<sup>2</sup> shows that retailers

are planning to spend some 3% of their turnover investing in the intergration of multi-channel shopping. For non-food retailers this would equate to around £5 billion over a five year period.

The recession hit the retail industry badly. As well as forcing many high profile casualties it also exposed a significant oversupply of retail outlets in many retail centres. The strategic response to this has been, typically, to retrench into more profitable stores, closing the weakest while building better online facilities.

Into this mix the need to reduce energy intensive transportation begins to have spatial implications. By destuffing a container at the port of import and storing the contents in a port-located distribution centre, a retailer can reduce the number of links in the supply chain and deliver supplies directly to retail outlets. Research by McKinnon<sup>3</sup> found that this approach could reduce carbon emissions by between 7% and 60% depending on the location of the port and the destination outlets.

<sup>2</sup>The Omni Channel Revolution, LCP, May 2013

<sup>3</sup>Can portcentric logistics cut carbon emissions?, McKinnon, Maine & Ports Review, 2013

<sup>4</sup>Manufacturing the future, the next era of global growth and innovation, McKinsey, 2012



Speed to market remains of the essence. For example wine from the first ship into London Gateway was on the shelf within 12 hours, even though it was sent to Daventry by rail and then distributed by road to store.

In 2007, Asda built a 33,000 square metre import centre at Teesport, which now handles 100% of the company's general merchandise imports into the UK. In Autumn 2009, Tesco completed a 111,000 square metre non-food warehouse nearby. The rationale is primarily to reduce the use of road – Tesco, for example have taken 12,000 HGV trips a year out of their supply chain. Containers are delivered to Teesport, delivered by rail to railheads then trucked to individual stores.

As yet, Teesport is constrained in the size of ships it can handle but has long-term ambitions for a deep water port to handle the largest container ships. Feeder services operate from, for example, Rotterdam, Felixstowe and Hamburg to the port. The availability of adjacent land and rail connected facilities are key drivers in any retailers decision to take this path.

There is a significant opportunity for Liverpool to capture this kind of port-centric demand from retailers, despite the advantages of port land enjoyed by Teesport. National and international retailers are well represented in the City Region. Shop Direct Group, Home Bargains, Matalan, QVC and B&M are all based here, and there are significant operations for Tesco, Co-operative Retail and Sainsbury's amongst others. This offers opportunity through the rise in ecommerce as the City Region accesses the largest population centre outside London enabling retailers to bring in cargo close to the end market.

### 2.1.3 Manufacturing evolution

UK manufacturing is going through a period of profound and irreversible change. The impact of national and global economic, technological and political trends is transforming the way things are made, along with where and how they are built. The next twenty years is likely to bring forward a series of structural changes for UK manufacturing industry:

- The return of local manufacturing;
- Increased customisation;
- The introduction of disruptive technologies; and
- Sustainability as the normal state

In common with other major economies, UK manufacturing has undergone a long period of decline, yet continues to make a significant contribution to GDP. Despite this long-term decline, the UK is a major competitor in the £6.5 trillion global manufacturing economy. High value manufacturing (HVM) – the application of technical knowledge and expertise to the creation of products, processes and associated services – has the potential to bring significant, sustainable economic benefits to the UK. Research by McKinsey<sup>4</sup> shows that manufacturing generates up to 70% of exports in major economies and accounts for up to 90% of business R&D spending.

The City Region is home to a thriving automotive cluster. Currently Jaguar Land Rover, Getrag Ford and the Ford Motor Company are the main companies in the automotive sector with sites in the Liverpool City Region. Recently Briggs Automotive announced that they are relocating production of the BAC Mono to South Liverpool, which will strengthen the automotive cluster there.

There are also important automotive manufacturing sites in areas adjoining the Liverpool City Region; Vauxhall Motors in Ellesmere Port, Bentley Motors in Crewe, Leyland Trucks in Lancashire and Toyota's engine plant in Deeside. Also there is Deeside Industrial Park with major companies such as Airbus.

This offers opportunity for the City Region through trends in smart specialisation and late configuration which will make port locations most attractive for manufacturers to enable alignment of international supply chains.

#### 2.1.3.1 Local manufacturing

The widespread globalisation seen over the past fifty years is being gradually replaced with targeted international production and distribution. Companies are moving closer to their customers and establishing a presence in regions with high growth potential or influence.

Research by CoreNet Global<sup>5</sup> shows that over the past five years, 25% of companies surveyed had repatriated some of their manufacturing capacity. In some cases, these moves are driven by consolidation and rebalancing of production, rather than by deliberate repatriation policy, but proximity to customers is of growing importance to manufacturers who wish to respond to changes in local demand.

This seems counter-intuitive in an environment in which emerging economies remain the focus for manufacturing expansion. The same research shows Eastern Europe, Russia and Turkey leading corporate preferences, followed by China and India but it is clear that the idea of responding quickly to customer demands is gaining traction.

#### 2.1.3.2 Increased customisation

Customer demands are changing all the time. Consumer choice and production volume dictate manufacturing methods, which seek a balance between customisation and standardisation. Mass personalisation – the ability to produce near unique products to precise personal criteria in mass – is beginning to characterise what Marsh<sup>6</sup> calls the new industrial revolution.

The old Henry Ford maxim that customers “could have any colour they wanted provided it was black” has been replaced by personalised design and configuration. Buying a Dell computer, for example, is a process of configuring the machine from a list of options. Once

purchased the customised machine is assembled and delivered, cutting out the need for a stock of ready-built computers almost entirely but increasing the stock of sub-assemblies and the time imperative of the delivery of parts.

#### 2.1.3.3 Disruptive technologies

New technology has always been part of the narrative of manufacturing with regular phases of disruption as the new replaces the old. The pace of change in technology is very fast and getting quicker – the average product lifecycle of some computer printers, for example, is just 90 days. This underlines the absolute imperative of speed to market for manufactured goods and the importance of the supply chain in that process. The latest disruption will likely stem from 3D or additive manufacturing.

Additive manufacturing techniques are now present in the whole product life cycle from design through to production and maintenance. The development of technologies, materials and manufacturing capacities has also expanded the field of application. In the past, it was used mostly to make models for visualization and prototypes. The fastest growing segment of the industry is now making parts that go into final products.

A major benefit of additive manufacturing is the ability to produce highly complex shapes and geometric features. Almost without exception, if a part can be modeled on a computer in 3D, it can be sliced and printed, layer by layer, using additive manufacturing.

These systems can produce very strong parts with minimal material. The aircraft industry is particularly interested in using this build technique to produce lightweight aircraft parts. Already, unmanned drones have been produced in this way and flown successfully. Not only does it result in lighter aircraft and less fuel, the build times are faster because much less material is processed. Car manufacturers are beginning to follow suit.

<sup>5</sup>Relocation Strategies: The Repatriation of Manufacturing in Europe, CoreNet Global Amsterdam, 2013

<sup>6</sup>The new industrial revolution, Marsh, 2012



#### 2.1.3.4 Sustainable norm

Energy costs are continuing to rise and there are increasing pressures to reduce environmental impact and waste. Over the course of the next twenty years firms will be turning to newer, cleaner technologies to power their operations. In common with every other industry, the corporate social responsibility agenda of manufacturers is delivering significant change in materials, processes and distribution. Increasing focus is being given to the sourcing and transportation of raw materials with a reduction in the quantities used and waste produced through the use of advanced manufacturing techniques. The sourcing of green energy is also high up the agenda alongside a reduction in the amount of energy consumed both in the production and distribution processes.

All this paints a picture of an environment that is changing fast and which presents a significant opportunity for Liverpool to capture the demand that will be created by change.

## 2.2. CONTEXT

This part of the report looks at factors influencing demand over a twenty year forecast horizon with snapshots of activity at 5, 10, 15 and 20 years. This time period is way beyond the capability of conventional forecasting models and figures rely, therefore, upon a high degree of judgement as to how the complex interaction of factors may affect the demand for land.

Away from the immediacy of the local environment there are a number of external factors that will affect the context to **SUPERPORT**.

As mentioned in the introduction, since the 1980s there had been a trend to off-shore some services (eg: call centres moving to India) and manufacturing (eg: to South East Asia & China). Since 2008 there has been a change; the emerging markets have slowed down their economic growth and there has been an emphasis on developing their consumer markets rather than relying on exports to drive GDP.

In parallel there is a trend in the Developed Countries to on-shore – bringing back, especially high end services and manufacturing to Europe and North America. For the first time in 25 years new computer manufacturing facilities are being built in the USA and Jaguar Land Rover (owned by TATA of India) are exporting from the UK to India and South East Asia.

The pattern of global trade is changing. Later in the report we talk more about this subject.

### 2.2.1 Shipper strategies

The strategies adopted by shippers affect the potential flow of containers into and out of Liverpool for existing lines and the potential to make use of Liverpool in the future.

In 2013, shippers are under pressure on a number of fronts. Since the start of the global recession the ocean freight market has become increasingly volatile. Slowing demand from shippers and increasing supply of space due to new vessels coming into the market have led to very low shipping rates. Concurrently increasing fuel costs and an increasingly vocal environmental lobby have challenged the business model operated by the shipping lines. Counteractive measures by carriers have



included consolidation, reducing space as well as pushing for increases in shipping rates to limit their losses.

This commercial pressure has forced innovation up the shippers agenda and a number of mitigating strategies are being adopted across the industry:

#### 2.2.1.1 Slow steaming

Time and cost are always of the essence in any supply chain. The total duration for a shipment of goods from a manufacturer in China to the shelves of Europe has been found to be in the region of 35 days. The sea leg of that journey from, for example, Hong Kong to Rotterdam at maximum speed used to be scheduled at 21 days. By sailing at 12 knots instead of 24 but redesigning their entire feeder network, Maersk demonstrated that an increase in transit time to 23 days delivered not only fuel savings of 22% but increased reliability for customers. The strategy is now being rolled out across the entire industry.

From the **SUPERPORT** standpoint, slower ships mean that more buffer stock is held within the supply chain increasing demand for warehousing space over the entire forecast horizon. Increasing the port handling efficiency is becoming more important.

#### 2.2.1.2 Bigger containers

The proportion of 40ft high-cube (9ft 6in high) containers in the global maritime container fleet is predicted<sup>7</sup> to exceed 50% by the end of 2013. This is almost entirely at the expense of normal 40ft 8ft 6in high boxes. The proportion of 20ft containers remained constant at around 33%.

High-cube containers are around 13% larger than ordinary 40ft boxes allowing shippers to load that amount of extra cargo at little to no extra freight cost. Moreover, inland transport is usually charged on a per container basis, so there are no extra haulage costs either.

The bad news comes in the fact that cellular container ships are designed to handle 8'6" containers. Deploying 9'6" containers means wasted capacity on board and this trend will lead to ships themselves being redesigned to cater better for high-cube.

Implications for **SUPERPORT**, are for landside connectivity, particularly by rail. High-cube containers on standard rail wagons need W10 gauge clearance as a minimum over the entire forecast horizon. The Port of Liverpool is already served by a W10 gauge line.

<sup>7</sup>Container Census, Drewry, 2013



Panama canal

## 2.2.2 Changes in infrastructure

### 2.2.2.1 New Panamax

The Panama Canal is doubling its capacity by installing new, bigger locks. After this expansion, the Panama Canal will be able to handle vessels of up to 13,000 TEU. Currently, it can only handle vessels up to about 5,000 TEU. The New Panamax standard will be able to accommodate ships up to 120,000 DWT. However, even after opening the new, much larger locks, there will be ships that will not be able to pass through the Panama Canal. These include Maersk E-class and future Maersk Triple E class container ships all of which are too wide for the new locks. Furthermore, while the world's largest cruise ships will fit within the new locks, they will not be able to pass under the Bridge of the Americas, even at low tide.

The main impact of the bigger canal will be felt at ports on the east coast of north America. Already a large proportion of the goods passing through the canal are from Asia, destined for the eastern seaboard of the USA and several ports have already increased their depth to at least 15 metres in anticipation of bigger vessels. The new, enlarged canal will allow much larger ships to serve the east coast directly.

The implications for **SUPERPORT** are difficult to judge. The main trade route for Liverpool currently is to and from the east coast of North America with 45% US/ Canada-UK containers going through Liverpool.

Indirectly, an increase in the health of the ports served is a positive. It is unlikely that many services direct from Asia would use the widened canal over the Suez route because of the increased time taken to reach Europe unless it is considered a lower risk option. The widened canal will give focus to increased trade with Latin America with potential for increased trade from fast growing economies such as Brazil. It is estimated that the impact will be more positive towards the end of the forecast horizon.

The political stability of Panama and its growth as a global logistics hub is very much in Liverpool's favour.

### 2.2.2.2 Suez canal and Egyptian unrest

The Suez route is the main commercial artery between Asia and Europe. It is a sea-level canal with no locks and

few draught restrictions allowing the largest container ships to use it. Over the past few years political upheaval has placed Suez at the heart of the long term dispute between the military Government of Egypt and its people. Over the past months, militants have attacked shipping and the military presence along the canal.

Given that the canal is vital to the Egyptian economy it is unlikely that any attacks will succeed in stopping shipping passing through, but it remains an obvious pinchpoint and any blockage here could severely affect trade routes to Europe as a whole including those servicing Liverpool. After the 6 Days War in 1967 the canal was shut for some years, but that was before the vast expansion of trade with South East Asia from the 1980s onwards.

### 2.2.2.3 HS2

Phase 2 of the proposed high speed rail link between London and the north extends the line as far as Manchester. Currently the timetable puts this at 2033 – the very end of the forecast horizon. It is estimated that HS2 phase 1 alone, currently planned to open in 2026, could generate £5bn worth of economic benefits for the North West. The full HS2 network connecting the North West with London, Birmingham and the Continent is estimated to be worth almost £1bn per year to the region's economy. Estimates of job creation put the figure as high as 30,000 jobs in the region<sup>8</sup>.

Liverpool will see a doubling of peak time capacity from the city reaching London in under 1 hour 50 minutes and services will be improved to Wigan, Runcorn, Warrington, Stockport and Wilmslow.

From the perspective of **SUPERPORT**, the impact of HS2 will be seen in the freeing up of capacity for additional rail freight movements on the existing network in the second half of the forecast horizon.

### 2.2.2.4 Increasing competition

Liverpool is not the only port developing deep water facilities and competing for direct trade. In addition to London Gateway, which opened in November 2013, following on from improvements made in Southampton in recent years, the Port of Bristol has permission to develop its own deep water berths at Avonmouth. This

<sup>8</sup>Greengauge21.net

is currently on hold but is expected to start construction next year with a delivery date of 2018. Felixstowe is extending a berth so that two 18,500 TEU vessels can be handled concurrently and Bathside Bay, opposite Felixstowe, has permission and must be built by 2023. Teesport also has plans for deep water facilities. These will all be able to handle ultra large container ships. None, however, have Liverpool's significant population catchments.

### 2.2.3 Changes in mode

#### 2.2.3.1 Eurasian landbridge

Stretching over 11,870 kilometers, the new Eurasian land bridge extends from Lianyungang in China to Rotterdam creating a rail link that passes through Kazakhstan, Russia and Belarus to enter the EU at the Polish border. Shipment from a factory in a city in central or Western China to distribution centres in Europe takes about 21 days; less than the 35 days taken by sea but currently 25% more expensive. By comparison, air freight, including processing, takes about 7 days, but costs 7 times as much.

Physically there are track gauge problems moving from China to Kazakhstan and back to Poland that are unlikely to be solved without adding additional lifts at each point, but investment in faster track will drive the journey time down still further. The former USSR countries use a wide-gauge rail network, Poland and China use the European Standard Gauge, which is used in the UK.

Kazakhstan forecasts that rail freight will grow to 16.5 million TEU by 2020, from just 5,500 transported from western China to Europe in 2012 and is investing

accordingly. Russia has also announced an huge infrastructure plan focused heavily on improving rail links to China.

This has important implications for all European ports. Already big manufacturers like Hewlett Packard are using the rail system to transport computers from Chongqing to its European hub in the Netherlands. If the volumes reach anything like the Kazakh forecasts it will have a serious impact. DB Schenker runs freight trains through the Channel Tunnel giving it access to the UK strategic rail network. This holds out the prospect for containers entering the EU at Liverpool and going by rail into mainland Europe.

#### 2.2.3.2 Air freight

Since 2001, world air cargo traffic has grown 3.7% per year<sup>9</sup> down on its long-term average of 5.4% per annum. The global economic downturn, rising fuel prices, and improving transport modes such as high speed rail have dampened air cargo growth. On the other hand, long-term projected economic and international trade growth, the continuing globalization of industry, increasing adoption of inventory-reduction strategies, and ongoing renewal of the world freighter fleet with more efficient capacity should help world air cargo traffic growth return to a rate closer to historic norms.

Air cargo traffic, as measured in revenue tonne-kilometres, is projected to average 5% growth per annum over the next 20 years, as global GDP and world trade return toward historic growth rates. This should give comfort to Liverpool John Lennon airport although the vast majority of air freight (over 60%) will continue to be carried on scheduled inter-continental passenger aircraft.

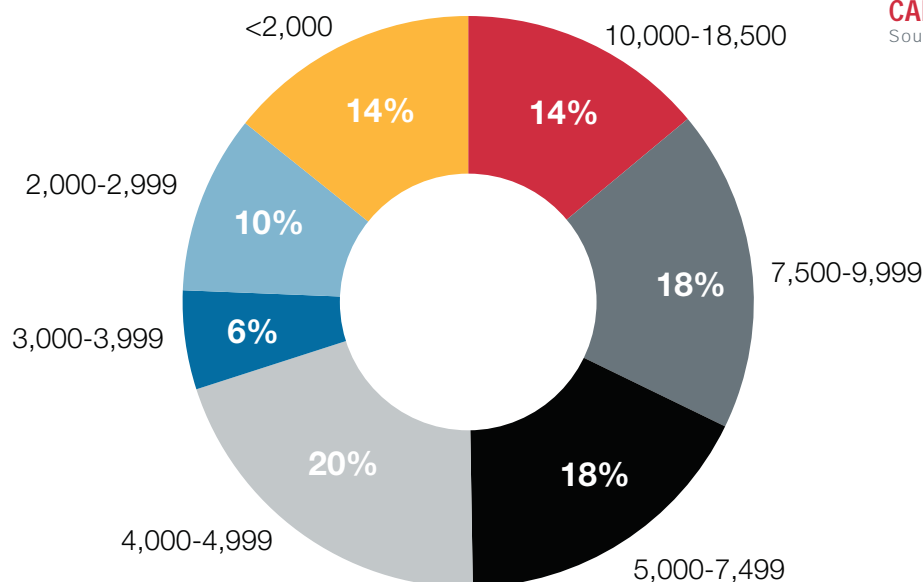


<sup>9</sup>World Air Cargo Forecast 2012/2013, Boeing



**FIGURE 4 – THE CELLULAR  
CONTAINER FLEET IN 2012:  
% NUMBER OF SHIPS BY TEU  
CAPACITY**

Source: World Shipping Council



Air freight accounts for around 25% of world trade volumes by value. There are critical logistics and supply chain benchmarks to attract and facilitate international investment and trade which airports must achieve in order to position themselves as optimal city and country gateways, air cargo hubs, and business zones. Optimising airports for competitive advantage needs to incorporate logistics, maintenance, air cargo hubs, storage and multi-modal sea - land - air linkages. This is the Liverpool **SUPERPORT** model.

#### 2.2.3.3 Changes in size

According to Alphaliner, the global cellular container fleet had a total capacity of almost 17 million TEU in July 2013.

Container ships have been growing larger over time. Post-Panamax vessels –anything over 5,000 TEU capacity – have long been the norm. The latest incarnation is the Maersk Triple E class with a theoretical capacity of just over 18,000 TEU.

<sup>10</sup>Drewry container insight, 2013



Two of these behemoths have been delivered in 2013, a further eighteen are on order or under construction. 399 metres long, they draw 14.5 metres and have a beam of 59 metres making most ports unaccessible. CSC have five ships on order of similar size as do UASC. This is unlikely to be the end of the trend. Plans are being laid for ships with capacity exceeding 24,000 TEU - likely with a beam of 64 metres and a length of 479 metres. Analysts hold it likely that 22,000 TEU ships will be in operation as early as 2018.

This trend will have implications for all ports, which are already seeing the effects of vessel cascading – the process of moving larger vessels from main trades onto smaller trades as they are displaced from the main trades by the entrance of even larger ships.

The average size of ships in the Asia-North Europe trade is expected to reach 11,300 TEU by the end of 2013, according to Drewry<sup>10</sup>, and the advent ultra-large container ships means that 40 ships in the 8,000 TEU category will have to be cascaded from Asia-North Europe onto other routes.

Liverpool's ability to handle 13,500 TEU vessels puts it ahead of its smaller rivals but this advantage is unlikely to last over the whole forecast horizon as even larger vessels are deployed. Liverpool2 has the potential to handle these larger vessels subject to demand and with further investment.

## 2.2.4 Summary

External factors over the next twenty years may be divided into threats and opportunities for **SUPERPORT**. Opportunities identified are the ability to handle High cube containers efficiently into and out of Liverpool2 and thereby increasing volume by 10%; slow steaming's tendency to increase buffer stocks locally; and the potential for HS2 to free up rail capacity on the west coast main line.

The key threat to **SUPERPORT** is the arrival in service of ultra large container vessels that may materially affect Liverpool's ability to attract deep sea direct services to and from Asia without even more investment. It is noteworthy that, because of the cascade effect, 13,000 TEU vessels are expected to be deployed routinely on the Asia-North Europe route as the ultras come on line. This is good news for **SUPERPORT**, however it is expected that they will, in turn, be replaced by even larger vessels and further investment will become necessary to service these.

All Liverpool's main competitors can, or will be able to, handle the ultra large vessels fortunately Liverpool2 has the potential to accommodate these larger vessels.

A very successful Eurasian land bridge would threaten all ports in Europe by reducing sea trade volumes. However, the timetables here appear to be optimistic given the level of investment and political commitment required to deliver a volume service. Liverpool could though be positioned as the entry point to Europe.

Similarly unrest in Egypt would affect all European ports if it affected transit through the Suez canal. Although the Egyptian problem appears to be set for the long haul, control over this key asset is likely to be maintained with the threat diminishing over time.

The perception of risk of transit through Suez may have a positive impact on the new Panama Canal as an option which is likely to be of benefit to Liverpool.

<sup>11</sup>Dept of Communities and Local Government, 2012

<sup>12</sup>Roger Tym & Partners et al, 2004

<sup>13</sup>King Sturge, Property supply and demand audit for Liverpool SuperPort, 2010

<sup>14</sup>Retri Group, 2011

2.3 DEMAND FOR LAND

Figure 5 shows a classification of the range of logistic activities that use land. Collectively, they account for a significant proportion of the land zoned for commercial and industrial use. Exactly how much land these uses occupy is difficult to quantify as official figures only exist for warehousing.

In 2008, there were approximately 159 million square metres of warehouse floorspace in England and Wales<sup>11</sup> 29 million of which was in the North West. Assuming an

average plot ratio of 45%<sup>12</sup>, the amount of land used would have totalled over 35,000 hectares just in warehousing.

In addition to warehousing there is also extensive use of land for outdoor storage of primary products and waste material. Freight terminals also occupy significant expanses of land, some of which is shared with the movement of people.

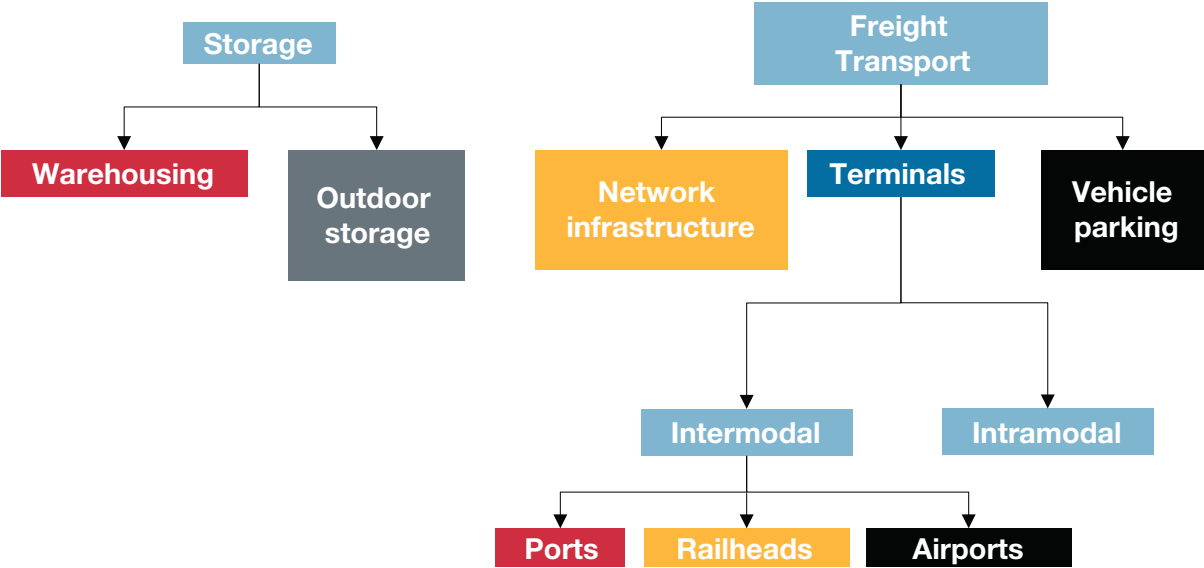


FIGURE 5 – TAXONOMY OF LOGISTICS USES (AFTER MCKINNON (2009))

In 2010, King Sturge<sup>13</sup> forecasted that, in the decade to 2020, the stock of warehousing in the Liverpool City Region would rise by either 645,000 square metres using a GVA-based model or 298,000 square metres using an employment based model – a variance of over 100%. Annualised forecasts bracket the long term average take up of distribution facilities of over 10,000 square metres – estimated at 40,000 square metres per annum.

The implications of the King Sturge forecasts are that warehousing alone will require between 66 hectares and 143 hectares of land by 2020. There are reasons for

thinking that this is a conservative estimate since there is evidence<sup>14</sup> that large logistics facilities, particularly for food retailers, see densities as low as 30%. At a 30% density King Sturge would imply a land take of between 100 and 215 hectares for warehousing.

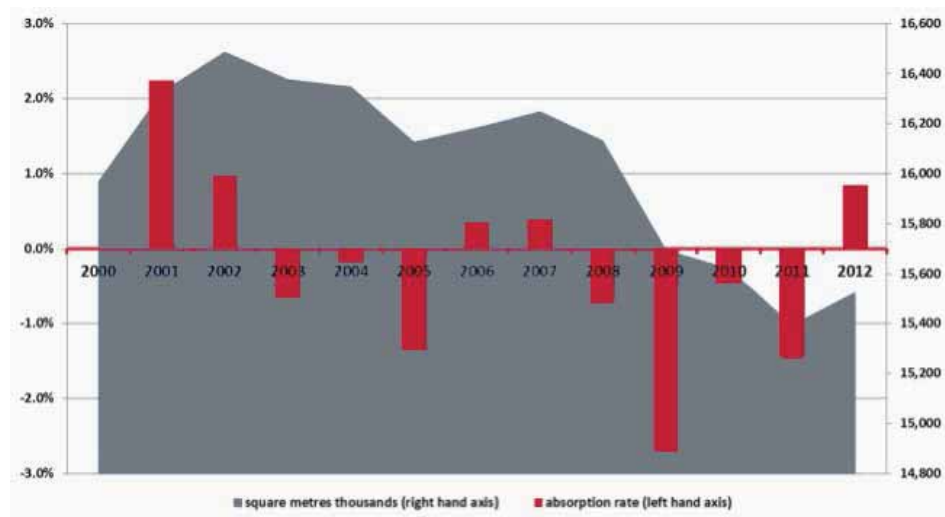
In the North West Industrial market 392,038 square metres of industrial/warehouse accommodation was transacted in the first half of 2013 in units above 4,645 square metres. 139,350 square metres of take-up was accounted for through pre-let and design and build deals.

### 2.3.1 Current demand

Official Valuation Office Agency data shows that demand for industrial floorspace varies significantly throughout the economic cycle. Figure 6 shows the stock of industrial space rising and falling over the past twelve years as demand fluctuated. It should be noted, however, that this represents the net position for each year i.e. take up set against company closure.

**FIGURE 6 –  
INDUSTRIAL  
FLOORSPACE STOCK  
IN THE STUDY AREA**

Source: VOA



Currently, the market is on an upward swing. A sample of the deals which have been concluded in the **SUPERPORT** study area include:-

OCCUPIER	ADDRESS	SIZE M2
Brake Bros	Omega North, Warrington	18,395
Hermes	Omega North, Warrington	14,260
Travis Perkins	Omega North, Warrington	65,030
Asda	Omega South, Warrington	55,740
The Hut Group	Link 6/56, Stretton, Warrington	13,482
B & M Bargains	Liverpool Int'l Bus Park, Speke	46,450
Johnson Controls	Liverpool Int'l Bus Park, Speke	13,935
TTAS (Toyota Subsidiary)	Jupiter, Knowsley Ind Park	13,285
Marks & Spencer	Knowsley Ind Park	27,870
Rehau	Manor Point, Runcorn	12,541

**TABLE 1 - CURRENT MARKET**

In addition to these deals which have been concluded, T J Morris have secured planning consent for expansion of their existing distribution centre at G-Park, Liverpool by a further 25,083 square metres. The Amazon requirement for 111,480 square metres remains active and we understand that two sites in Merseyside have now been shortlisted, with a decision expected shortly.

<sup>14</sup>Mersey Ports Master Plan (Executive summary), 2010



Almost without exception these firms are distributing both to the local market and beyond, demonstrating the accessibility of the Liverpool hinterland for retailers and manufacturers alike. Its central position, with excellent connection to the national motorway and rail network, enables logistics operators to service both Scotland and the South with same day delivery. This position also allows ready access to large centres of population – with 35 million people living within 150 miles.

## 2.3.2 Demand drivers

### 2.3.2.1 Economy

Clearly, the state of the UK economy is a primary driver of demand. The biggest part of the UK economy is domestic consumption, the largest part of which is consumption of goods by households. Consumption drives imports and therefore throughput at container ports. Manufacturing output drives exports and therefore throughput at container ports.

The recession and very slow recovery has been manifested in a modest fall in container volumes through Liverpool for example, just as the recovery will see increased throughput.

### 2.3.2.2 International trade

As is shown in Table 2, growth in unitised cargos (Containers, RORO and Cars) is expected to be significant over the twenty year period forecast. More modest increases are estimated in Biomass, dry bulk, steel, forest products and other bulk liquids.

	2008	2020	2030
Containers (TEU)	672,000	2,000,000	3,000,000
RORO (Units)	513,000	757,000	1,047,700
Cars (Units)	36,000	200,000	200,000
Other cargos (tonnes)	27.9	30.7	32.8

**TABLE 2 - PROJECTED THROUGHPUT BASED UPON THE MERSEY PORTS MASTER PLAN**

The data date for these forecasts is 2008. In 2012, as a result of the downturn in the UK economy and consequent falls in demand, the port handled 644,000 TEU – 4.1% down on the 2008 figure of 672,000 TEU. This pattern is repeated with car exports - in 2012 Liverpool shipped 33,500 units, down on the 2008 figure of 36,000.

As far as RORO is concerned, the port is ahead of its forecast. Underlining this, Stena Line has quoted improving freight traffic levels as the reason for the increase in its scheduled Irish Sea crossings after adding an additional RORO ferry sailing on the Belfast-Liverpool (Birkenhead) service. The extra ship means eight more crossings per week.



### 2.3.2.3 Connectivity

#### 2.3.2.3.1 Sea side

Figure 7 shows the main global container trade routes, dominated by the trade between Asia and North America. Currently Liverpool's main market is the trade from Northern Europe to North America in which it has a healthy share. However, growth at the port relies upon gaining traction in other routes, particularly Northern Europe to South America and Asia.

Currently, traffic at the port is split roughly into thirds between deep sea traffic, short sea and feeder services. Growth at the port is predicated upon increasing the throughput in each of these categories but especially increasing the share of deep sea traffic.

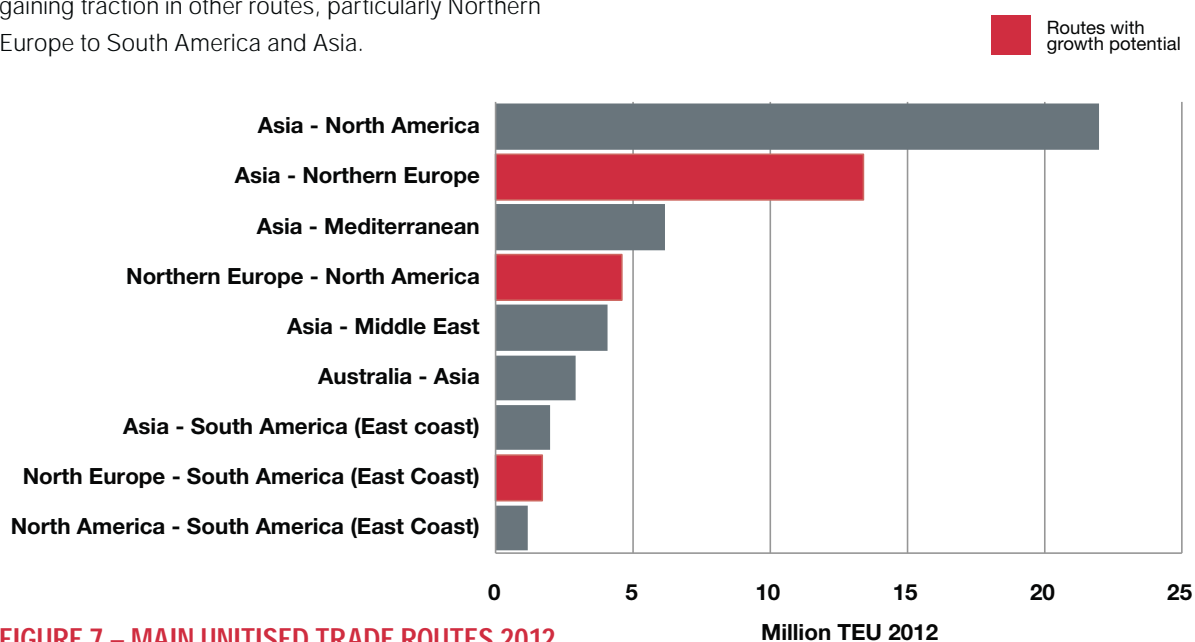


FIGURE 7 – MAIN UNITISED TRADE ROUTES 2012

In its Transport White Paper of September 2001, the European Commission proposed the development of “Motorways of the Sea” as a real competitive alternative to land transport. Four corridors have been designated for the setting up of projects of European interest:

- **Motorway of the Baltic Sea** (linking the Baltic Sea Member States with Member States in Central and Western Europe, including the route through the North Sea/Baltic Sea canal) ;
- **Motorway of the Sea of Western Europe** (leading from Portugal and Spain via the Atlantic Arc to the North Sea and the Irish Sea) ;
- **Motorway of the Sea of South-East Europe** (connecting the Adriatic Sea to the Ionian Sea and the Eastern Mediterranean, including Cyprus); and
- **Motorway of the Sea of South-West Europe** (western Mediterranean, connecting Spain, France, Italy and including Malta and linking with the Motorway of the Sea of south-east Europe and including links to the Black Sea).

Liverpool has been active in the second of these routes ie the Atlantic Arc.

#### 2.3.2.3.2 Land side

##### 2.3.2.3.2.1 Road

Currently 90% of deep sea cargo enters the UK via the South yet over 50% of the UK container market is based from Birmingham northwards.

Figure 8 shows how the Port of Liverpool has a road catchment area effectively defined by the rules governing HGV driver hours. These are complex, but a driver can drive for a maximum of 4.5 hours without taking a break<sup>16</sup> – thus defining the maximum day trip achievable. This (shown in red) runs from the central belt of Scotland almost to Southampton taking in the northern South East and much of the East of England. This gives the Port of Liverpool access to some 16.8 million households within a 4.5 hour isochrone.

In 2011 the results of a destination roadside survey were published<sup>16</sup> that showed 70% of container traffic through Liverpool Docks being distributed to Northern England and Scotland combined, 23% to Wales, the Midlands and the East of England combined and only 6% to Southern England.

In the case of RORO truck and trailer traffic, about 28% of Liverpool's accompanied RORO traffic was being distributed to and from Southern England and 43% to and from Wales, the Midlands and East of England.

Although Liverpool Docks serves as a national port of entry for North American container traffic, the North West is by far the most significant inland origin and

destination region for container traffic as a whole, and reflects the importance of Liverpool Docks as a feeder port for the region linking to the major European ports in the northern range and thence to Asia.

In terms of overall goods traffic to and from the port, the surveys found that 22% of HGV trips leaving the port were destined for locations within Merseyside, and a further 35% elsewhere in the North West. This research demonstrates the impact of competition for container business from Southampton and Felixstowe particularly, competition that has become fiercer with the arrival of London Gateway. Liverpool2 will serve to roll back the regional penetration of these ports.

**FIGURE 8 – 4.5 HOUR HGV ISOCHRONE FROM LIVERPOOL2**



<sup>16</sup>Staying legal – HGV Drivers, Department for Transport, 2011

<sup>17</sup>It should be noted that these data are modelled and so should be regarded as "best case". No account is made of potential congestion. However, all the drive times in the document use the same assumptions and are therefore consistent with each other.

<sup>18</sup>Access to the Port of Liverpool – Stage 1 study

While the 4.5 hour isochrones is important for the distribution of imports, as far as exports are concerned there is a natural break point between each of these competitors and Liverpool where it becomes more time efficient to go to one or the other. Currently, depending on the port, this sits around Rugby / South Birmingham. Overlaid on Figure 9 is this “natural” catchment area (shown in orange) within which importers and exporters should favour Liverpool as the port of entry/ departure – ie within 4.5 hours but taking into account the main competition.

**FIGURE 9 – NATURAL CATCHMENT ARE IN ORANGE OVERLAID ON 4.5 HOUR ISOCHRONE**



#### 2.3.2.3.2.2 Rail

The Port of Liverpool is rail connected to the West Coast Main Line with W10 loading gauge clearance. Within the port complex there are a number of rail connected terminals including:

- Royal Seaforth where there is an unused rail freight terminal. There is scope here to extend the rail facility to Liverpool2 and demand from this source is likely to grow significantly.
- Coal trains operate regularly from Gladstone Dock. Demand from this source is likely diminish over time as coal fired power stations are decommissioned.
- Demand is likely to increase from imported biomass. The MPMP identifies biomass as a significant growth area.
- Scrap metal trains run to and from Alexandra Dock and steel trains operate regularly to Gladstone Dock to transport finished products for export to North America. Steel trains are likely to provide a modest increase in demand over the forecast horizon.
- There are three other significant rail terminals within the study area:
  - Potter Logistics at Knowsley Industrial Park. This site will have W9 clearance from 2014;
  - 3MG at Ditton;
  - Freightliner at Garston; and
  - Jaguar Land Rover

The MPMP identifies a significant increase in demand from the Automotive sector in the first half of the forecast period. This is likely to involve the use of rail to deliver vehicles in bulk to the port.



### 2.3.2.3.2.3 Inland Waterways

The Manchester Ship Canal is capable of accommodating large vessels as far as Manchester. Within the MPMP it is proposed that the Manchester Ship Canal be developed as a way of combating increased road congestion. The scheme involves the construction of a large distribution centre at Port Salford plus an additional six sites along the canal for the loading and unloading of freight, providing a potential of 4.5m sq ft of space.

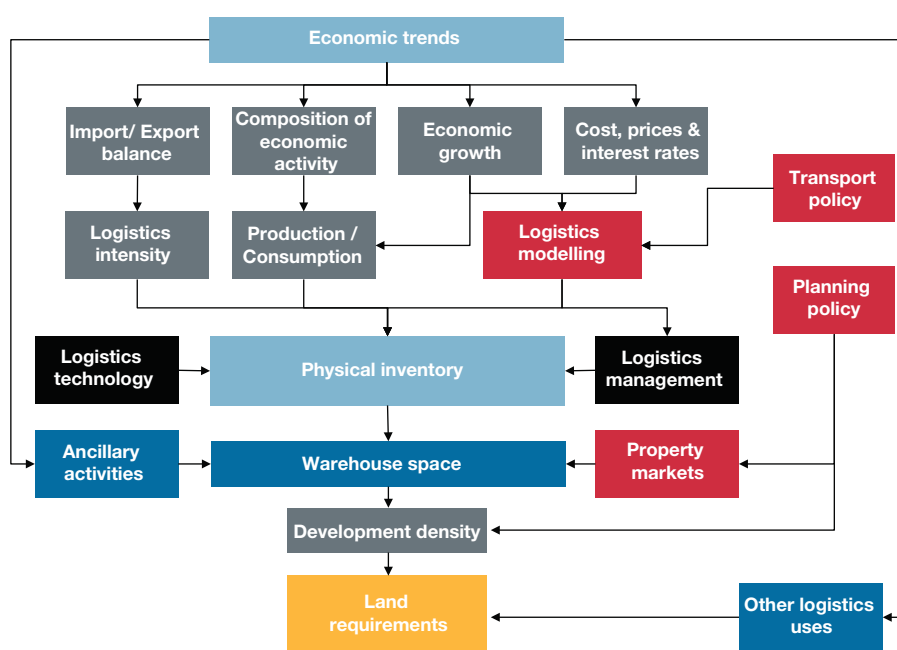
The canal already provides an example of securing shift in volume to water alternatives. In 2008, Tesco became the first major UK retailer to start transporting freight by canal. Tesco's new cargo service will involve three journeys a week, delivering an estimated 600,000 litres of wine on each journey along the 40-mile stretch of the canal. The containers of wine from Australia, California,

Chile and Argentina are then transported to a bottling site half a mile away, where they are packed for Tesco supermarkets across the country. Kelloggs, Typhoo are other users.

## 2.4 IMPACT MODEL

Figure 10 shows a conceptual model of how land requirements for logistics space are derived and the factors apparent in that process. The main building blocks are:

- External economic trends expressed in terms of output or, in this case, port throughput;
- The process of logistics itself and how spatial optimisation affects the location of the space;
- The conversion of physical inventory into warehouse space – ie operational considerations ; and
- The conversion of warehouse space into land – ie development considerations.



**FIGURE 10 – FACTORS AFFECTING LOGISTICS DEMAND FOR LAND**

(adapted from McKinnon (2009))

This model has no inherent timescale. In this report a twenty year forecast horizon adds significant challenges in respect of data – forecasting that far ahead inevitably requires that data reverts to averages rather than specifics. In this case, the throughput of containers at Liverpool has already been projected forward twenty years from a data date of 2008 in the MPMP- thus forming an useful proxy for economic factors going forward.

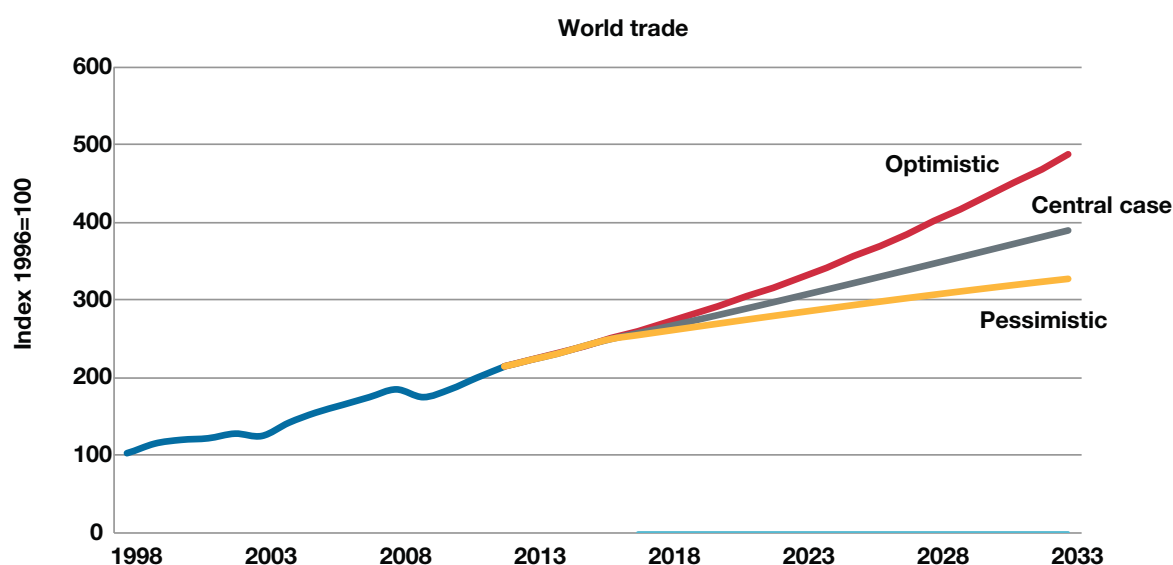
The establishment of a requirement for land from TEU data necessitates the use of industry heuristics to convert tonnage into standard pallets and thence into accessible stacks of pallets as would be found in a warehouse. The data assumptions made for this model are detailed in Appendix A.

## 2.4.1 Economic trends

### 2.4.1.1 World economy

After weathering the first contraction in global GDP since the Great Depression, despite a deep recession in Europe and political stalemates in the U.S. over what to do with the U.S. federal budget, worldwide economic activity is estimated by IHS Global Insight to have expanded by 2.2% in 2012, down from 2.7% in 2011.

The advanced economies (USA, Canada, Western Europe, Australia, New Zealand, and Japan) posted change in output in 2012 ranging from a low of -0.2% to a high of 3.4%. The emerging market economies grew 4.8%, 1.4 points lower than in 2011 with the economy of China up 7.6%, India up 5.1%, Brazil up 1.5% and Russia up 3.6%.



### FIGURE 11 – PROJECTED GROWTH IN WORLD OUTPUT

In 2013, economic growth is projected to be 2.2% as weak household finances, sluggish employment growth, and constrained banking sectors of the advanced economies prevent global aggregate demand from growing fast enough to offset weakness.

More importantly, beyond 2013 world real GDP is projected to increase an average of 3.2% per annum. The Asia/Pacific and Latin America/Caribbean regions will continue to have the world's highest economic growth rates. These regions are expected to see their economic activity grow at annual rates of 4.5% and 3.9% a year, respectively, over the forecast period (2013-2033).

China, with a population of approximately 1.35 billion in mid-2012, is forecast to increase population by only 0.3% a year from 2012-2025 but is the world's second largest economy in 2013. India, with a population of approximately 1.26 billion, is projected to see its GDP more than quadruple in size, growing at an average rate of 6.9% a year during the forecast period. In contrast, Japan grows at just 1.4% a year over the forecast horizon as structural impediments, the effects of the 2011 earthquakes and tsunami, and an aging population continue to limit growth.

World trade in goods is forecast to grow by 8% per annum to 2030, outpacing GDP growth as barriers to trade are dismantled. As investment in manufacturing capacity and infrastructure increases, trade in infrastructure-related goods will increase to 54% of total goods exports in 2030, from 45% in 2013.

### 2.4.1.2 UK Trade

After five years of subdued growth, the UK economy finally appears to be gathering momentum, helped by a brightening external outlook. Over the medium-term, industrial machinery and transport equipment will dominate exports of goods, as growth will increasingly be driven by high-technology manufactured products.

Table 3 shows the top export destinations for UK goods in 2011 and projected to 2030. The good news for Liverpool is that the USA and Ireland remain in the top five countries in the longer term – both key destinations for the port. Germany and France both remain within the range of short sea movements but China, the fastest growing export destination, remains a challenge.

**TABLE 3 – TOP EXPORT DESTINATIONS**

Source: Forecast data modelled by Oxford Economics, based on HSBC Global Research macro data.

TOP FIVE UK EXPORT DESTINATIONS		
RANK	2011	2030
1	Germany	Germany
2	USA	USA
3	France	Ireland
4	Ireland	China
5	China	France

In the near-term, UK trade will remain highly dependent on Western economies, particularly Germany and United States, with France and Ireland also significant markets. The anticipated stabilisation of activity in Europe and the recovery in the USA will therefore be the most important factors supporting a recovery in UK trade. Western Europe and Central/Eastern Europe are seen as the key growth markets in the short term..

Manufactured goods are a key export and import into the UK, with around 75% of firms dealing in the trade of semi-finished/finished goods. Of these, infrastructure goods account for around 35% of total merchandise exports.

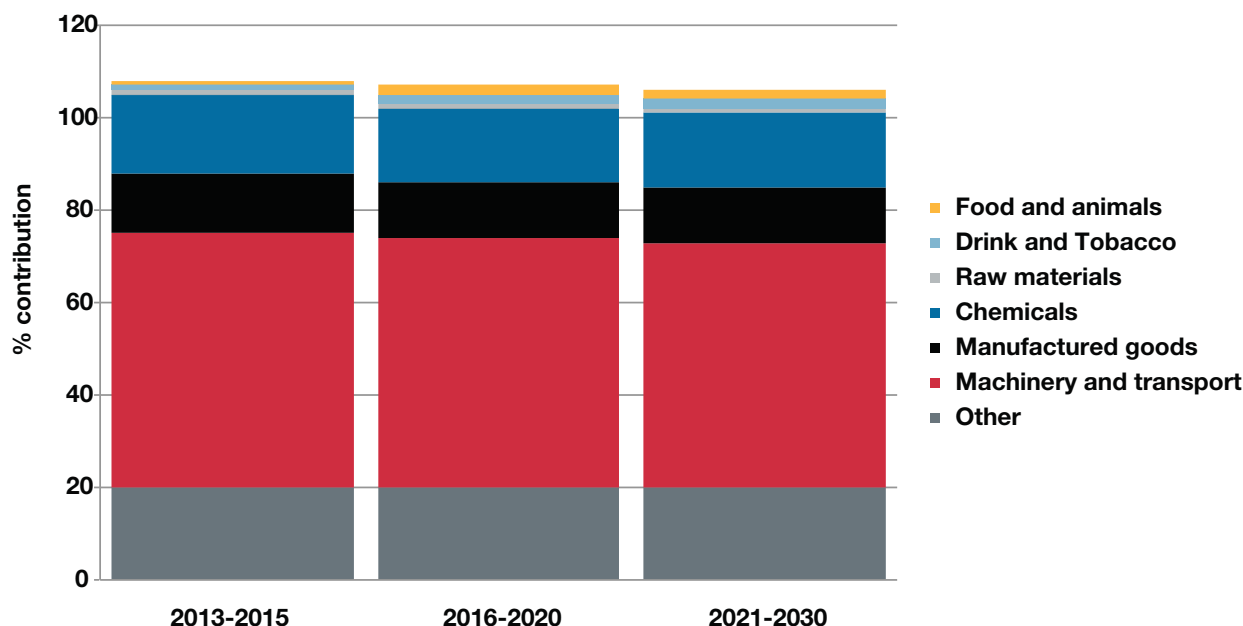
In the longer-term, Germany and the USA are expected to remain the UK's principal destinations for goods exports. But the share of goods exports destined for China will more than double by 2030, reflecting strong growth of more than 10% pa in this trade over the period 2016-2030.

The main sectors driving this expansion will be industrial machinery and transport equipment, which together account for around half of the forecast increase in total

merchandise exports to China. Exports to other dynamic economies, such as Vietnam, India and Malaysia, will also see strong growth over the forecast period, with exports to Asia (excluding Japan) increasing by around 8% per annum over the period 2016-2030.

Industrial machinery will remain the main import sector, but the UK will increase its import share of Clothing and Apparel and ICT equipment from the emerging markets, given their competitive advantage in these labour intensive industries.

Infrastructure goods exports are expected to increase as a share of total goods exports over the forecast period, given the increasing demand of investment equipment from emerging economies. Given this dynamic, investment equipment exports are likely to increase their share of goods exports by more than 5% by 2030. However, there is still scope to take better advantage of these opportunities, as in absolute value terms the UK's increase in investment equipment exports are expected to continue to lag significantly behind that of Germany.



**FIGURE 12 – SECTOR CONTRIBUTION TO UK EXPORTS**

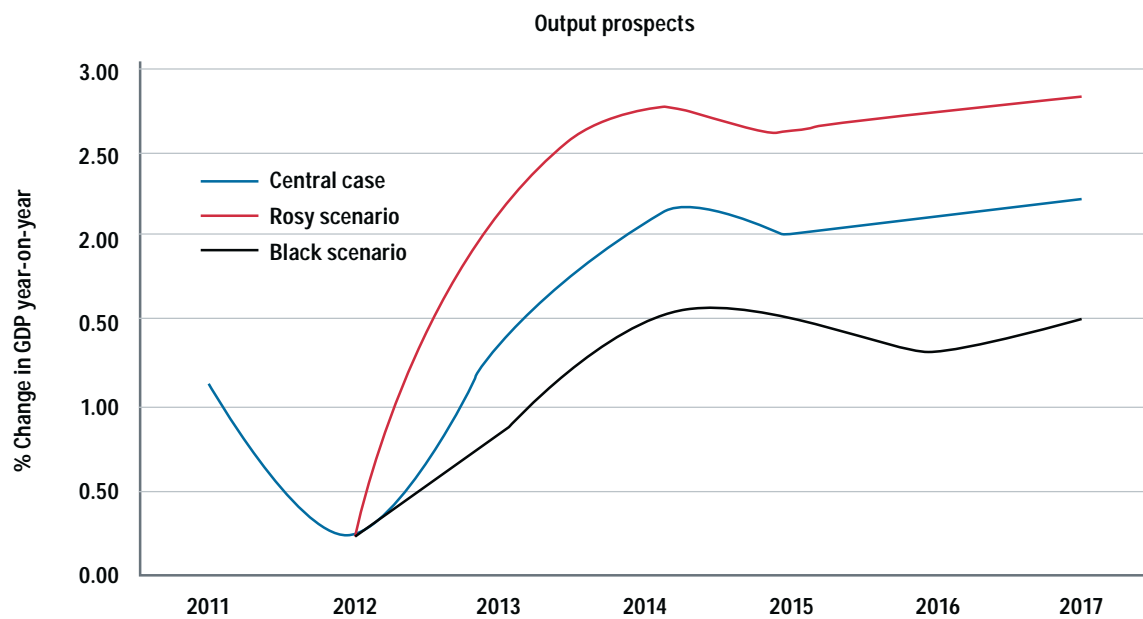
Source: Oxford Economics

Emerging markets, such as the dynamic economies of Asia and Latin America, are expected to provide new opportunities for UK trade. Higher value-added industries will benefit from these opportunities, with industrial machinery and transport equipment exports expected to contribute around half of the total increase in goods exports over the medium-term. Given their intra-regional trade links, South American economies should prove to be fertile ground for Liverpool.

Overall the United Kingdom has imported more than it exported for a long time. The United Kingdom trade deficit averaged around £1.2 billion between 1955 and 2013. Since 1998, the deficit is due mainly to an increase in demand of consumer goods, decline in manufacturing and deterioration in oil and gas production. In recent years, the UK has run the largest trade deficits with Norway, Germany, China, Hong Kong and Netherlands. The biggest trade surpluses were recorded with United States, United Arab Emirates, Australia and Saudi Arabia.







**FIGURE 13 – FORECAST UK GDP**

Source: HM Treasury Consensus forecasts

Figure 13 shows different scenarios drawn from the HM Treasury consensus forecasts for the next five years. Annual forecasts are not available further out than this but the assumption is that in the longer term output will average out at its non-inflationary capacity ie around 2.2% per annum. Clearly there will be ups and downs within this period.

Of course this assumes that any economic shocks do not knock the economy seriously off course during the next twenty years. Continued systemic weakness in the financial sector would be one candidate for this as would the economic fallout from a withdrawal from the European Union.



### 2.4.2 Logistics modelling

The spatial distribution of logistics space is heavily dependent upon the optimisation of individual supply chains taking into account factors such as the weighted distance from ports and customers, the availability of labour, land supply and modal constraints.

Logistics is always under time and cost pressure. Consequently the optimisation process seeks to weed out costly, inefficient changes of transport mode from the supply chain since each time a container, for example, is lifted it costs money and takes time.

#### 2.4.2.1 Road

Road is the dominant transport mode in the UK and across Europe and is likely to remain so over the forecast horizon. The key factor for road is ease of access to motorway infrastructure 24 hours a day and proximity to a motorway junction is heavily weighted in any assessment of site potential.

The constraints on road transport come from safety, weight and the environment:

- Safety restrictions<sup>17</sup> on working time and driver hours place a 4.5 hour maximum on drivers of HGVs before a break becomes mandatory and a 9 hour maximum drive time per day. Optimisation algorithms will actively seek to place warehousing as close as possible to this 4.5 hour isochrone within the context of individual supply chains.
- Different weight limits are in place for different types and sizes of commercial vehicles<sup>18</sup> ranging from 3.5 tonnes for a light van to 44 tonnes for a multi axle HGV with a trailer.
- There is increasing pressure on manufacturers of all road vehicles to reduce their environmental impact.
- One of Liverpool **SUPERPORT**'s strengths is that it is directly served by 10 motorways giving it a competitive advantage.

#### 2.4.2.2 Rail

In more recent years the focus upon financial cost and efficiency has been moderated by the need for logistics companies to meet better environmental standards. This has led to more companies making better use of rail to move unitised loads. In research published in 2012, a survey of 44 senior logistics managers<sup>19</sup> found that the vast majority anticipate that their use of rail will grow in the future because of corporate CSR policies.

The research also found that the use of rail is a strategic, not an operational, question. There is little or no price advantage in using rail, it is slower and significantly less flexible than using road. This means that it is an uncomfortable fit with stringent operational performance criteria. Consequently, any decision to use rail is driven by corporate aspiration rather than any operational imperative;

Generally speaking, the UK infrastructure to enable the use of rail was not felt to be adequate. Around half the respondents had actually trialled the use of rail and found it wanting. Operational scale is also an issue-big supermarkets are able to procure rail services a train at a time. Many of the respondents felt that the scale of their operation was incompatible with a higher use of rail services.

<sup>17</sup> Staying legal – HGV Drivers, Department for Transport, 2011  
<sup>18</sup> A simplified guide to lorry types and weights, Department of Transport

<sup>19</sup> ON TRACK TO A GREENER FUTURE?, Thompson, 2012. ERES Edinburgh

Key factors that would increase the use of rail included:

- The availability of a proper service that delivered loads where they are required, when they are required. Currently rail was simply not on the menu for most moves – even relatively long-distance ones;
- Rail-connected warehouses would be needed if rail is going to be the transport of choice, but that would mean changing the whole logistics model – aggregating loads into full train loads for example;
- A pricing structure that better reflects the inflexible nature of rail as a mode relative to road;
- A better, more efficient system for handling Less than Full Container Loads (LCL). Currently split loads add substantially to the time taken to transport the goods; and
- A network of railheads at strategic locations around the country; There are simply not enough large intermodal terminals in strategic locations – London has one, for example.

There is increasing pressure on ports to increase their use of rail to get goods of all kinds into and out of the port. At Felixstowe 58 daily arrivals or departures see 28% of the Port's UK domestic throughput being handled with growth rates of around 7% per annum. Southampton offers 23 container trains a day with gauge clearance for high cube containers to the Midlands, North West, East Coast, and Scotland. London Gateway has a target of 30% by rail.

#### 2.4.2.3 Air

Air freight accounts for only 5% of cargo volume worldwide but is estimated to account for 25% by value. Unit loads are much smaller and the majority of loads are assembled and broken on site at the airport (unlike shipping containers that tend to be stuffed or broken away from the port). This tends to place demand for sites in close proximity to the airport itself, ideally with landside and airside links.



2.5 FUTURE SCENARIOS

This section of the report looks at the future requirement for land using our best efforts, knowledge and modelling skills based upon what we know of the current situation. As with all forecasts however, the outcomes are uncertain and can easily be blown off course by changes in the assumptions underpinning them.

2.5.1 Containers

Container forecasts in the MPMP are predicated upon changing the behaviour of importers and exporters in the “natural” hinterland of the port of Liverpool. By making the port of Liverpool the most cost effective option customers will tend to switch from using ports in the South.

This report considers a number of scenarios as set out in the sensitivity analysis in Appendix D. It takes the forecast growth in containers from the MPMP and redraws it in the context of 2013. TEU data for 2012 has been used as the baseline and the same rates of growth assumed in the Master Plan have been used to roll the growth in numbers forward. Performance against this forecast will be reviewed periodically and future forecasts adjusted accordingly.

For comparison this scenario shows 1.3 million TEU in 2020 and 2.0 million TEU in 2030 - a combined average annual growth rate of 7.3%. The shortfall between this and the MPMP is entirely due to the intervening recession that has caused the volume of containers going through Royal Seaforth to fall rather than rise as predicted. While it is important to retain the aspiration embodied in the MPMP, this updated forecast is taken as the baseline in the body of this report.

TABLE 4 SHOWS AN AGGREGATION OF DATA TAKEN FROM THE MPMP PUBLISHED IN 2011 AND USING DATA FROM 2008

	2008 TONNES	2020 TONNES	ESTIMATED DEMAND FOR LAND BY 2020 (HA)	2030 TONNES	ESTIMATED DEMAND FOR LAND BY 2030 (HA)
Containers (TEU)	672,000	2,000,000	16	3,000,000	36
Port-centric warehousing			56		56
RORO (Units)	513,000	757,000	16	1,047,700	18
Cars (Units)	36,000	200,000	12	200,000	0
			114		121



The current capacity of Royal Seaforth is some 750,000 TEU, Liverpool2 will double that to 1.5 million TEU per annum with a riverside berth. The MPMP also implies a further redoubling of capacity in 2017/2018 to cope with growth to 3 million TEU by 2030.

In 2012, the port handled 644,000 TEU, a highly creditable performance given the state of the domestic economy but down 4% on the 2008 figure and a third down on the over capacity rates assumed by the forecast.

Although this implies that less land than the 52 hectares predicted for container storage will be required, this has been ring fenced for terminal use and excluded from the calculations.



## 2.5.2 Port-centric warehousing

### 2.5.2.1 Scenario 1 - road

The land take implied by this scenario is broadly consistent with the MPMP in relation to throughput. The master plan foresaw 2 million TEU generating a requirement for 56 hectares of port-centric warehousing by 2020 – this model predicts 54 hectares of land will be needed for the same throughput.

This scenario assumes an inland modal split in line with the MPMP by year 10 of the forecast ie Road 70%, Rail 5% and Barge 10% (The remaining 15% is allocated to short sea)

HA	0-5 YEARS	6-10 YEARS	11-15 YEARS	16-20 YEARS
Additional land needed	13	14	11	16

### 2.5.2.2 Scenario 2 - rail

Scenario 2 - rail makes the same growth assumptions but assumes that the number of containers carried by rail will increase to 20% by 2025. This fits in better with the Corporate Social Responsibility agendas of both shippers and end users but remains a modest proportion by comparison with Liverpool's main competitors.

HA	0-5 YEARS	6-10 YEARS	11-15 YEARS	16-20 YEARS
Additional land needed	11	10	5	13

At 39 hectares this reduces the additional land required significantly as rail freight would remove and deliver containers directly into the container port reducing the need for road based facilities.

2.5.3 RORO

Liverpool is the main port for trade between Great Britain and Ireland and handles more than 30% of all freight on this route. RORO at Liverpool is heavily reliant upon unaccompanied trailers which account for around two-thirds of the trade. Accompanied RORO is very much a ferry service. Containers on trailers load and unload under their own power and go directly to their destination. Unaccompanied trailers however have to be tugged on and off vessels and parked awaiting sailing or collection. The land requirement generated by this traffic is very port centric, being needed in or adjacent to the port itself.

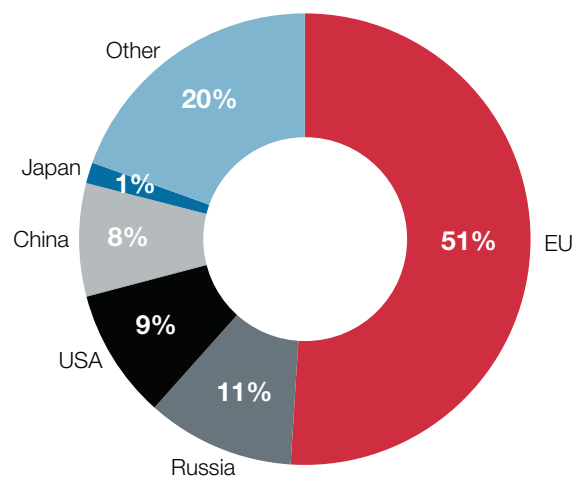
The MPMP shows 513,000 units being handled by the port in 2008 growing to 757,000 in 2020 and to just over 1 million by 2030 generating a demand for an additional 32 hectares.

Comparing these forecasts with 2012 data shows that the port is already ahead of its RORO forecast. Using the 2008 split between accompanied and unaccompanied trailers some 8 hectares a year is needed to park up unaccompanied trailers awaiting collection or sailing.

HA	0-5 YEARS	6-10 YEARS	11-15 YEARS	16-20 YEARS
Additional land needed	8	8	8	8

2.5.4 Trade Cars

The UK Automotive sector exported 1.275 million cars in 2012.



**FIGURE 14 – UK CAR EXPORTS 2012**

Source: SMMT

The largest market for these exports was the EU with over 650,000 units shipped. The USA, Liverpool’s principal automotive market, saw 118,575 units shipped. In 2008 Liverpool shipped 36,000 cars against the total to the USA of nearly 107,000 - an assumed market share of 33%. In 2012 Liverpool shipped 33,500 units against a total of 118,575 (9% of the total UK shipments) – an assumed share of 28%.

In 2020 the MPMP assumes that 200,000 cars will be exported a year, remaining static in 2030. The original growth rate assumed was a little above 15% per annum. The 2012 outturn implies a growth rate of around 73% per annum between now and 2020 and the forecast requirement for an additional 12 hectares over the next 20 years.

HA	0-5 YEARS	6-10 YEARS	11-15 YEARS	16-20 YEARS
Additional land needed	3	3	3	3

Taking the 2012 figure as a baseline and applying the original growth rate shows just over 100,000 cars being exported in 2020, roughly half the total planned for with a consequent fall in land demand. With an anticipated market of 200,000 unit exports the trade continues to grow across the forecast horizon reaching nearly 1.6 million after 20 years.

The pattern of exports means that Liverpool has the opportunity to build on its natural hinterland in the automotive sector particularly to gain access to other export markets over and above the USA. Analysis of journey times shows that Liverpool should be the port of choice for three of the top five manufacturers – Toyota, Nissan and JLR - if the destinations were deliverable.

### 2.5.5 Non-unitised cargos

The MPMP identifies demand for land from non-unitised cargos which are included here for completeness. These incorporate demand identified at Garston, Bromborough and Port Weston, and represent requirements for specialised land uses which need to be riverside located. The forecast requirement for these uses is estimated at 26 hectares over the next 20 years.

**TABLE 5 - NON-UNITISED LAND REQUIREMENT**

	2008 TONNES	2020 TONNES	ESTIMATED DEMAND FOR LAND BY 2020 (HA)	2030 TONNES	ESTIMATED DEMAND FOR LAND BY 2030 (HA)
<b>Grain</b>	<b>1.25</b>	<b>1.25</b>	<b>1</b>	<b>1.25</b>	<b>1</b>
AFS & Biomass	1.34	2.4	3	2.9	0
Coal	2.38	2.38	0	2.38	0
Other dry bulk	3.85	4.57	2	5.28	2
Steel, metals & general cargo	.8	1	2	1.35	2
Forest products	.26	.6	4	.75	4
Petrochemicals	15.8	15.8	0	15.8	0
Other bulk liquids	2.26	2.7	2	3.1	2
			<b>14</b>		<b>11</b>

### 2.5.6 Complementary sectors

Additional demand for land was identified in the MPMP for use in complementary sectors - again requiring riverside access. These include low carbon, offshore and processing activities and generate a forecast total of 104 hectares over the next 20 years.

	ESTIMATED DEMAND FOR LAND BY 2020 (HA)	ESTIMATED DEMAND FOR LAND BY 2030 (HA)
Offshore wind	30	
Biomass	18	
Processing & Value added	28	28
	<b>76</b>	<b>28</b>

## 2.6 DEMAND FOR LAND

Classically, demand for land is a function of location, accessibility and quality. In this report analysis of demand for land over the next twenty years is split into three parts:

- Demand derived from economic activity;
- Additional demand generated by changes to the Port of Liverpool; and
- Secondary demand generated by the first two categories.

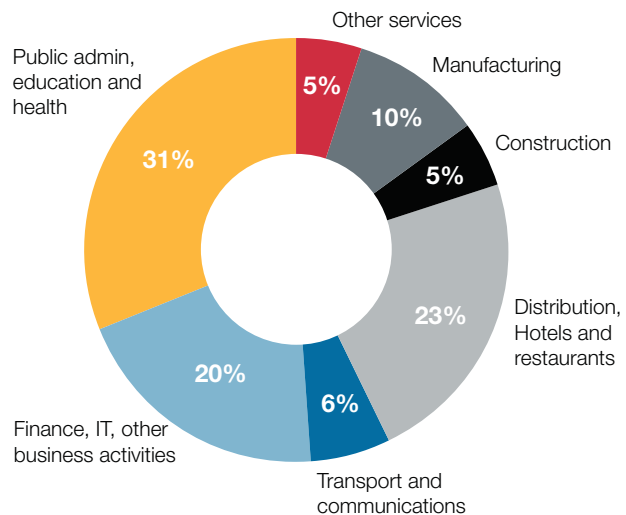
### 2.6.1 Demand from economic activity

Figure 15 shows the economy of the study area in employment terms broken down by broad sector is 10 hectares per annum requiring 200 hectares over the next 20 years. As would be expected, services dominate, but manufacturing, distribution and transport all constitute a significant proportion of employment.

#### EMPLOYMENT IN THE STUDY AREA BY BROAD SECTOR

Based on historical evidence the average demand for land per annum from these sectors in the City Region is 10 hectares – this is economic demand in the context of this report. Clearly, economic demand cannot be disentangled from the impact of port activity historically, but the impact of changes such as Liverpool2 can be quantified. Economic demand for land in the remainder of the study area, derived from Valuation Office Agency floorspace data<sup>22</sup> is assessed at 2 hectares per annum requiring 40 hectares over the next 20 years.

**FIGURE 15 – EMPLOYMENT IN THE STUDY AREA BY BROAD SECTOR.**



### 2.6.2 Changes to the port

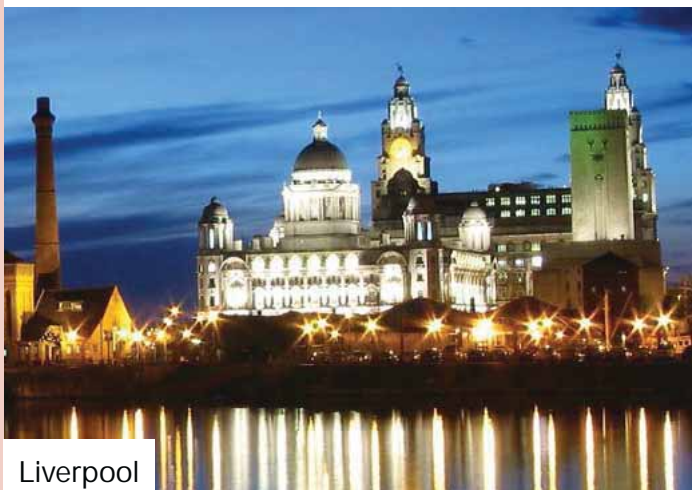
This is shown as port-centric demand calculated from the estimated future throughput of containers at the port of Liverpool. Container forecasts in the Mersey Ports Master Plan (MPMP) are predicated upon changing the behaviour of importers and exporters in the natural hinterland of the port of Liverpool. By making the Port of Liverpool the most cost effective option customers will tend to switch from using ports in the South.

### 2.6.3 Secondary demand

Secondary demand uses employment multipliers and densities to project additional land required to service directly attributable economic activity. The employment model is appended under A.

The model developed calculates the likely employment resulting from demand for industrial space and the implications of that for land, taking into account secondary employment implied by multipliers. The variables used include reasonable assumptions on logistics employment density in square metres per capita, a logistics employment multiplier, manufacturing employment density in square metres per capita and a manufacturing employment multiplier.

According to the assumptions on the volumes using road and rail respectively, this generates a requirement of 330 – 340 hectares of land over the next 20 years.



Liverpool

<sup>22</sup>Valuation Office Agency, Industrial Floorspace statistics, 2013



**TABLE 6 - OVERALL DEMAND FOR ADDITIONAL LAND**

	ESTIMATED DEMAND FOR ADDITIONAL LAND (HA)				TOTAL
	0-5 YEARS	6-10 YEARS	11-15 YEARS	16-20 YEARS	
<b>Economic demand</b>	<b>60</b>	<b>60</b>	<b>60</b>	<b>60</b>	<b>240</b>
Port-centric warehousing					
Scenario 1 - road	13	14	11	16	54
Scenario 2 - rail	11	10	5	13	39
RORO	8	8	8	8	32
Cars	3	3	3	3	12
Non-unitised cargos	4	11	2	9	26
Complementary sectors		76		28	104
Secondary demand					
Scenario 1 - road	85	85	83	87	340
Scenario 2 - rail	83	83	79	85	330
<b>Totals</b>					
<b>Scenario 1 - road</b>	<b>173</b>	<b>257</b>	<b>167</b>	<b>211</b>	<b>808</b>
<b>Scenario 2 - rail</b>	<b>169</b>	<b>251</b>	<b>157</b>	<b>206</b>	<b>783</b>

Of which port centric logistics land is:

<b>Scenario 1 - road</b>	<b>22</b>	<b>24</b>	<b>19</b>	<b>27</b>	<b>92</b>
<b>Scenario 2 - rail</b>	<b>19</b>	<b>17</b>	<b>9</b>	<b>22</b>	<b>67</b>

Overall this equates to a requirement for some 783-808 hectares of land over the next 20 years. If wholly port based uses are excluded (174 hectares), this makes the requirement 634 hectares for logistics and manufacturing, of which 418 hectares will be required for logistics and 216 hectares for manufacturing.

These scenarios are based upon the assumption that economic demand is split 80:20 between logistics and manufacturing. This is based upon our experience of industrial markets nationally. However, the North West has a strong manufacturing base which, combined with a resurgence in onshore manufacturing, may influence the balance between these sectors. Accordingly, a different, road-based scenario is offered that uses a 60:40 split between logistics and manufacturing which could add a further 104 hectares to this demand.

Scenario 3 – road based with 40% manufacturing					
ha	0-5 years	6-10 years	11-15 years	16-20 years	Total
Logistics land implied	83	85	80	88	336
Manufacturing land implied	144	144	144	144	576
<b>Total</b>	<b>227</b>	<b>229</b>	<b>224</b>	<b>232</b>	<b>912</b>

## 2.7 DEMAND FOR JOBS

Table 6 shows demand relating to port-centric facilities but a significant development such as this has impacts not just in the local area but nationally. Employment multipliers generate secondary jobs and secondary demand for land. Jaguar Land Rover, for example, when announcing an investment involving 2,000 new jobs, stated that an additional 20,000 new jobs might be created in the supply chain - a multiplier of 10:1.

Multipliers vary considerably according to the nature of the industry. On average, the manufacturing multiplier in the USA is 1.58, according to National Association of Manufacturers figures<sup>23</sup>.

As factories become more advanced, the multiplier increases significantly. In some advanced manufacturing sectors, such as computer manufacturing, the multiplier effect can be as high as 16 to 1. Highly automated, high-tech manufacturers already have employment multipliers closer to 3.5, according to the Milken Institute's Manufacturing 2.0 research study<sup>24</sup>.

Employment multipliers are very hard to find for logistics since the industry encompasses such a wide variety of skills. Anecdotal evidence is that it ranges between 1:0.5 (ie 1 job supports 0.5 of a Full Time Equivalent (FTE) job) and 1:1

**TABLE 7**

SCENARIOS 1 & 2	ESTIMATED EMPLOYMENT GENERATION (FTE)			
	0-5 YEARS	6-10 YEARS	11-15 YEARS	16-20 YEARS
Manufacturing jobs	5,000-5,500	5,000-5,500	5,000-5,500	5,000-5,500
Logistics jobs	5,500-6,000	5,600-6,100	5,100-5,750	5,900-6,250
Total employment	10,500-11,500	10,600-11,600	10,100-11,250	10,900-11,750
<b>SCENARIO 3</b>				
Manufacturing	10,500-11,000	10,500-11,000	10,500-11,000	10,500-11,000
Logistics	4,000-5,000	4,000-5,000	4,000-5,000	4,500-5,500
Total employment	14,500-16,000	14,500-16,000	14,500-16,000	15,000-16,500

The employment density varies according to the activity being undertaken. For logistics the employment density is dependent upon the type of storage: traditional warehousing will see an average density around 70 square metres per Full Time Equivalent (FTE) while semi-automated High Bay warehousing will see an average of 95 square metres per FTE. Typical manufacturing employment densities are lower at around 40 square metres per FTE<sup>25</sup>.

Table 7 shows the range of employment likely to be generated over the next twenty years by economic demand and by port-centric warehousing allied to the new container terminal.

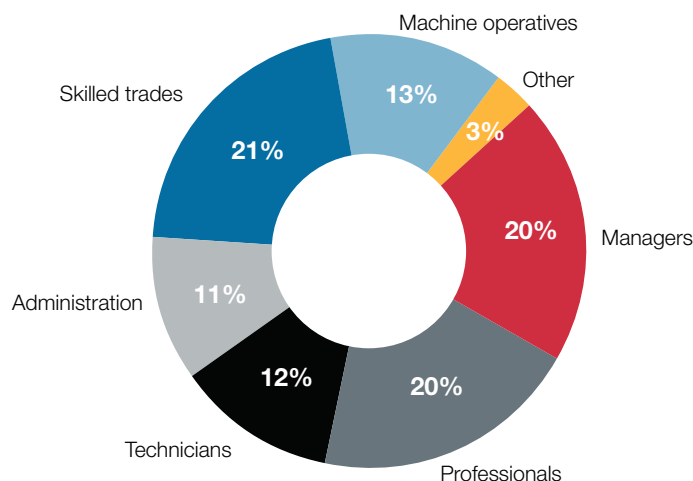
Other land uses will generate some employment but the land requirements for the export of vehicles and RORO trailers are largely open storage with few job implications. Similarly, growth in capital intensive non-unitised cargos is unlikely to generate significant increases in employment.

The substantial land demand attributed to complementary sectors in the MPMP may well generate significant numbers of jobs, particularly if manufacturing is part of the equation. While these projects remain speculative, however, they are impossible to quantify.

It is likely that around 20% of the jobs created over time will be in manufacturing. Research by the Sector Skills Council for Science, Engineering and Manufacturing Technologies (SEMTA)<sup>26</sup> shows a breakdown of skills within their sector as shown in Figure 16.

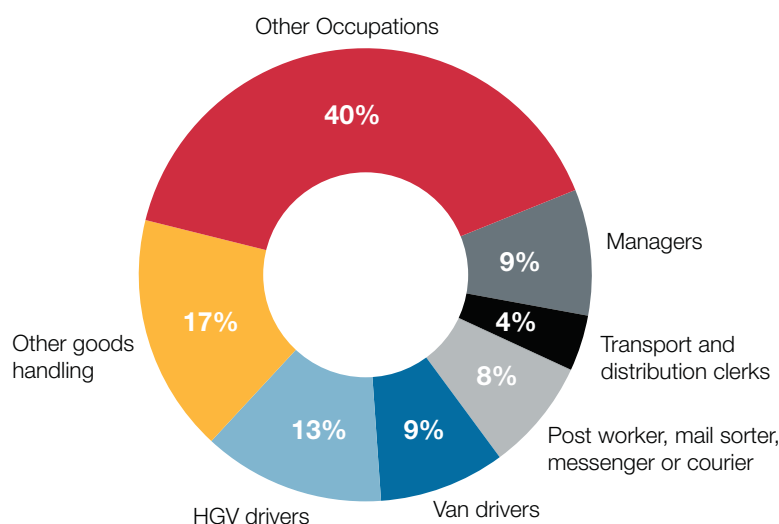
**FIGURE 16 – MANUFACTURING SECTOR SKILLS**

Source: SEMTA



As would be expected there is high technical bias in a majority of these jobs with over 60% requiring technical skills of some kind.

The majority of the jobs created are likely to be in logistics. Here too the skills council has defined the structure of the industry by type of job – shown in Figure 17.



**FIGURE 17 – THE LOGISTICS SECTOR BY JOB TYPE**

Source: Skills for Logistics

<sup>23</sup>The Manufacturing Institute. Facts About Modern Manufacturing, 8th Edition. 2009

<sup>24</sup>Milken Institute. Manufacturing 2.0: A More Prosperous California, Ross C. DeVol et al, 2009

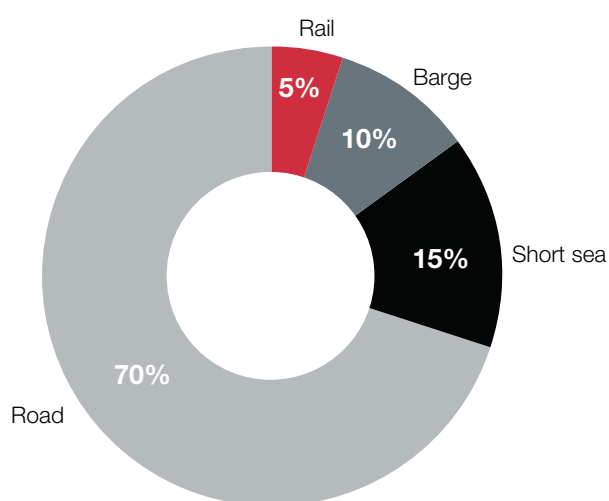
<sup>25</sup>These densities are consistent with the HCA guidance 2010 using Gross External Area. The guide acknowledges that there will be significant variation in these figures from site to site. The High Bay figure of 95 square metres per FTE is based upon our experience of this type of development.

<sup>26</sup>Sector Skills Assessment for Science, Engineering and Manufacturing Technologies, SEMTA, 2010

<sup>27</sup>Skills for Logistics

## 2.8 DEMAND FOR INFRASTRUCTURE

The split between different transport nodes in the MPMP shows the dominance of road movements. This reflects the current lack of use put to the rail terminal at Royal Seaforth – Freightliner preferring to truck freight to their terminal at Garston. In the forecasting undertaken for this report, Scenario 2 - rail allows for growth of rail freight to 20% of the total throughput over the next twenty years.



**FIGURE 18 – MODAL SPLIT**

### 2.8.1 Road

#### 2.8.1.1 A5036

The DaSTS report undertaken in 2010<sup>24</sup> quantified the HGV movements into and out of the port using survey methodology. The report identified that the A5036 was the primary route to and from the port with the Seaforth Dock Gate being the most significant of the four dock gates accounting for 86% of the daily average of 4,120 HGV vehicles which currently access the port.

The A5036 forms the key access corridor to the Seaforth Dock Gate from Junction 7 of the M57 and the start of the M58. The A5036 therefore forms the most important corridor of immediate access to the port, carrying approximately 70% of the Port's overall external road traffic. From the Seaforth Gate to the motorways the road is mainly a 40mph dual carriageway with long stretches of residential frontage and multiple junctions.

The DaSTS report found traffic volumes along the A5036 to be very significant, with two-way peak hour flows ranging from around 4,750 vehicles close to the Switch Island motorway junction to some 2,700 vehicles nearer the Port. In relation to normal roads the proportion of HGV traffic is high with 15% near the dock gate and 10% approaching Switch Island. In 2009, the A5036 was identified as operating close to capacity during the morning peak.

It is beyond the remit of this study to do much more than comment upon infrastructure in broad terms.

Consequently we have not modelled traffic movements but it is worth noting that the survey taken was at a time when the throughput of the port was around 670,000 TEU. The revised forecast throughput by 2033 is 2.1 million teu - a threefold increase.

Allowing for 30% of containers using alternative modes as per the MPMP, this still increases the traffic significantly with an estimated 7,700 HGVs using the Seaforth Gate daily. The operation of the port is likely to be 24 hours a day with deliveries and collections around the clock. These combine to put great strain upon the primary access road to and from the port. Using an alternative scenario, in which rail use reaches 20% by 2025 6,100 vehicles would use the Seaforth Gate daily an increase of around 50%<sup>29</sup>.

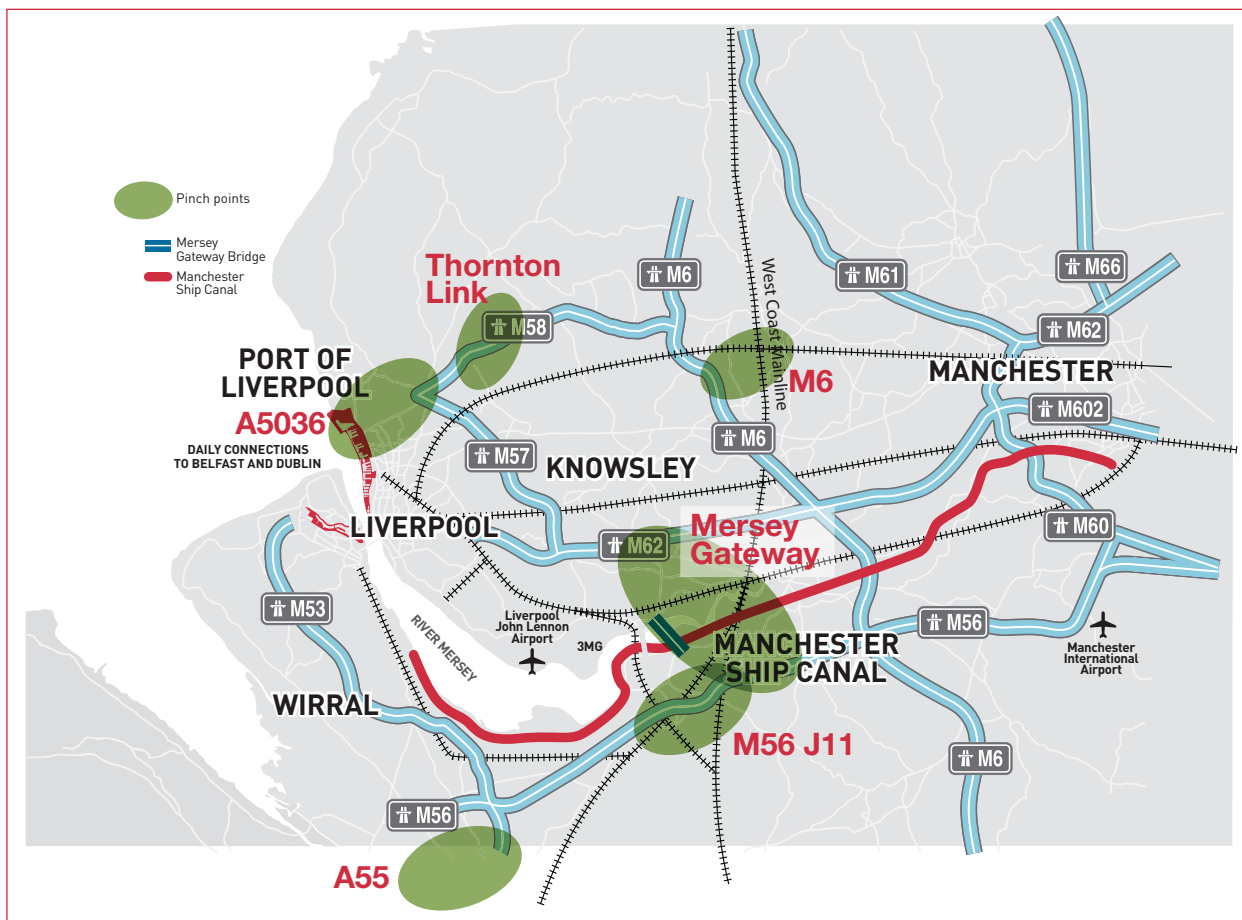
<sup>28</sup>DaSTS Study 3 - Access to the Port of Liverpool: Stage 1 Report, WSP, 2010

<sup>29</sup>This study looks only at logistics movements. A traffic study taking into account staff movements is recommended to assess the full impact of these changes.



In the near term (2014), works are scheduled to be carried at Bridge Road roundabout in Litherland to address existing problem with queuing times. Comprising the conversion of the existing roundabout for westbound A5036 traffic, thus separating local traffic from through trunk road traffic.

A Port Access Steering Group has been established in the City Region with representatives from the Port, Department for Transport, Network Rail, Highways Agency, Local Authorities and the LEP to address this issue.



**FIGURE 19 – ROAD INFRASTRUCTURE PINCH POINTS**

#### 2.8.1.2 Thornton to Switch Island

The Thornton to Switch Island Link is a proposed new single carriageway road connecting the A565 Southport Road at Thornton with the M57 and M58 motorway junctions at Switch Island. The road provides a local by-pass of the communities of Netherton and Thornton, especially the areas of Green Lane, Lydiat Lane and the Northern Perimeter Road.

Although not directly relevant to the port, this road would link to any improved A5036 at Switch Island.

#### 2.8.1.3 Mersey Gateway

The new six lane toll bridge over the Mersey will improve connectivity between North Cheshire and Merseyside, relieving congestion on the existing bridge at Runcorn and making sites around Ellesmere Port more accessible to the new container port. The project has reached preferred bidder stage and the new bridge is scheduled to open in 2017.

#### 2.8.1.4 Mersey Tunnels

Access to the M53 and sites along the Wirral involves HGVs traversing the City Centre to gain access to the river tunnels. This traffic is likely to grow significantly as Liverpool2 comes on stream which may cause congestion problems in the future.

#### 2.8.1.5 Pinch-point works

##### A55/ A483 JUNCTION

Works are scheduled (2014-2015) on the A55 to address existing problems with congestion at its junction with the A483, that results in significant queues and delays at peak times. Comprising road widening, reassignment of existing lanes and conversion of the Pulford roundabout into a signalised junction.

##### M56 JUNCTION 11 DARESURY IMPROVEMENTS

Works are scheduled to be carried at the M56 junction 11 to address existing congestion issues and facilitate new a development in the vicinity of the junction. Comprising construction of an additional lane on the M56 westbound exit slip approach to the roundabout and construction of an additional lane on the A56 approach to the roundabout.

##### M6 JUNCTION 23 ROUNDABOUT IMPROVEMENT

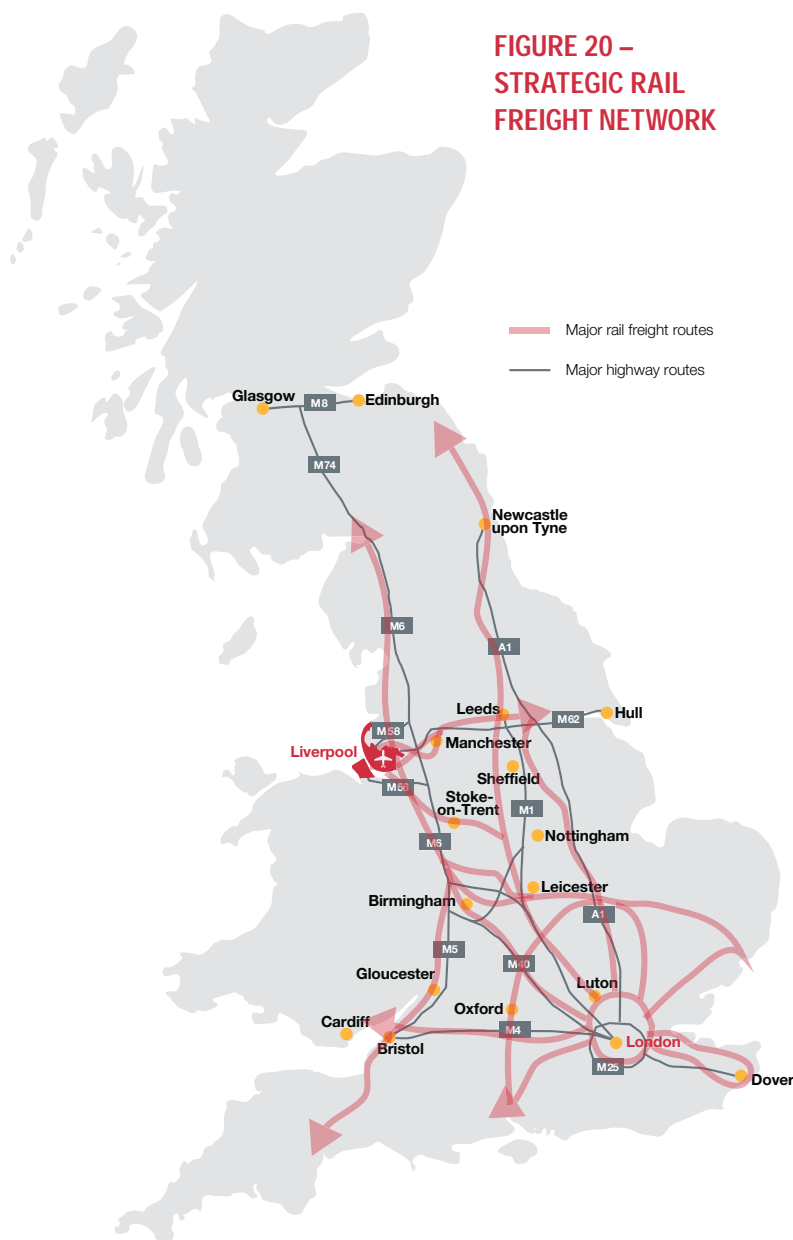
Works are scheduled to be carried at M6 junction 23 to address the existing problems with queuing on the A49 and A580 approaches and on the roundabout itself. Comprising the installation of new right turn lanes from the A580 onto the roundabout and the removal of turning restrictions from the roundabout to the A580.

#### 2.8.2 Rail

Currently, no container services serve the Royal Seaforth terminal. Significant un-used train path capacity currently exists to the port but as has been noted, Freightliner truck containers to their Garston terminal rather than use the port facilities.

As has been identified, manufacturers, along with most corporate customers of any size, are taking their Corporate Social Responsibilities very seriously indeed - to the point that having an exemplary record on sustainability, including sustainable transport, is a key procurement criterion whether it be for real estate or port services.

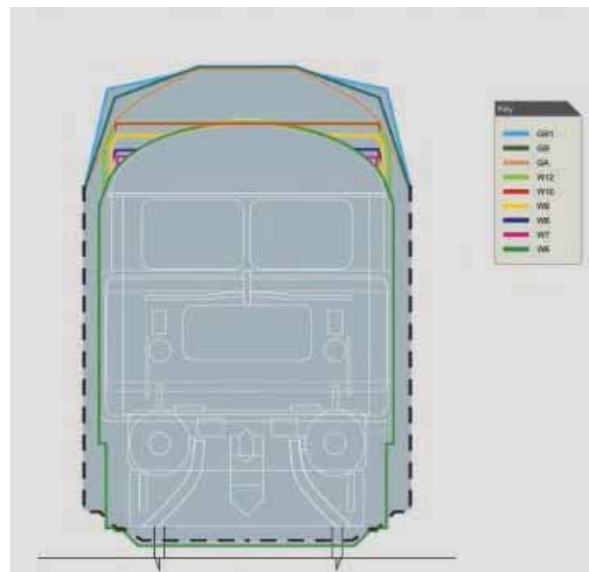
**FIGURE 20 –  
STRATEGIC RAIL  
FREIGHT NETWORK**



This has been taken on board by Liverpool's competitors. The Port of Felixstowe currently operates daily services to 17 inland destinations including Manchester, Liverpool and Widnes. The port currently operates two open-access, common-user rail terminals and is currently constructing a third. Around a third of containers are handled by rail with the target set even higher. London Gateway too intends to move at least one-third of the containers heading to and from the port by rail.

Clearly, connection of Liverpool2 to rail is a prerequisite going forward. This would be the fifth rail terminal in the City Region alongside 3MG at Widnes, Potter Logistics at Knowsley, Freightliner at Garston and the (unused) terminal at Royal Seaforth.

Rail infrastructure is reasonably well served on the north bank of the Mersey. With W10 gauge clearance the line is part of the strategic freight network connecting the City Region to the rest of the network. The Potter Logistics site is served by the Wigan branch line which will be gauge cleared to W9 by mid 2014.



**FIGURE 21 – RAIL FREIGHT GAUGES**

A key question mark hangs over the Wirral line running from Ellesmere Port and Chester to Birkenhead. Although it is connected to the west coast main line, it is outside the strategic freight network (SRFN). Currently the line is gauge constrained at W6. The most recent rail utilisation study concluded that infrastructure would be upgraded "if funding permits". This line is essential to connect sites along the east of the Wirral.

### 2.8.3 INLAND WATERWAYS

Currently, a container service operates three times a week between the Port of Liverpool and Irlam Container Terminal in Manchester. The Mersey Ports Master Plan assumes a significant increase in this service facilitating a string of inland port facilities along the canal. Using the updated forecast the modal split would imply that over 200,000 TEU would be passing along the canal by 2033. At current capacity that represents over 650 trips a year. Volumes increased from 3,000 TEU in 2009 to 15,000 TEU in 2012.



Manchester ship canal

## 3. Land and Premises Supply

### 3.1 INTRODUCTION

Logistics is a multifunctional branch of the economy and constitutes more than merely transporting goods from A to B. Along a product's value chain, logistics includes planning, implementation and checking of material, information, value, people and energy flows in systems. Partial disciplines include, for example, procurement, storage, transport, production, distribution and disposal logistics.

The logistics market is a worldwide growth market, which – depending on the traffic carrier – is characterised by high growth rates. The reorganization process of the European distribution systems which is changing from a national to an international network is still on-going. The long-term growth rate of the logistics industry is between 4% and 8% and exceeds on average 2.5 times the GDP growth rate.

Approximately 40% of the total turnover is accumulated by logistics service corporations, while the other 60% are still internal activities of companies from the rest of the economy. In addition to classic key fields of business, such as transport, transfer and storage, which contribute around 46 per cent of the total turnover of the logistics industry, the logistics service providers are increasingly offering logistics-related subsidiary fields of business, which were previously carried out by their customers in-house, as well as so-called added value services such as final assembly, packaging etc.



## 3.2 CHARACTERISTICS OF LOGISTICS ACTIVITY

Distribution activity needs to operate 24 hours per day, seven days per week. Port activity often needs, for example, to follow tide patterns. Where possible, deliveries by HGV are normally undertaken during the night when traffic congestion is minimal. Distribution centres therefore need to be accessed during night time hours. Rail freight facilities, parking areas for road trailers or areas where containers are stacked need to be illuminated during the hours of darkness for both practical and safety reasons. Large floodlights therefore need to be erected. Many freight trains also run at night when conflicts with passenger services are minimised. Rail freight facilities at a logistics site will therefore need to receive, despatch and handle trains at night time. All of these activities, and others which occur, cause noise and visual pollution. Design features such as 'quiet' tarmac, new loading bay technology, and counterbalance truck technology can all be utilised where residential proximity is an issue to minimise impact, but commercially attractive logistics sites are now generally located away from residential areas, for the above given reasons, so that 24 hour operation is possible.

Logistics facilities are distinct from traditional warehousing. Typically logistics facilities are located as part of a 'hub and spoke' network or to provide 'port-centric' logistics. A hub and spoke network is a centralised, integrated logistics system designed to keep costs down. Hub and spoke distribution centres receive products from many different origins, consolidate the products, and send them directly to destinations.

With rising fuel prices, logistics costs under intense scrutiny and increasing pressure on sustainable logistics, the UK economy is seeing a return to 'port-centric logistics'. This concept is not new - until the late 20th Century, the vast majority of what is now thought of as logistics activity took place in and around ports where merchants were based and their warehouses served as primary distribution centres – but in the last 25 years UK supply-chains have based themselves on hub and spoke networks of National and Regional Distribution Centres (NDCs and RDCs). Although

adequate when the majority of product was sourced within the UK and Continental Europe, in order to handle the exponential growth in imports, distribution centre networks have increasingly had to be supplemented by a plethora of import warehouses, deconsolidation centres and other ancillary facilities adding further cost and delay to the process. Port centric logistics describes a return to the accepted wisdom of remaining close to the port to satisfy cost, speed and sustainability goals.

In 2010 Typhoo imported just 20 per cent of their tea through Liverpool. In 2013 this had risen to around 60 per cent through the port, and their target is to have 100 per cent entering the UK market through the Port of Liverpool within the next five years.

ASDA estimates it has saved up to two million road miles a year by shipping 70% of its non-food distribution direct to its port-side deconsolidation centre at Teeside rather than delivering it to a southern port then transporting it by road to its northern-based distribution centres. The need for ASDA to develop an import distribution centre was generated by growing demand for imported products from the Far East, particularly China, and the need for a flexible way of routing these lines through the ASDA distribution network. The ability to get the containers collected from the port and processed through the import centre in very short lead times played a crucial role in the success of the facility. Other firms are following the ASDA example, for example Marks & Spencer at London Gateway.

As well as the return to port-centric logistics, the UK economy is witnessing a significant growth in value-added services (fuelled by declining local manufacture and increasing reliance on sourcing goods from elsewhere in the World which then need to be 'prepared' or 'finished' for UK consumers). For example, outsourced co-packing in the UK alone has an estimated value of £1 billion a year, with the majority of products falling into the drinks, pharmaceuticals/ cosmetics and packaged goods sectors.



A number of significant factors contribute to the rise in demand for co-packing:

- manufacturers practise postponement – namely, delaying the packing process until the moment the product is required. A key element in delivering inventory savings
- the development of supermarket own-label brands which in some sectors is nearly 40%
- sales promotions

All require last minute post-manufacture/pre-sale re-packaging that cannot be done prior to an imports' arrival in the UK but needs to be on sales shelves as rapidly as possible without inland transit delays. Liverpool **SUPERPORT** is ideally placed to take advantage of this trend.

### 3.3 LOGISTICS CLUSTERS

Usually the logistics industry evolves in clusters. A cluster is a geographically proximate group of interconnected companies and associated institutions in a particular field, linked by commonalities and complementing each other. The geographic scope of a cluster can range from a single town to a network of locales and even countries. According to the Organisation of Economic Cooperation and Development (OECD) definition, clusters are networks of interdependent firms, knowledge-producing institutions (e.g., universities, research institutes, providers of technology), bridging institutions (e.g., providers of technical or consultancy services) and customers, linked in a value-added creating production chain. The concept of clusters goes beyond that of firm networks, and captures all forms of knowledge sharing and exchange.

Clusters create a partnership among key stakeholders such as:

- Support services: maintenance, machining, fuel, etc
- Combine modes of transportation: air, rail, road
- Training schools: drivers, repair, logisticians, engineers

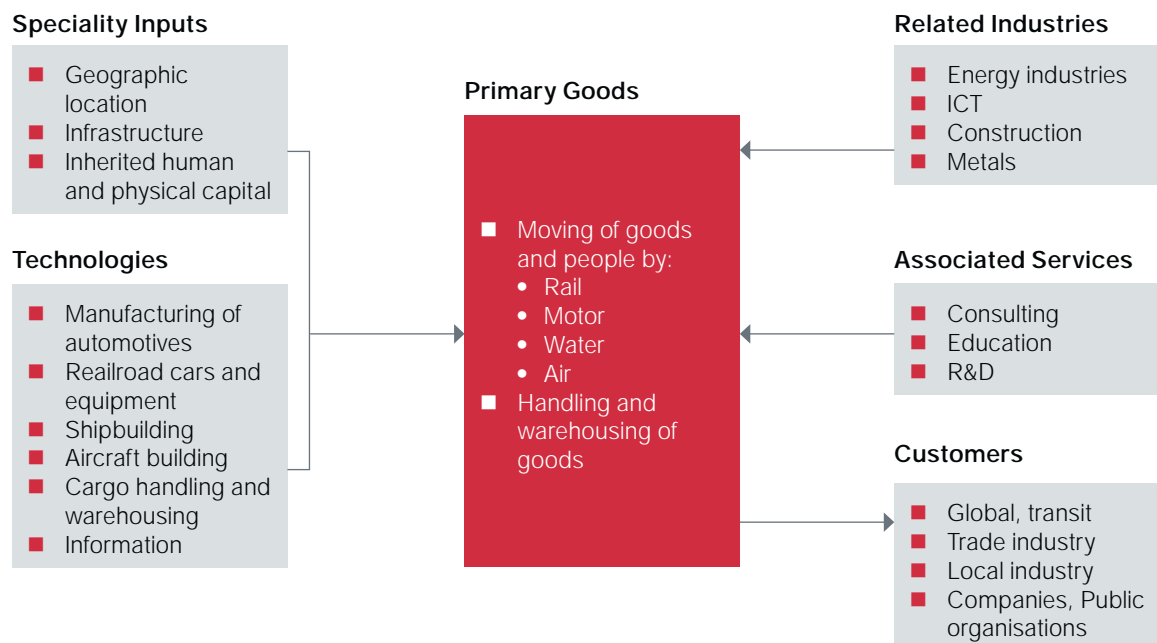
- Government: human resources, financial institutions, legislature, infrastructure
- Manufacturing & Distribution

The logistics cluster in the Liverpool City Region includes, wholesale trade retailers and manufacturers, ports and shipping, trucking, rail transportation, air freight, pipeline transportation, couriers, messengers and delivery services, recruitment agents and job placement services, postage services and warehousing and storage. It extends into professional, legal and financial services, further and higher education and includes a cluster body in Mersey Maritime.

The creation of logistics clusters provides a catalyst to spur further growth in the logistics industry. Such clusters attract logistics players to amass at one place and spur the development of a critical mass of industry players that can provide high value-added and comprehensive logistics services to businesses.

The Cluster Chart in Figure 22 is commonly used to describe the basic structure in a compact way. It compiles separate but closely inter-relating elements affecting a cluster and illustrates their interconnections. The elements in brief are:

- Primary Goods: the globally most competitive goods the cluster produces
- Speciality Inputs: the main physical factors
- Technologies: the main technologies, machines, equipment used by the core companies in the cluster
- Related and supporting industries: the sectors whose products are used directly or indirectly in the process of making the primary goods
- Consumers: the main consumers or consumer groups of the cluster

**FIGURE 22 – LOGISTICS CLUSTER CHART**

Increases global economic activity and structural changes, together with planned infrastructure investment such as the expansion of Liverpool2 and the Mersey Gateway, present a very significant opportunity for the Liverpool City Region to capture significant increase in employment and gross value-added to the regional economy. Achievement of this goal is, however, dependent also on the availability of a strong labour force and of sufficient suitable and accessible land (and a supportive planning framework) to allow the development of these distribution centres and value-added services. In recognition of this, the **SUPERPORT** Skills for Growth Agreement brings together employers and skills providers with the objective of matching economic growth and skills provision.

### 3.4 ASSESSING EXISTING LAND AND PREMISES SUPPLY

Part of our commission requires us to undertake an analysis of the current and potential supply of suitable sites and premises as the basis on which we can identify interventions required for land supply 'to meet the projected demand for logistics facilities in the City Region and its immediate environs'. This 'baseline' land and premises supply assessment should have regard to the competing demands for such sites/premises and assess in the first instance what potential this supply (on existing, potential or earmarked longer term sites) offers to meet the assessed demand.

The specific site criteria for logistics facilities are considered later in the context of identifying interventions required for land supply to meet the projected demand for logistics facilities in the City

Region and its immediate environs. For now, however, the two key prerequisites for assessment of the existing land and premises supply are:

- **Location** - Proximity to the port in time terms (closer is better) and access to (mainly) road infrastructure but also rail connection and proximity of suitable workforce
- **Suitability** – logistics facilities typically comprise large warehouses and external storage/circulation areas for efficient operation. Small sites in high density mixed-use urban areas are rarely suitable for manifest planning and operational reasons.

In 2010 King Sturge produced a report for the Mersey Partnership titled "Property Supply and Demand Audit for Liverpool **SUPERPORT**". In respect of land supply, this report identified a total of 723.9 ha of land in the planning pipeline capable of accommodating

distribution warehouse demand in the City Region. Of this land, King Sturge concluded that only 190.23 ha was of high quality (51.37 ha at level '1').

All of the local authorities in the study area have either recently published or are in the course of preparing updated Local Plans. Baseline data on employment land supply is, therefore, reasonably recent and provides a full baseline for a quantitative and qualitative assessment of land supply for **SUPERPORT** purposes. However, the employment land supply data included in these documents is identified to meet all employment land needs in the each respective authority area, a significant proportion of which may not be appropriate or relevant to logistics use/activity. Analysis of the data is therefore necessary to establish what the state of supply is specifically to meet logistics sector needs. For these purposes, we have:

- Restricted our analysis of employment land to the six local authorities situated within the Liverpool City Region and the three adjoining authorities within a 1-2 hour drive time from the Port of Liverpool. These local authorities are:
  - Cheshire West & Chester
  - Halton
  - Knowsley
  - Liverpool City
  - Sefton
  - St Helens
  - Warrington
  - West Lancashire
  - Wirral
- Disregarded sites and premises of less than 5,000 sqm floorspace or 1.25 ha area; and
- Disregarded sites which are identified specifically for direct port, airport or transport operations or are inappropriate for B2 and/or B8 use (as defined in the Town and Country Planning (Use Classes) Order 1987 (as amended))

### 3.4.1 Overall Employment Land Supply

Analysis of the evidence base and employment land allocations in the 9 local authority areas has been undertaken which identifies:

#### 3.4.1.1 Cheshire West and Chester

The Employment Land Study Update 2013 identifies a 'realistic' employment land supply<sup>25</sup> for the Borough of 315.70 ha. The Employment Land Review Update uses a base date of 1st April 2013 and primarily considers large employment sites (greater than 0.25ha and/or 500 sqm).

#### 3.4.1.2 Halton

On 17th April 2013 Halton Borough Council resolved to approve the formal adoption of the Halton Core Strategy Local Plan as part of the development plan for the Borough. The Core Strategy identifies a requirement for 313 ha of land for employment purposes under anticipated development to 2028. Of this, 189 ha is identified in Widnes/Hale (103 ha of which is 3MG - the Mersey Multimodal Gateway - at Ditton in Widnes) and 124 ha in Runcorn.

#### 3.4.1.3 Knowsley

As part of the preparation of their Knowsley Local Plan; Core Strategy, Knowsley BC prepared an 'Employment Position Statement' in July 2103. This identifies that the current employment land supply in Knowsley is 170.15 ha in total, comprising of existing UDP allocations including those with planning permission, sites under construction, other sites with planning permission and other available sites, with a broadly equal split between greenfield and previously developed land. Of this, 133.56 ha is on industrial/office sites over 1 ha in area, with 74.31 hectares (56%) assessed as available for development within 3 years and a total of 109.17 hectares of the current land supply (82%) assessed as potentially available within 5 years.

<sup>25</sup>Excluding employment land with extant planning commitments for alternative uses

**TABLE 8: KNOWSLEY EMPLOYMENT LAND SUPPLY 2013**

TYPE	WITHIN 3 YEARS		3-5 YEARS		5+ YEARS		TOTAL	
	NO. OF SITES	AREA OF SITES (HA)	NO. OF SITES	AREA OF SITES (HA)	NO. OF SITES	AREA OF SITES (HA)	NO. OF SITES	AREA OF SITES (HA)
Industrial 1ha to 5ha	7	16.39	3	6.74	1	2.30	11	25.43
Industrial more than 5ha	2	11.67	0	0.00	2	29.09	4	40.76
Total Industrial	9	28.06	3	6.74	3	31.39	15	66.19
Industrial / Office 1ha to 5ha	9	22.18	1	1.91	1	2.00	11	26.09
Industrial / Office more than 5ha	3	24.07	2	26.21	0	0.00	5	50.28
Total Industrial / Office	12	46.25	3	28.12	1	2.00	16	67.37
<b>Overall Total</b>	<b>21</b>	<b>74.31</b>	<b>6</b>	<b>34.86</b>	<b>4</b>	<b>33.39</b>	<b>31</b>	<b>133.56</b>

Source: Table 3.5: Land Supply (at April 2013) by Site Type and Size, Knowsley Employment Position Statement 2013

#### 3.4.1.4 Liverpool

The Council is currently preparing a Local Plan for Liverpool which will replace the current Liverpool Unitary Development Plan ('UDP') adopted in November 2002. The Liverpool Local Plan will encompass strategic policy (based on that previously consulted upon as part of the Core Strategy DPD), new development management policies and site allocations. The Council prepared a Pre-Submission Draft of the Local Plan in 2012, and in parallel with the development of the Local Plan have published a series of baseline studies including the Liverpool Employment Land Study 2009 (Final Report).

The Study identifies a total of 256 sites providing 266 hectares of employment land allocated and identified across Liverpool. These were distributed around established employment locations to the north, north east, east and south of the City Centre, as well as the City Centre itself. A high proportion of these sites are in office (B1) use with only 98 sites (totaling 136.63 hectares) being identified as suitable for B2/B8 use. Of this, the supply of land likely to be suitable for B8 development includes just 1 site of 22 hectares in the Approach A580 SIA.

The Study concludes that forecast demand combined with existing supply of land suggests there is insufficient land, in the right locations, to accommodate the predicated demand for B8 accommodation over the plan period.

#### 3.4.1.5 Sefton

Sefton BC is currently preparing its Local Plan. The Plan will shape the future of Sefton and set out how new development will be managed in the period from 2015 to 2030. Until the Local Plan is adopted, the Unitary Development Plan June 2006 comprises the statutory development plan. Employment land supply figures are primarily based on the Employment Land and Premises Study – Refresh 2012. This identifies a headline supply of 57.96 ha of employment land at 31st March 2012, made up of 18 sites. Around three quarters of this land is in South Sefton, primarily at Atlantic Park and the wider Bridle Way Employment Area. Of this land, 4.18 ha (on three sites) is subject to significant physical constraints which may prevent development. The realistic land supply is therefore considered to be 53.78 ha (15 sites), of which 17.42 ha (30%) is not considered suitable for industrial (B1/B8) uses (port-related sites are excluded from the Borough's employment land supply). The report identifies a shortfall in employment land supply of 30.76 ha over the period to 2030 which is being addressed through the local plan process by three proposed new employment allocations.

#### 3.4.1.6 St Helens

The St.Helens Local Plan Core Strategy was adopted by St.Helens Council on 31st October 2012. It is the principal document in a framework of planning policy documents, known as the St.Helens Local Plan and provides an overall strategy of how much development is required, where development should be located and how this will be delivered for the period up to 2027.

Based on the Review of Employment Land in St Helens to 2027 - Sept 2011, a supply of 86.12 ha of employment land is identified. Much of this is considered as being suitable for mixed B2 and B8, which reflects the reality that much of the overall supply is made up of mixed B2/B8 use sites, which are difficult to separate from each other. A total of 15.45 ha of land in St.Helens has been identified as suitable for large-scale B2/B8. Of this, 10.45 ha is considered as immediately deliverable. In addition, 32 ha of land is identified as potentially being suitable for some form of redevelopment for B8. However, these sites are considered to be "Windfall" with little certainty on when they may come forward.

The former Parkside Colliery covering over 100ha adjoining the M6 was designated by the former Regional Development Agency as a suitable location for a Strategic Rail Freight Interchange as one of the key projects in delivering **SUPERPORT**. This site is not specifically identified in the employment land supply analysis as it does not have planning consent but it is considered to have significant future potential.

#### 3.4.1.7 Warrington

Preparation of the Warrington Core Strategy Local Plan is well advanced, with consultation on proposed modifications to the post-submission version of the Plan currently ongoing. The Local Plan has yet, however, to be fully examined and the plan therefore remains presently unadopted. Warrington BC's Employment Land Availability Position Statement May 2013 identifies a forward supply to 2016 of 141.79 ha, not including the Omega Strategic Site. The report provides a schedule of potential sites which may come forward for employment development in the future and which could provide a greater choice of employment development. The schedule has identified a minimum of 86.85ha of

available employment land, 61.1 ha (70%) of which may be suitable for B8 use.

#### 3.4.1.8 West Lancashire

The West Lancashire Local Plan 2012-2027 guides future development within West Lancashire over the 15 year period to 2027. It was adopted by the Council on 16 October 2013. It identifies the allocation of 75 ha of employment land for B1/B2/B8 uses, 52 ha in the Skelmersdale area, and 23 ha through the remodeling and extension of the Burscough industrial estates, Simonswood industrial estate and new allocations on greenfield land. Of these allocations, some sites are available for B8 purposes (eg on XL Business Park, Skelmersdale where approximately 13 hectares of land remain undeveloped).

#### 3.4.1.9 Wirral

Wirral Council is in the process of preparing its Local Plan. It has recently published Initial Modifications to the Proposed Submission Draft Core Strategy Local Plan which were consulted on between July and September 2013. The final Core Strategy is currently expected to be published for public comment in 2014 before being submitted to the Secretary of State for public examination, subject to the completion of additional evidence on housing needs and economic viability. The Employment Land and Premises Refresh - Sept 2012 and Wirral Land Supply - April 2012 identify a total employment land supply of 264.39 ha. Of this, eleven sites have port-related potential, amounting to 67.58 ha or around one quarter of the total supply. 43% of this port land is classified as serviced.

*Based on the above analysis, a current total employment land supply of 1,773 ha is identified in the study area. Additionally, a limited number of other sites have been identified which have planning consent for employment use, including sites in the Liverpool City Region **SUPERPORT** Report.*

*Applying the size and use criteria set out above to determine potential suitable land specifically to meet logistics sector needs, the above figure is reduced to 1,518 ha over a total of 226 sites. The schedule attached lists these sites (Appendix B).*



*Detailed analysis of these sites identifies that some 72 sites (totaling an area of 484 ha) are now allocated or have been sold for alternative uses or are assessed as likely to be developed for alternative uses other than B8. A total of 1,034 ha on 154 sites, therefore, is potentially available to meet logistics sector needs. This breaks down as follows:*

	NUMBER	AREA
Sites of 1.25 – 5 ha:	83	200.21
Sites of 5 -10 ha:	42	294.04
Sites of 10 ha+:	29	557.50
<b>Total:</b>	<b>154</b>	<b>1,034.26</b>

Of sites 5 ha or greater comprising this supply, it should be noted that:

- 775 ha is available within 0-5 years, with
- 77 ha only available in 5+ years.
- Only 9 sites are of 20+ha size.

In addition to these sites, a further 28 existing premises of 5,000 square metres or greater (totalling 279,708 square metres) are currently available and potentially suitable for logistics use.



### 3.4.2 Qualitative Assessment of Existing Land Supply for Logistics Facilities

The above assessment provides a quantitative assessment of land supply with only a high level qualitative sieve. A more accurate assessment of land supply needs also to consider the quality and suitability of this supply to meet the specific needs for logistics facilities in the context of **SUPERPORT**.

Recent trends in the logistics sector provide strong indicators of the factors which are and will affect site selection for logistics operations. Examples of these trends include:

- **Global Container Traffic** - increasing volumes of imported cargo have important facility ramifications both inland and at ports themselves. The economics of full-landed cost goods and the continuing drive for cost and time competitiveness will increasingly alter freight flows and their entry points, making close proximity to ports and good inland transport connections a key consideration.
- **Nearshoring** - occupiers now need to ensure that the location they choose will facilitate the arrival of stock from both the Far East in mass produced quantities as well as from more "local" sources. There is also a growing requirement from the logistics service providers (particularly those with a freight forwarding arm) for shared user sites on or near ports servicing feeder vessels in order to decant this product and forward it on to national/ regional DCs and direct to store.
- **Retailing** - online retailing continues to increase the volume of freight moving through the hub and spoke networks of parcel carriers. There is a growing need for space to accommodate both the large sortation centres as well as the smaller local depots. Facilities will need to provide a larger footprint or be better able to accommodate different processes (eg loading of multiple types of smaller transport, pick pack for home delivery and replenishment, e-fulfillment, returns etc).

- **Global Third Party Logistics Provider (3PL)** – the continued growth in global logistics service providers and their requirements to service end users. 3PLs are leading the drive to collaboration and consolidation to demonstrate savings to their clients by saving cost by sharing space. This is resulting in requirements for more flexible property able to accommodate multi users, potentially in different and easily configurable parts.
- **Waste and Recycling** - BNP Paribas Real Estate estimate that the waste management industry requires c.4.6 million sqm of property to house the operations required to meet the UK's landfill diversion and energy creation targets. This will require much larger Materials Recovery Reprocessing Facilities (MRFs) to act as "fuel preparation" facilities.

It is imperative that strategic logistics sites developed in the region are commercially attractive to the logistics market. Sites must be seen to meet the traditional selection criteria as well as represent modern best of breed standards.

An Aberdeen survey of global supply chain professionals on area development published in Supply Chain Brain.com on 24 December 2008 resulted in the following list of business and operating criteria:

1. Access (customers, suppliers, connectivity)
2. Work force (availability, capability, scalability, sustainability, livability)
3. Utility infrastructure (power, fuel, water/sewer, telecom)
4. Transportation infrastructure (roads, air, rail, port)
5. Regulatory/permitting environment
6. Business/support services and amenities

Traditional factors which are fundamental to sites being commercially attractive to the logistics market include:

- **Proximity to Market** - Access to markets for customers, raw materials, and clients affects location decisions for just about any industry, but for logistics much more acutely than others. Measurable advantages have evolved for locating more manufacturing and distribution in close proximity to the direct zones of consumption.
- **Modal Flexibility** - Road transport will remain the dominant mode. This means that even the majority of cargo arriving and departing distribution centres located on rail connected logistics sites will be by road transport. Hence even in today's eco-friendly climate, facilities must have good access to the highway network. A quality network must be maintained with good access, reasonable flow through congested areas and alternate routing capability. The advent of strategic railfreight interchanges throughout the country is intended to reduce the traditional onward carriage by road by creating a network of rail linked sites. Combined with road charging and rising fuel costs, this will make shorter distances more cost effective. Good access to other transport alternatives will also be key to attract certain industry sectors.
- **Site Availability and Size** - The size and configuration of a site are important for a number of reasons, including the viability of rail freight services and the ability to accommodate the large scale distribution centres and ancillary services the market requires. Distribution and its ancillary services fall into several broad categories:
  - Local distributors occupy various site sizes;
  - Rail-linked sites also are of varying size, but generally 20+ha (eg Birmingham Intermodal FT);
  - Regional distribution parks average c.20ha (eg Nimbus Park);
  - Strategic distribution parks average c.40ha (Magna Park); and
  - Strategic Rail Freight Interchanges ('SFRI') average 60ha (eg Daventry International RFT )

■ **Labour** - The Leitch Review identifies the importance of a skilled labour force if the UK economy is to remain competitive internationally. As well as the local availability of a suitable workforce, logistics operators need to develop a skilled and trained manpower to enable them to serve higher-end clients by introducing new services and bringing innovative solutions. The small domestic market and globalised nature of the industry call for local companies to spread their wings abroad in order to grow, but a lack of emphasis on service excellence and a limited range of logistics services will curtail their growth and confine them.

The logistics market is increasingly looking for developments which facilitate size ranges appropriate to mixing each of these types. In this manner, the largest retailers and distributors are able to site share with other ancillary firms (eg Tesco, Sainsbury and NFT in Crick with access to DRIFT) This arrangement also produces a traffic mix more acceptable to both the park occupiers and surrounding community.



**FIGURE 23 – TARGET SITES OF 5 + HECTARES**  
(within 60 minutes drive time of the port and within 20 minutes of the motorway network)



Mixed size sites and a mix of site types should be the goal for which **SUPERPORT** aims. This will meet the needs of both the tenant and investment communities. The ideal is for large scale mixed use parks. As long as scale is met, it does not matter that those parks may be disconnected. Research by BNP Paribas Real Estate for Hutchison Ports assessing the suitability of land outside the port for distribution concluded that when available development plots are both small and scattered, they are not of interest to the development/investment market as they can not be built to suit occupier demands.

The ability to provide rail within this mix is not only commercially preferred, but is also in line with current and forthcoming national planning policy. Commercially attractive rail linked sites are considered to be an intermodal terminal and contain distribution warehousing, with at least 200,000m<sup>2</sup> of floor space in total, and individual plots allowing very large units. Evidence from recent deals suggests the market is increasingly demanding the following:

- Potential facilities in excess of 50,000m<sup>2</sup> (12.5 ha plot) and up to 100,000m<sup>2</sup> (25ha plot)
- Internal rail reception sidings capable of receiving trains up to 750m trailing length
- An appropriate estate road layout together with parking facilities to accommodate visiting HGVs

The above does not imply that every distribution site needs to be an intermodal terminal. A mix of intermodal sites which incorporate warehousing and distribution parks with access to intermodal facilities is the objective. Rail as a mode will only be attractive to the occupiers of distribution buildings on a logistics site if the site is able attract frequent full length rail freight services to/from a wide range of locations. As a minimum, this means at least a daily train service to/from 5 different locations, with twice daily services to/from some locations (around

8 train services in total). Essentially a 'critical mass' in terms of site size exists, above which the logistics site will generate the requisite number of daily train services. This critical mass is in the region of 200,000m<sup>2</sup> of floor space, this implies sites should be at least 50ha in size, on the basis that warehouse floorspace occupies 40% of a site footprint.

Based on the above, we are of the opinion that the key requirement for logistics facilities in the **SUPERPORT** region is a ready availability of land and premises of sufficient size and proximity to the Port and other key infrastructure assets (the other Ports in the City Region, Liverpool John Lennon Airport, Manchester Ship Canal and national road and rail network).

We have analysed the quality of the existing land supply applying the following criteria:

- Sites of 5+ha, but ideally larger, capable of accommodating more than one unit of 50,000m<sup>2</sup> size
- Ready access to the Port and other key hubs/transport infrastructure, with a drive time no more than 60 minutes from the Port (and within 20 minutes of the motorway network)
- A population centre in close proximity (but not within 200m or beyond 1km)
- Certain availability, location suitability and unconstrained by issues such as site shape, access, ground conditions, utility constraints, conflict with neighbouring land uses, etc

Our analysis identifies a total of 69 sites of 5+ha within 60 minute drive time of the Port and within 20 minutes of the motorway network (totaling 851.54ha). The distribution of these sites in the City Region is shown on the Map in Figure 23.

The table below summarises our analysis of these sites in terms of size and drive time from the Port. The full schedule of sites is attached at Appendix B. This identifies that only 29 sites (totaling 577.5ha) are of 10+ha size. Of these, only 19 sites (totaling 423.25ha) are within 30 minutes drive time of the Port).

DRIVE TIME FROM LIVERPOOL2	SITES									
	< 10 HA		10 - 20 HA		20 - 40 HA		40+ HA		TOTAL	
	NO.	AREA	NO.	AREA	NO.	AREA	NO.	AREA	NO.	AREA
< 15 mins	4	23.24	1	16.75	0	0	0	0	5	39.99
15 - 30 mins	22	152.55	10	135.57	6	161.39	2	109.54	40	559.05
31-60 mins	14	98.25	9	125.75	1	28.5	0	0	24	252.5
<b>Total:</b>	<b>40</b>	<b>274.04</b>	<b>20</b>	<b>278.07</b>	<b>7</b>	<b>189.89</b>	<b>2</b>	<b>109.54</b>	<b>69</b>	<b>851.54</b>

Clearly some of these sites, whilst more distant from Liverpool2, may be well located to other port facilities (eg ABP Garston), the Airport, Manchester Ship Canal or a rail head. We have, therefore, assessed all of these sites qualitatively, scoring them against the criteria listed above, with a score of '1' representing the highest quality sites which are readily available and unconstrained and a score of '3' representing sites which are constrained through availability, access, ground conditions or other factors. Our scoring is, inevitably, somewhat subjective but represents a reasonable estimation of the scoring potential investors, developers and occupiers/operators would use to judge investment decisions on these sites.

The second schedule at Appendix B (Drive times) shows this scoring. The table below summarises our findings. This shows that only 12 sites (totaling 232.76ha) with a score of '1', the largest site being 3MG (61.54ha) and the next Omega South (48ha)

RANKING:	SITES									
	< 10 HA		10 - 20 HA		20 - 40 HA		40+ HA		TOTAL	
	NO.	AREA	NO.	AREA	NO.	AREA	NO.	AREA	NO.	AREA
1	4	29.69	5	69.25	1	24.28	2	109.54	12	232.76
2	16	110.76	8	120.51	4	114.8	0	0	28	346.07
3	20	133.59	7	88.31	2	50.81	0	0	29	272.71
<b>Total:</b>	<b>40</b>	<b>274.04</b>	<b>20</b>	<b>278.07</b>	<b>7</b>	<b>189.89</b>	<b>2</b>	<b>109.54</b>	<b>69</b>	<b>851.54</b>

Our conclusions on existing land supply from a quantitative and qualitative perspective are as follows:

- i. Whilst a significant amount of sites and land is currently available, the majority of sites are below 5ha in size. These are evenly distributed throughout the City Region, offering potential solus locations for specific user requirements but provide limited opportunity for the development of a 'logistics cluster' and the benefits that critical mass would bring.
- ii. Of 29 sites (totaling 577.5ha) of 10+ha size, 3 sites (47.44ha) are not available for 5+ years, reducing the immediate supply to 530.06ha on 26 sites.
- iii. Only 12 sites (totaling 232.76ha) score '1' in quality terms, the largest site being 3MG (61.54ha) and the next Omega South (48ha).
- iv. There are no additional sites over 60ha (capable of accommodating an SRFI) and only one highest quality 'strategic-size' distribution site (Omega South) over 40ha in size.
- v. At a 'Regional' scale (20+ha), there are only 7 other sites (totaling 189.89ha).



### 3.4.3 Meeting Projected Demand for Logistics Facilities

The projected demand for logistics facilities in the City Region and its immediate environs (as set out in the previous section) must be met by the current and potential supply of suitable sites and premises, where necessary subject to appropriate interventions and infrastructure improvements to ensure that these sites and premises provide an appropriate basis for investment.

The projected demand for logistics facilities in the City Region and its immediate environs (as set out in the previous section using scenario 1) identifies the need for a minimum land supply of 418 hectares over the next twenty years. However, taking manufacturing demand into account, the overall demand for land has been identified as 634 hectares:

	0-5 YEARS	6-10 YEARS	11-15 YEARS	16-20 YEARS
Logistics	104	105	100	109
Manufacturing	54	54	54	54
<b>Total</b>	<b>158</b>	<b>159</b>	<b>154</b>	<b>163</b>

The analysis of existing land supply above identifies that it is matched very tightly by demand in years 1 to 5, inevitably leading to shortfalls in some size ranges. In total there are 12 sites with 232.76 hectares of land to service an estimated 158 hectares of demand over this period.

Analysis of existing employment land supply in the study area clearly shows that a not insignificant proportion of land identified for employment purposes will be promoted and may ultimately be developed and used for other purposes (35% based on the analysis at 3.4.1 above). Liverpool City Region is also competing with other regions to attract logistics operators to invest in and occupy space within the City Region. In order to capture a higher proportion of this logistics activity and reduce employment leakage caused by logistics operators locating outside the region, an attractive 'offer' promoting investment in the City Region should

be presented. From a land supply perspective, this should comprise not only a good choice of high quality and genuinely available sites in terms of size and location, but also ideally a supply of appropriate sites which exceeds assessed needs in order to take into account churn factors, fluctuations in availability and the need to be able to offer choice to potential investors at all times. Churn and choice are often taken into account when calculating future land requirements in other forms of development (eg. commercial space and housing provision). In the case of housing, a headroom figure of between 5% and 20% is advocated in the NPPF. Providing such supply headroom is, in our opinion, no less important for logistics facilities. Based upon current market conditions and the particular characteristics of logistics sites (especially size and competing demand), we consider that a land supply provision of 10% to 25% above forecast demand would be sensible. This would allow positive choice in the market.

Inflating land supply requirements by 25% would give the following requirements:

	0-5 YEARS	6-10 YEARS	11-15 YEARS	16-20 YEARS
Logistics	130	131	125	136
Manufacturing	68	68	68	68
<b>Total</b>	<b>198</b>	<b>199</b>	<b>193</b>	<b>204</b>

If demand scenario 3 is adopted – with a bigger manufacturing component – the demand for land rises to 161 hectares in the first five years (or 201 hectares applying the 25% multiplier).

Demand for land remains consistently high across the twenty year study period. A number of new sites are either currently being or are likely in the future to be promoted as being capable of accommodating the specific need for logistics facilities in the study area.

Our research has identified a number of potential sites which are either currently being or are likely in the future to be promoted as being capable of accommodating the specific need for logistics facilities in the Liverpool City Region. These sites have not been included in the analysis of land supply above because their planning status is uncertain (they are not presently allocated or benefit from planning permission). The local authorities, acting together and with the support of the LEP, should include the provision of a portfolio of suitable sites over time through their local planning processes. NPPF requirements for cooperation between local planning authorities and other key stakeholders in the local economy make it essential that there is collaboration in determination of land supply for employment uses and allocation of sites for major development.

In assessing potential sites to meet the additional land requirements for logistics facilities identified above, the following location criteria should be taken in account:

- Sites of 5+ha, but ideally larger, capable of accommodating more than one unit of 50,000m<sup>2</sup> size
- Ready access to the Port and other key hubs/transport infrastructure, with a drive time no more than 60 minutes from the Port (and within 20 minutes of the motorway network)
- A population centre in close proximity (but not within 200m or beyond 1km)
- Certain availability, location suitability and unconstrained by issues such as site shape, access, ground conditions, utility constraints, conflict with neighbouring land uses, etc

#### **SHORT TERM SUPPLY**

Of the 69 sites of 5+hectares identified in the study, totalling 851 hectares, 12 of these are considered to be high quality immediately available sites covering 233 hectares of land. The largest site is 3MG and the next Omega South. With demand over the initial 5 year period estimated at 158 hectares (200 hectares with 25% headroom) supply of high quality sites is good, providing occupiers a range of suitable options.

#### **LONG TERM SUPPLY**

Longer term, demand for logistics and manufacturing facilities (excluding specific port passed requirements) is estimated at 634 hectares (net) over the 20 year period. Whilst total supply of sites at 851 hectares, 618 hectares are currently constrained through availability or physical factors with a quality ranking of 2 or 3.

In order to be competitive in the logistics market, the City Region will need to have high a good supply of large high quality sites available, suitable for logistics clusters, or demand will go elsewhere regardless of its operational advantages. On current estimates a further 400 hectares of high quality sites (500 hectares to provide 25% headroom) over the next 20 years would enable the City Region to maximise the opportunity created by **SUPERPORT**.

It is anticipated that demand will be met through a combination of investment in the existing 618 hectares of sites with a quality ranking of 2 or 3 to improve them and make them available to and suitable for the market and identification and development of sites not currently being promoted for logistics use.



## 4. Conclusions

Investment in Liverpool **SUPERPORT** presents a generational opportunity to place the port and surrounding logistics infrastructure at the heart of business in the UK and to claw back trade from it's natural hinterland lost to the South East.

The growth of ports on the south and east coast have distorted patterns of trade, taking business from the natural hinterland of the City Region. In order to redress that situation Liverpool aims not to be just on a par with Felixstowe, London Gateway or Southampton – but to be better.

This is not just about the provision of a range of attractive sites or a new riverside berth, it is about Liverpool's place in the supply chain. Commercial logic dictates that importers and exporters will gravitate towards the most cost effective supply chain solution.

Liverpool aims to become a byword for innovative, cost-efficient, sustainable port operation that can be replicated around the world. This requires a passionate, coherent commonality of vision, strategy and cooperation amongst all the stakeholders. Liverpool **SUPERPORT** embodies this ambition.

## 4.1 COMPETITIVE LANDSCAPE

Development of Liverpool2 provides the means for New Panamax vessels to visit the port but this is only the key that unlocks the door. Existing trade routes that do not include Liverpool in their schedule are well established and it will take economic arguments to change their choice of ports.

In many cases, the shipping lines themselves have a stake in the ports at which they call and therefore a vested interest in the route taken. Taking a lesson from this, Liverpool needs to build alliances with shipping lines and consortia that will facilitate the inclusion of the port as the UK call as well as courting importers of goods into the UK with the Liverpool offer. As far as exporters are concerned, particularly from the Midlands, the availability of a service call at Liverpool will make it easier to justify pushing to use the port. Where it is only a feeder service it is more difficult to justify the additional lifts involved.

This is not a door that is easy to open. Felixstowe already has daily rail services to the north west which serve importers very well and London Gateway will compete aggressively for business. Both are able to handle ultra large container vessels beyond the current scale of Liverpool. The best case scenario for Liverpool is that they cannibalise each others trade leaving the port to build its own unique offer.

And that offer is crucial. The comment that competition in the future will not be between ports but between supply chains is especially important. To be successful Liverpool has to be seen, and see itself, as a component in a global supply chain and market itself accordingly.

## 4.2 MODAL SHIFT

Road will continue to be the dominant mode of use for the foreseeable future – a factor that is not within the control of the port. The progressive implementation of low-emission vehicles will however begin to improve the haulage industries reputation as carbon intensive.

Rail freight has been a success story since the mid-nineties. Industry forecasts suggest that freight demand will grow by 30% over the next decade. Looking further ahead, Network Rail has suggested that rail freight could increase by as much as 140% by 2030. Given the fervour with which companies are taking up real sustainability – a 5% modal share for rail as suggested in the MPMP appears unambitious but the additional lifts and inflexibility limits its suitability for many clients.

Growing the use of the Manchester Ship Canal is innovative in the UK and is ideal for servicing canalside sites. However its appeal to a wider hinterland may be limited by the additional lifts involved.

Very little air freight is currently handled at John Lennon airport and it is likely that this will remain the case in the short term until significant scheduled passenger routes are established.

## 4.3 LANDSIDE CONNECTIVITY

Improvements to road infrastructure around the port, especially the A5036 from the port to the motorway, are key for the efficient operation of the port post 2020.

Connection of the rail line to Liverpool2 is also a prerequisite as is continued improvement of the whole line to W12 gauge clearance allowing European rolling stock to access the port.

The inclusion of the Wirral line as part of the strategic freight network would free up funds for gauge clearance and afford better rail access to land along the Wirral.

The innovative use of ships to move containers from Liverpool2 to onward distribution sites or end users located along the Manchester Ship Canal will reduce pressure on the road network.



#### 4.4 SUPPLY AND DEMAND

Although there is a great deal of industrial land in the City Region, only a proportion of it is suitable to meet demand in the next five years particularly. In total the study identifies 12 sites with 232.76 hectares of land to service an estimated 158 hectares of demand over this period. If as scenario 3 shows, there is a higher proportion of take up in manufacturing, the demand for land rises.

Given the need for a choice of high quality, serviced sites to offer potential occupiers, we consider that a land supply provision of up to 25% above forecast demand would be sensible. This would allow positive choice in the market which may be capable of being accommodated in existing land supplies in the first five years, but will require the identification of further land and sites from year 6 onwards.

While a significant amount of sites and land is currently available, the majority of sites are below 5ha in size. These are evenly distributed throughout the City Region, offering potential solus locations for specific user requirements but provide limited opportunity for the development of a logistics cluster and the benefits that critical mass would bring. Of 29 sites of 10+ha size, 3 sites are not available for 5+ years, reducing the immediate supply to 530.06ha on 26 sites.

Only 12 sites score '1' in quality terms, the largest site being 3MG (61.54ha) and the next Omega South (48ha). There are no additional sites capable of accommodating a Strategic Rail Freight Terminal and only one high quality strategic-size distribution site (Omega South) over 40ha in size. At a regional scale (20+ha), there are only 7 other sites. Although the potential to bring forward Parkside in St Helens as a 100 ha for multimodal logistics is noted.

#### 4.5 ECONOMIC IMPACT

The Catch-22 for any port is that getting goods in and out of a port efficiently is a prerequisite for shippers, yet the more landside connectivity improves, the easier it becomes for shippers to bypass the local economy. The extent to which serviced, accessible sites are made available to business will determine how much of that trade sticks instead of passing through. Shortening the supply chain, by minimising the haul from ship to warehouse, gives the closest sites a competitive advantage to their occupiers.

Manufacturing is an important part of the North West economy. Although this report is focussed primarily upon logistics, assessment of the supply of and demand for land can only take place in the context that some land suitable for logistics will go for manufacturing use. Because manufacturing tends to generate more jobs than logistics with higher employment multipliers, increased manufacturing has a significant impact on employment generation and thereby the local economy. Depending on the assumptions used about the mix between the two sectors, the next twenty years will likely see between 30,000 and 50,000 jobs created in the next 20 years.



Overall a good supply of high quality and readily accessible sites exists sufficient to meet occupiers' demands arising from this investment over the next 5 years. Over the twenty year period a further 400-500 hectares of high quality sites are forecast to be required to meet the anticipated significant increase in demand. There is a collective commitment, through local planning processes, to identify and develop sufficient high quality sites and investment in transport infrastructure to meet this demand.



## 5. Recommendations and next steps

### 1. ALLIANCES

The critical path to meeting the vision set out for Liverpool **SUPERPORT** as a thriving freight cluster runs straight through the attraction of container services using Liverpool2 as the primary UK call. With these additional services the attraction of the port to exporters will be significant by comparison with its main competitors and the onus to use Liverpool even from beyond its natural hinterland is increased.

It is noteworthy that members of the three largest shipper alliances have a financial interest in many of the ports at which they call and that Felixstowe is owned by Chinese interests. This reinforces the point that, even setting aside cross ownerships, alliances are a cornerstone of trade routes.

This is recognised, in part, by the co-operation between Peel and the Port of Busan. Busan is the largest port in South Korea and already has co-operation agreements with Southampton and Rotterdam amongst others. The next step will be to court similar relationships with:

- Large exporters to the UK
- Key shipping lines that service Europe from expanding markets
- Latin American port and shipping operators in Panama and Mexico.



## 2. RAIL CONNECTIVITY

Even a cursory examination of the schedules of the main shipping alliances shows that the UK is, in the main, only serviced as part of, for example, a Sino-European service. This means that the European calls will be, say, Felixstowe, Bremerhaven and Rotterdam. Similarly, the ACL service that calls at Liverpool does so as part of a route that runs from Baltimore to Gothenburg.

Rail connectivity from Liverpool2 holds out the prospect of the port being the primary European port of call with containers being delivered directly into the heart of Europe by rail from the quayside. This reduces the amount of handling required and increases the efficiency of the supply chain.

In fact, from an economic demand perspective such a service, of itself, would have only a small local impact, but it would provide the port with an USP over the east coast and mainland European ports making the attraction of a primary service call a compelling proposition.

The next steps here are:

- To lobby hard for a W12 (European) gauge-cleared route from Liverpool2 to the Channel Tunnel that will enable all full size European containers to use the line on normal rolling stock
- To emphasise the importance of rail to **SUPERPORT**
- To engage with the European Commission's plans for investment in rail infrastructure
- To iterate the vision of servicing Europe through Liverpool.

## 3. INLAND WATERWAYS

An important option for landside connectivity is to tranship containers from the quayside down the Manchester Ship Canal to one of the string of canal ports identified in the MPMP. Conventional analysis would say that this adds additional lifts and inefficiencies into the supply chain, increasing costs. There are, however, clear economic and environmental benefits to this mode. By taking HGV trips out of the supply chain, inland waterways reduce both congestion and the carbon footprint while ensuring that the demand creates local jobs with a resulting economic impact. Next steps here should be:

- To educate and inform the logistics industry as to the benefits of this approach
- Engage with the European Commission's plans for investment in inland waterways, in particular the NAIADES II initiative "Towards quality inland waterway transport"
- To investigate the traffic impacts of increased Manchester Ship Canal use.

## 4. CAPTURING DEMAND

Demand arising from the activities of **SUPERPORT** is footloose. An important measure of economic success for the City Region will be how much of the demand identified is captured by the local economy. Demand will be maximised if Liverpool continues to demonstrate the supply chain efficiencies brought by the port. Next steps are:

- Quantify time and supply chain saving made by locating in Liverpool compared to using one of the East coast ports transporting to a National Distribution Centre (NDC), or Regional Distribution Centre (RDC) and then distributing from there. Occupiers will locate at **SUPERPORT** if they feel it offers a competitive advantage and enables them to achieve supply chain savings
- Promotion of **SUPERPORT** at the main trade fairs in Europe, Asia and the Americas;
- Once service calls have been achieved undertake direct promotion with key retailers
- Promotion of prime sites, with indicative layouts and costings etc



- Promote shared user facilities such as that operated by Peel/ Denholm Logistics, to enable shippers to 'try us out' and then secure longer term commitment.

## 5. SITE SUPPLY

This study has shown that the supply of land to service projected demand is tight, with few sites able to support the creation of logistics clusters of any scale. Liverpool is a City Region with limited land availability adjacent to the **SUPERPORT** assets particularly along the north bank of the Mersey. This puts the port at a disadvantage by comparison with its main competitors that have the ability to handle port-centric demand adjacent to the port.

The availability of a ready supply of accessible, serviced sites over time is an important precursor to capturing the demand generated by port activity. These need to have good access to the container port particularly. Next steps are for local authority partners, acting sub-regionally, to:

- Identify through local planning processes sufficient capacity over time to meet demand
- Arising from the above, identify key deliverable sites suitable for new logistics/manufacturing facilities
- Investigate ways of ameliorating the distance between port and sites through incentives or services.

## 6. ROAD INFRASTRUCTURE

Road will continue to be the dominant mode of transportation for goods over the forecast horizon. Increases in the throughput of Liverpool2 particularly will place extra pressure on existing roads in particular the A5036 connecting Seaforth to the motorway network. Next steps are:

- Develop a competitive plan for improved Port Access including, road, rail and canal
- Investigate future HGV traffic flows around the City Centre to both the Mersey Tunnels and the Gateway bridge.

## 7. PORT INFRASTRUCTURE

The growth in size of container vessels means that there are now ships in service that cannot use the Liverpool2 facility as it is currently configured. As industry analysts foresee even larger vessels in the future, to avoid access becoming an issue next steps are:

- To promote the feasibility of handling vessels of 18,000 TEU and above at Liverpool2
- To establish the likely investment required to service these ships.

## 8. FURTHER RESEARCH

Much of the work on Liverpool's natural hinterland has been theoretical based upon regional data and modelled penetration of markets. There is a strong case here for research into the actual flow of goods from factory to consumer through Liverpool.

Such research would require the co-operation of manufacturers, shippers and distributors but it would give a granular view of how goods move through the port, from where they come and where they go. This would allow the identification of pinch points and inefficiencies as well as give examples of current best practice.

In addition to informing strategy, the research would also put **SUPERPORT** in front of all the key stakeholders in the whole supply chain demonstrating to investors the deep knowledge of markets held by the consortium.







# APPENDICES

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## APPENDIX A – MODELS AND ASSUMPTIONS

Two models have been generated for this study:

- Land from trade which calculates the implied take of land from tonnage data; and
- Employment which calculates the employment implication of given land supply.

### LAND FROM TRADE

#### OBJECTIVE

To calculate the area of space likely to be generated by a given level of trade expressed in TEU

#### INPUTS

Trade volumes in TEU by year

#### VARIABLES

- tonnes per teu – the average cargo weight of a 20 foot container derived from tonnage and teu data
- tonnes per sm – the average weight of cargo on a standard 1,000 x 1,200 pallet per square metre
- stack height – the average number of pallets stacked in a warehouse
- plot density – the proportion of a site covered by a building
- nett to gross – the multiplier from nett internal space to gross external space
- stock turn pa – the number of time stock turns in a year

#### CONSTANTS

- Average aisle width is applied of 3 metres to gain access to the pallet stack

#### ASSUMPTIONS

Tonnes per teu	7.22	This is the average net weight ie excluding the weight of the container itself
Tonnes per square metre	0.67	1 tonne per pallet is the industry heuristic – a standard pallet is 1.2 square metres
Stacking height	4	ie a stack height of some 6 metres
Plot density	40%	Minimum standard for new industrial development
Net to gross	1.2	Industry heuristic – net internal space is around 80% of gross external
Stock turn per annum	24	ie stock is replenished every 15 days

These assumptions imply that the space requirement generated is of conventional configuration. If the space is high-bay, clearly the stacking height would need to be adjusted upwards resulting in a smaller area footprint but a higher cube. Similarly if the space is automated, for example with very narrow aisles, the aisle width constant would need to be reduced resulting in less area.



**OUTPUTS**

Table of land required to service inputs by year

**EMPLOYMENT**

Objective

- To calculate the likely employment resulting from demand for industrial space
- To calculate the implications of that for land, taking into account secondary employment implied by multipliers.
- Variables
- Logistics employment density in square metres per capita
- Logistics employment multiplier
- Manufacturing employment density in square metres per capita
- Manufacturing employment multiplier

**ASSUMPTIONS**

Logistics employment density	70 - 95	This would be a typical level for a conventional warehouse. Larger footprints tend to see lower densities with the lowest in high-bay, highly automated space.
Logistics employment multiplier	0.7	This generates secondary employment ie for every job directly created this is the number created indirectly. Logistics multipliers tend to be in the range of 0.5 - 1
Manufacturing employment density	40	Manufacturing densities tend not to vary as much as logistics densities historically
Manufacturing employment multiplier	3.5	Manufacturing multiples are a subject of great debate and can be found in the literature to be anywhere from 1:1.5 up to 1:20

Clearly the range of values possible allow the generation of any number of jobs to suit any agenda. These are felt to be reasonable values born of our experience.

**OUTPUTS**

- Range of employment generated over time
- Land implications of secondary employment

**Key**

- Sites from 1.25-4.99 ha capable of B8 Development
- Sites in excess of 5ha capable of B8 Development
- Sites and buildings committed or likely to be developed for alternative uses other than B8

**APPENDIX B – SITE ANALYSIS**

KEY RESULTS	HECTARES	SQ M
TOTAL SITES IN ALL AREAS IN EXCESS OF 1.25 HA	1,518.28	
TOTAL SITES FROM 1.25 HA - 4.99 HA CAPABLE OF B8 DEVELOPMENT	200.21	
TOTAL SITES IN EXCESS OF 5HA CAPABLE OF B8 DEVELOPMENT	851.54	
TOTAL SITES COMMITTED OR LIKELY TO BE DEVELOPED FOR ALTERNATIVE USES OTHER THAN B8	484.02	
TOTAL SITES IN EXCESS OF 5HA AVAILABLE IN 1-5 YEARS	774.95	
TOTAL SITES IN EXCESS OF 5HA AVAILABLE IN 5+ YEARS	76.59	
TOTAL EXISTING BUILDINGS IN EXCESS OF 5,000 SQM SUITABLE FOR B8 USE		279,708

LOCAL AUTHORITY	ADDRESS	TOWN	SIZE: M2 (BUILDING)	SIZE: HA(SITE)	USES: B2/B8	COMMENTS
HALTON	Manor Point	Runcorn	12,337		B8	Letting completed Oct 13 to Rehaus
	Warehouse (Onyx), Blackheath Lane, Manor Park	Runcorn	31,894		B8	Building can be split. Currently have interest in c. 18,580 sq m
	Unit1, Faraday Road, Astmoor Ind Est,	Runcorn	5,741		B2/B8	Currently being marketed
	Unit1, Expressway Ind Est	Runcorn	5,542		B2/B8	Currently being marketed
	Tudor Road, Manor Park	Runcorn	5,235		B2/B8	Currently being marketed
	Stuart Road, Manor Park	Runcorn	5,171		B2/B8	Currently being marketed
	The High Bay, Ditchfield Road	Widnes	9,576		B8	Formally known as The Bear, can extend to 13,935 m2
	Unit1, Towngate Business Centre,	Widnes	6,970		B2/B8	Refurbished second-hand accommodation
	Ditton Road / Speke Road	Widnes		1.44	B2/B8	
	Ditton Road / Speke Road	Widnes		1.44	B2/B8	
	Johnsons Lane	Widnes		8.66	B2/B8	Available - site contaminated
	Shell Green, adj to Easter Park	Widnes		3.28	B1/B2/B8	Possible B1 allocated
	Shell Green	Widnes		3.84	B1/B2/B8	Possible B1 allocated
	3 MG, Widnes (formally Ditton Strategic Rail Freight)	Widnes		61.54	B2/B8	90 ha in total inc. container park and bio-mass facility. Stobart Park partially developed - Tesco occupy 71,533 sqm. 26ha remaining. HBC Field 26ha available and Ex Sleeper depot 9.54ha available
	Express Way Development Lane, Speke Road	Widnes		9.54	B2/B8	Within the 3MG Masterplan - sites for sale or design and build up to 41,805 sq m
	G.Park Widnes, Gorsey Lane	Widnes		16.18	B2/B8	Can accommodate up to 48,704 sq m in a single building.
	Manor Park II	Runcorn		1.47	B2/B8	

LOCAL AUTHORITY	ADDRESS	TOWN	SIZE: M2 (BUILDING)	SIZE: HA(SITE)	USES: B2/B8	COMMENTS
	Manor Park III	Runcorn		15.32	B2/B8	Available
	Manor Park III	Runcorn		6.31	B2/B8	Available
	Rivington Road (Whitehouse Vale), Runcorn	Runcorn		1.57	B2/B8	
	North of Hale Bank Road	Widnes		24.80	B1/B2/B8	Available, possible freight use
	Ineos Chlor Weston Point	Runcorn		12.48	B2	Owner planning incinerator development
	North of Hale Bank Road,	Widnes		22.80	B1/B2/B8	Available, possible freight use
	Ineos Chlor Weston Point	Runcorn		12.48	B2	Owner planning incinerator development

KNOWSLEY	I M I Yorkshire Copper Tubing Ltd, East Lancashire Road, Knowsley Industrial Park	Knowsley		3.06	B1/B2/B8	Site under construction - planning for 13 industrial units
	Land Opposite Contract Chemicals, Bounded By Penrhyn Road/ Villiers Road, Knowsley Business Park,	Knowsley		1.30	B2/B8	Site under construction
	Land Adjacent Nexus Business Park, Off School Lane, Knowsley Business Park	Knowsley		1.26	B1/B2/B8	Site currently being marketed
	Land at corner of A580 / Moorgate Lane, Knowsley Industrial Park	Knowsley		3.27	B1/B2/B8	Site currently being marketed
	Land Between Cronton Road And M62 Motorway (Junction 6)	Knowsley		8.03	B1/B2/B8	Site currently being marketed.
	Project Pluto (Former Petrolite Ltd Site), Acornfield Road, Knowsley Industrial Park	Knowsley		7.66	B1/B2/B8	Site currently under construction for alternative uses
	Part of Dairy Crest / Kraft site, A580, Knowsley Industrial Park	Knowsley		3.97	B2/B8	Not currently available - Up to 5 years
	Land adjacent Former Ethel Austin Site, Ainsworth Lane, Knowsley Business Park	Knowsley		2.25	B2/B8	Site currently being marketed as part of the wider scheme

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LOCAL AUTHORITY	ADDRESS	TOWN	SIZE: M2 (BUILDING)	SIZE: HA(SITE)	USES: B2/B8	COMMENTS
	Land Between Units 7 And 19 Randles Road, Knowsley Business Park	Knowsley		1.31	B2/B8	Not currently being marketed - available 1-3 years
	Gresham Park, South Boundary Road	Knowsley		2.43	B2/B8	Can accommdate upto 10,219 m2
	Black Jack, Hornhouse Lane, Knowsley Industrial Park	Knowsley		2.98	B1/B2/B8	Site currently beng marketed
	Land north of Image Business Park, Acornfield Road, Knowsley Industrial Park	Knowsley		3.41	B1/B2/B8	Site currently being marketed
	Land at Knowsley Lane, Huyton	Huyton		21.35	B1/B2/B8	Not currently being marketed - available 5+ years. Earmarked for Business Park use
	Alchemy, Located Off East Lancashire Road, Kirkby	Knowsley		6.00	B2/B8	8,640 m2 existing buildings, can accommodate up to 27,870 m2
	Land at Academy Business Park, Moorgate Road, Knowsley Industrial Park	Knowsley		10.00	B2/B8	Can accommodate units from 9,290 - 39,482 m2
	South Prescott (Area B)	Prescot		2.24	B1/B2/B8	Not currently being marketed - available 1-3 years
	Prescot Park, Junction 2 M57	Prescot		26.30	B1/B2/B8	Mixed use scheme, including some residential
	Land To Rear Of Delphi Delco, At Junction Of South Boundary Road/Hornhouse Lane, Knowsley Industrial Park	Knowsley		1.93	B1/B2/B8	Site currently being marketed - available 1-3 years
	Land adjacent to Former Ethel Austin Building, School Lane, Knowsley Business Park	Knowsley		5.06	B1/B2/B8	Site currently being marketed - available 3-5 years
	Moss End Way (East), Knowsley Industrial Park	Knowsley		2.09	B2/B8	Site not currently being marketed - available 1-3 years
	Moss End Way (West), Knowsley Industrial Park	Knowsley		4.14	B2/B8	Site not currently being marketed - available 1-3 years
	North Perimeter Road / Moss End Way, Knowsley Industrial Park	Knowsley		5.31	B2/B8	Available 1-3 years
	Land to the East of Knowsley Industrial Park			7.00	B1/B2/B8	Available 5+ years

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	Jaguar Land Rover Expansion Area, Speke Boulevard			16.47	B2/B8	Reserved for JLR expansion - available 6-10 years
	Land at Britonwood Industrial Estate, Knowsley Industrial Park	Knowsley		6.36	B2/B8	Site currently being marketed - available 1-3 years
	Land at Carr Lane	Prescot		3.18	B1/B2/B8	Site currently being marketed
	Land East Of Moorgate Point, Moorgate Road, Knowsley Industrial Park	Knowsley		2.55	B1/B2/B8	Site currently being marketed - available 1-3 years
	Land at South of the M62,	Cronton		24.51	B1/B2/B8	Available 5 + years.
	Vacant Site (Former Rentokil Site), Bradman Road, Knowsley Industrial Park, Kirkby	Kirkby		1.33	B2/B8	Site currently being marketed
	Hi-Wire Ltd (Essex International), Ellis Ashton Street, Huyton, Knowsley, L36 6BW	Knowsley		2.35	B2/B8	Not currently being marketed - available 3-5 years
	Jaguar Land Rover Fringe, between North Road & South Road, Halewood	Halewood		8.65	B2/B8	Reserved for JLR expansion
	Land at QVC site, Knowsley Industrial Park	Knowsley		1.54	B1/B2/B8	Not currently being marketed - available 5+ years
	Potter Logistics Rail Freight Terminal, Knowsley Industrial Park	Knowsley		8.00	B2/B8	Site 21.70 Ha total. Room for 37,160 m2
	Former Sonae (UK) Ltd, Moss Lane, Knowsley Industrial Park, Kirkby	Knowsley		12.62	B2/B8	Marketing recently commenced as development opportunity
	Land Bounded By Dale Lane, North Perimeter Road & Woodward Road, Knowsley Industrial Park	Knowsley		3.17	B2/B8	Likely to be available in 3-5 years
	Fringe of Image Business Park, Knowsley Industrial Park	Knowsley		1.26	B2/B8	Likely to be available in 5+ years






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LOCAL AUTHORITY	ADDRESS	TOWN	SIZE: M2 (BUILDING)	SIZE: HA(SITE)	USES: B2/B8	COMMENTS
	Knowsley Business Centre & South Boundary Road Hub, Knowsley Industrial Park	Knowsley		2.28	B1/B2/B8	Likely to be available in 5+ years
	Land between Rail Freight Terminal & Former Sonae, off Woodward Road, Knowsley Industrial Park	Knowsley		2.30	B2/B8	Likely to be available in 5+ years
	Land off School Lane & Overbrook Lane, Knowsley Business Park	Knowsley		2.00	B1/B2/B8	Likely to be available in 5+ years
	Land off Acornfield Road, Knowsley Industrial Park	Knowsley		2.82	B2/B8	Development opportunity - marketing ongoing
	Land South of the M62	Cronton		24.51	B1/B2/B8	Available 5 + years. Likely to be developed for alternative uses.
	29 Lees Road	Kirkby	7,949		B2/B8	Existing industrial/warehouse building
	Unit 5a, Academy Business Park	Kirkby	5,190		B2/B8	Existing industrial/warehouse building
	Bradman Road	Kirkby	5,745		B2/B8	Existing industrial/warehouse building
	Charleywood Point, Charleywood Road, Kirkby	Kirkby	8,143		B2/B8	Modern industrial/warehouse distribution facility
	Image Business Park, Building 38, Acornfield Road	Kirkby	6,600		B2	Existing industrial/warehouse building
	The Delphi Building, Moorgate Road	Kirkby	15,688		B2/B8	Existing manufacturing facility available as a whole or in parts
	Trio Unit 3, Acornfield Road	Kirkby	6,308		B2/B8	Existing industrial/warehouse building
	Knowsley 200, Ainsworth Lane	Prescot	18,492		B2/B8	Existing industrial/warehouse building
	Saturn, Unit S1, School Lane	Prescot	14,670		B2/B8	Existing industrial/warehouse building
	Saturn, Unit S2, School Lane	Prescot	17,785		B2/B8	Existing industrial/warehouse building
	Saturn, Unit S3, School Lane	Prescot	7,150		B2/B8	Existing industrial/warehouse building
	Fallows Way	Whiston	12,265		B2/B8	Existing industrial/warehouse building
	Jupiter, Knowsley Industrial & Business Park	Knowsley	13,285		B8	Let Sept 2013 to TTAS (Toyota subsidiary)

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LIVERPOOL	Capital Building/ City Exchange, 39 Old Hall Street	Liverpool		1.35	B1/B2	Constrained City Centre location
	Commercial Quarter (Site to Rear of Mercury Court)	Liverpool		3.46	B1/B2	Constrained City Centre location
	Eastern Part of FMR Commercial Hydraulics Site/ Long Lane	Liverpool		2.58	B1/B2/B8	
	Former British Rail Land, Dock Road, Garston	Liverpool		5.15	B2/B8	
	Gillmoss Business Park / East Lancashire Road	Liverpool		21.72	B8	
	Land at Western End of Charnock Road Liver Industrial Estate	Liverpool		1.75	B1/B2/B8	
	N/W Corner of Gillmoss Industrial Estate / Stonebridge Lane, East Lancashire Road	Liverpool		5.87	B1/B2/B8	
	Site off Long Lane, Rear Liver Industrial Estate adj Loopline	Liverpool		2.14	B1/B2/B8	
	Stanley Industrial estate (North of Prescott Road)	Liverpool		12.7	B1/B2/B8	
	Stonebridge Business Park, Land along A580 between Lower Lane and Back Gillmoss Lane	Liverpool		39.78	B1/B2/B8	
	Western part of FMR Commercial Hydraulics Site / Long Lane	Liverpool		2.43	B1/B2/B8	
	G Park	Liverpool		10	B2/B8	Planning permission granted to Home Bargains for expansion Oct 13
	Unit 3, Boulevard Industry Park, Speke	Liverpool	6,740		B2/B8	Self-contained, cross docked warehouse adjacent to JLR Halewood
	Liverpool International Business Park	Liverpool		8.09	B1/B2/B8	Owned by Peel Dev. Consent granted for 32,515 sqm. Requires utilities connection
	Wellington Employment Park South, Dunes Way, Liverpool	Liverpool		5.46	B1/B2/B8	
	Dunnings Bridge Road, Bootle	Liverpool		4.72	B2/B8	Prominent storage land and small units

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	Land at Derby Road / Bankhall Street	Liverpool		1.69	B1/B2/B8	HCA owned seeking developers / occupiers
	Land at S/E Junction of Bankhall Street / Bankhall Lane	Liverpool		1.62	B1/B2/B8	Assessed as likely to be developed for alternative uses other than B8
	Canada Docks railway sidings - Derby Road / Bankfields St / Regent Road	Liverpool		1.78	B1/B2/B8	Assessed as likely to be developed for alternative uses other than B8
	The Edge, Edge Lane Retail & Leisure Park	Liverpool	5,574		B2/B8	Existing industrial/warehouse building

SEFTON	Atlantic Park, Dunnings Bridge Road	Netherton		16.75	B1/B2/B8	Available 3-5 years, Part office development since 2010 report and 2012 Refresh
	Former Parcel Force Depot, Trinity Park, Orrell Lane	Bootle		2.83	B2/B8	Site currently being marketed - available 3-5 years
	Former Peerless Refinery, Dunnings Bridge Road, Netherton	Netherton		5.82	B1/B2/B8	Available 1-3 years, Bestway Wholesale (7,430 m2) built since 2010 report
	Switch Car Site, Wakefield Road, Netherton	Netherton		4.69	B1/B2/B8	Site currently being marketed - has access issues at present
	Land south of Heysham Road, Netherton	Netherton		2.05	B1/B2/B8	
	Land at Trinity Park, Orrell Lane, Bootle	Bootle		2.8	B1/B2/B8	
	Former Sewage Works, Sefton Lane Industrial Estate,	Maghull		1.44	B2/B8	Availability 5 years plus
	Big Ft, Atlantic Park, Dunnings Bridge Road	Netherton	16,723		B2/B8	Former Rolls Royce factory refurbished

ST HELENS	Land SW of Sandwash Road, Hazel Business Park	St Helens		6.17	B2/B8	Available
	Land South of Washway Road, Pilkingtons City Rd Site	St Helens		13.82	B2/B8	Available - known as Cowley Hill
	Gerards Bridge	St Helens		2.10	B1/B2/B8	Possible development by Northern Trust
	Eastside Masterplan St Helens Glass, Atlas Street	St Helens		3.30	B2/B8	Available
	Eastside Masterplan, Parr Street	St Helens		1.49	B1/B2/B8	Available

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	Former Ravenhead Glass Site, Ravenhead Road	St Helens		7.38	B1/B2/B8	Planning app. For residential. Existing warehouse indoor football use.
	Hays Chemicals Site at Peasley Cross	St Helens		5.44	B2/B8	Available
	Land North of Kilbuck Lane, Haydock Cross	St Helens		3.46	B2/B8	Available
	Sankey Valley Industrial Estate, Former Sugar Works	St Helens		12.90	B2/B8	Available 6-10 years, owned by Revelan Group
	Land at Lea Green Farm West, Elton Head Road	St Helens		6.99	B2/B8	Available
	Former Ibstock Brick Site	St Helens		8.10	B2/B8	Available 6-10 years
	Warehouse (former SCA) Lock Street off Merton Street	St Helens	18,115		B2/B8	Available to let
	Sandwash Park, Rainford	St Helens		10.12	B2/B8	Available, can accommodate upto 37,160 m2

WIRRAL	Cammell Lairds, S of Wet Basin,	Rock Ferry		24.50	B2/B8/Port	Peel retaining for port use but temp use to RWE
	Eastham Dock Estate, QE II Dock,	Eastham		6.55	B2/B8/Port	Peel relocating uses from Ellesmere Port
	Eastham Dock Estate, Eastham Refinery	Eastham		5.87	B2/B8/Port	Peel retaining for waste recovery plant
	Eastham Dock Estate, North Road Tank Farm	Eastham		9.29	B2/B8/Port	Peel relocating uses from Ellesmere Port
	ITC, West Float, Wirral Waters	Wirral		24.28	B2/B8	Owned by Peel Dev. International Trade Centre consented - could accommodate up to 92,900 sq m logistics related uses allied to ITC and Automotive Supplier Park
	South of Commercial Road	Bromborough		2.08	B1/B2/B8	Marketed as potential business park by NWDA in 2009
	Centuria Business Park, Stadium Rd	Bromborough		8.05	B2/B8	Owned by Casey Group. Site contaminated - Available 5+ years
	Lever Faberge, former BOCM Silcock	Bromborough		6.42	B1/B2/B8	Constrained (former industrial tip), Lever Faberge expansion
	Lever Faberge, Bromborough Rd	Bromborough		15.53	B1/B2/B8	Lever Faberge expansion
	East of Lubrizol, Bromborough Coast	Bromborough		9.63	B2/B8	Constrained, tipping incinerator ash
	Croft Ind Estate, Former Spectrum Adhesives	Bromborough		1.66	B1/B2/B8	Offices proposed. NWDA agreed sale to developer in 2009

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	Wirral International Business Park (adj Great Bear Distribution)	Bromborough		2.20	B2/B8	Can accommodate upto 9,290 m2
	Slack Wood, Riverwood Rd	Bromborough		2.02	B1/B2/B8	Filled land & level problems, B1 allocated
	Rear of AP Refractories	Bromborough		1.88	B2/B8	Back land infill site to D1 oils complex
	Former MOD Tank Farm, Old Hall Road	Bromborough		8.05	B1/B2/B8	Available 3-5 years
	Land at Riverbank Road	Bromborough		1.78	B2/B8	Frontage to concrete plant, public cycle route
	Former Croda / Uniqema site	Bromborough		12.94	B1/B2/B8	Site, land & plant owned by IPP
	Tulip Expansion (North)	Bromborough		2.29	B1/B2/B8	Tulip expansion land
	The Quadrant, Pool Lane	Bromborough	6,910		B2/B8	Fully racked facility - available Sept 2014 or earlier by agreement
	Bassendale Road, Wirral Intl Bus Park	Bromborough	6,090		B2/B8	Detached warehouse/ manufacturing facility
	Former UML Power Station, Thermal Rd	Bromborough		2.71	B1/B2/B8	Reclaimed brownfield site available
	Premier Brands, Reeds Lane, Leasowe & Morton East	Leasowe		7.93	B2/B8	South of access road, former company playing fields
	Premier Brands, Pasture Rd, Leasowe & Morton East	Leasowe		2.62	B2/B8	North of access road, former company playing fields
	Peninsula Business Park, Leasowe & Morton East	Leasowe		1.26	B1/B2/B8	Proposed office scheme, flood risk
	Former Rail Depot, Birkenhead & Tranmere	Birkenhead		3.44	B2/B8	Due to access issues unlikely to be developed for B8 uses
	Twelve Quays, Morpeth Waterfront	Birkenhead		1.50	B2/B8/Port	Peel retaining for RORO ferry expansion
	British Gas Depot, Hind Street	Birkenhead		2.70	B2/B8	Had approval for mixed use
	Former Town Station, Borough Rd East	Birkenhead		1.26	B2/B8	Owner pursuing town centre uses in 2009
	Rose Brae Phase 2, Church St	Birkenhead		1.96	B1/B2/B8	Designated B1, owner pursuing housing but identified as mixed use
	Former John Braid Site	Birkenhead		1.95	B1/B2/B8	Cleared site, located within industrial estate
	Cross Lane, South of Spellmans	Wallasey		1.61	B2/B8	Approval for open storage 2009 but poor ground



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	Fmr Training Ground, Valley Rd, Bidston & St James	Bidston		1.27	B2/B8	Designated for sport & recreation, has access road to industrial area
	Former River Streets, Beaufort Rd	Bidston		5.85	B2/B8	Industrial use in Birkenhead Masterplan & Wirral Waters hinterland
	Wirral Waters, Bidston Dock	Bidston		17.49	B2/B8	Filled dock (4.37 Ha)
	Cavendish Quay, Birkenhead Dock Estate	Bidston		2.00	B2/B8/Port	Peel retaining for relocating businesses affected by Wirral Waters
	Wirral Waters - Sky City	Bidston		5.39	B1/B2/B8	Identified for high rise offices, surrounding area industrial
	Wirral Waters - Vittoria Dock	Bidston		6.34	B1/B2/B8	Identified for high rise offices, surrounding area industrial
	Wirral Waters - Marina View	Bidston		4.80	B1/B2/B8	Identified for high rise mixed use, surrounding area industrial
	Former British Gas, Old Gorsey Lane	Seacombe		2.10	B2/B8	Cleared site - part of Wirral Waters, heavily constrained
	Wirral Waters, Former Buchanan's Mill	Seacombe		4.21	B2/B8/Port	Appoved for mixed use subject to s106
	Former Waste Transfer, Limekiln Lane	Seacombe		1.58	B2/B8	Cleared site, constrained (made ground), Wirral Waters hinterland
	Former Stone Manganese, Dock Road	Seacombe		6.86	B2/B8	Partially cleared, part of Wirral Waters hinterland
	Wirral Waters, North Bank	Seacombe		2.65	B2/B8	Cleared site, located within industrial estate
	Rear of Arrowbrook Road	Upton		2.00	B1/B2/B8	Former landlocked expansion site, adjacent to business park
	URL South Site	Bebington		3.85	B1/B2/B8	Former golf course, adjacent research labs
	Rear of Arrowbrook Road	Upton		2.00	B1/B2/B8	Former landlocked expansion site, adjacent to business park
	URL South Site	Bebington		3.85	B1/B2/B8	Former golf course, adjacent research labs

CHESHIRE WEST & CHESTER	Bumpers Lane	Chester		25.00	B1/B2/B8	Potential traveller site (part), allocated to Waste Local plan (part)
	6 Knutsford Way	Chester		1.56	B1/B2/B8	
	Boots CSR, Mercury Court	Chester		1.54	B1/B2/B8	
	Land at Premier House, Charterhall Drive	Chester		2.54	B1/B2/B8	Available
	Wrexham Road Farm, part Chester Business Park	Chester		1.90	B1/B2/B8	Available
	Old Port, Southern Tail, Crane Street Frontage	Chester		1.50	B1/B2/B8	Available

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	Matrix 100, Sovereign Way, Chester West Employment Park	Chester	9,479		B2/B8	Modern warehouse/distribution facility
	Redevelopment of part of Countess Hospital	Chester		2.00	B1/B2/B8	
	Kemira, Ince Marches	Ellesmere Port		40.17	B1/B2/B8	Allocation for oil chemical industries only
	Pioneer Business Park	Ellesmere Port		4.45	B2/B8	Owned by Peel Dev. 18,580 sq m consented
	Port Bridgewater, North Rd	Ellesmere Port		18.61	B1/B2/B8	New inland logistic port on the site of the former Bridgewater Paper Mill. Benefits from an existing rail spur serving the site.
	New Bridge Road	Ellesmere Port		33.00	B1/B2/B8	Council owned, potential Green Technology Park
	Ince Park (Former Ince Power Station)	Ellesmere Port		28.50	B1/B2/B8	Available
	Cloister Way (Burmah Site), Lees Lane	Ellesmere Port		1.61	B1/B2/B8	Available
	Cabot Carbon Ltd, Lees Lane	Ellesmere Port		18.3	B2/B8	Permission for 1.2m sq ft distribution facility
	Land adjacent to Vauxhalls, North Rd	Ellesmere Port		15.38	B2/B8	24.96 ha - 9.58 ha in use. Rationalisation could release 15.38 Ha
	Vauxhalls, Hooton Park, South Rd	Ellesmere Port		9.18	B2/B8	28.74 ha in total. 19.56 Ha in use. 9.18 Ha potentially available
	Unit 3, Vauxhall Supply Park, North Road	Ellesmere Port	4,758		B2/B8	High quality industrial/distribution premises - adjacent to Vauxhall
	Cheshire Oaks Area 5C (East), Longlooms Rd	Ellesmere Port		3.13	B1/B2/B8	Available
	Former Gas Board Site, Rossmore Rd East	Ellesmere Port		3.14	B1/B2/B8	Proposed employment part
	Former Gas Board Site, Rossmore Rd East	Ellesmere Port		7.82	B1/B2/B8	Proposed residential to part of site
	Meadow Foods, Rough Hill, Marston Cum Lache	Marston		8.43		5300 m2 expansion extension approved
	BICC Site, Helsby	Helsby		3.50	B1/B2/B8	Unlikely to be developed for employment, possible residential
	E5.20 Land at BICC, Helsby	Helsby		2.65	B1/B2/B8	Likely to be developed for alternative uses other than B8
	E5.20 Land at BICC, Helsby (remaining part)	Helsby		2.03	B1/B2/B8	Proposed housing to part of site
	Land Adjacent to Hampton Heath Industrial Estate	Malpas		2.40	B2/B8	Available

LOCAL AUTHORITY	ADDRESS	TOWN	SIZE: M2 (BUILDING)	SIZE: HA(SITE)	USES: B2/B8	COMMENTS
	Urenco Site, Capenhurst	Capenhurst		5.63		Nuclear decommissioning site
	HW Coates, Middlewich Road Industrial Estate	Middlewich		2.70	B2/B8	Available
	Former Express Dairy Foods Site, Cuddington	Cuddington		9.18	B1/B2/B8	Likely to be developed for residential use
	Roflen Works, Hooton	Hooton		14.60	B1/B2/B8	Proposed development of housing & care home 2012
	New Cheshire Salt Works, Wincham Lane	Northwich		7.05	B1/B2/B8	Available
	Northwich Victoria Football Stadium	Northwich		1.54	B1/B2/B8	Assessed as likely to be developed for alternative uses other than B8
	Land at Griffiths Road	Northwich		1.84	B2/B8	Available
	Lostock Triangle Site, Manchester Rd	Northwich		4.37	B1/B2/B8	Commitment for residential use
	Lostock Triangle Site, additional	Northwich		3.88	B1/B2/B8	Available
	Cheshire Business Park, land opposite	Northwich		5.15	B1/B2/B8	Planning permission for residential development
	Engineering Works, Winnington Avenue	Northwich		5.53	B1/B2/B8	Available
	Winnington & Wallerscote Urban Village	Northwich		5.30	B1/B2/B8	Available
	Northwich Town Centre	Northwich		2.20		Available but unlikely to include B use
	Land & Buildings, Northwich Marina	Northwich		2.24	B1/B2/B8	
	Land at Lostock Works Railway Sidings	Northwich		7.68	B1/B2/B8	
	Land at Lostock Works House	Northwich		1.53	B1/B2/B8	Available
	Land off Middlewich Road	Northwich		3.95	B1/B2/B8	Outline permission for retirement village subject to s106
	Land on Gadbrook Park Site	Northwich		10.68	B1/B2/B8	Established B1 office location. Unlikely to be developed for B8
	Land to SW of Lostock Works, Griffiths Road	Northwich		3.10	B1/B2/B8	
	Land off Deakins Road	Winsford		3.05	B1/B2/B8	
	Land West of Road One	Winsford		10.00	B1/B2/B8	Potential traveller site (2 Ha max) and part ecological value, newts - development area reduced to 10ha
	Land on Eastern Industrial Estate	Winsford		1.60	B1/B2/B8	Available

## Key

- Sites from 1.25-4.99 ha capable of B8 Development  
 Sites in excess of 5ha capable of B8 Development  
 Sites and buildings committed or likely to be developed for alternative uses other than B8

LOCAL AUTHORITY	ADDRESS	TOWN	SIZE: M2 (BUILDING)	SIZE: HA(SITE)	USES: B2/B8	COMMENTS
	Unit 12, Navigation Park, Road One	Winsford		2.03	B1/B2/B8	Available
	Land on Woodford Park Industrial Estate	Winsford		2.24	B1/B2/B8	0.4 Ha excluded (great crested newt), potential traveller site
	Land off Barlow Dr, Woodford Park Industrial Estate	Winsford		2.10	B1/B2/B8	

WARRINGTON	Former Troutdale Properties Land, Slutchers Lane	Warrington		1.81	B2/B8	Constrained, promoted for housing, available 6-15 years
	Spectra Park, End of Slutchers Lane	Warrington		7.87	B8	Access problems, available 0-5 years
	Crosfield's South Bank, Eastford Road	Warrington		10.03	B2	Access problems, available 6-15 years
	Rear of Lever Distribution, Lyncastle Way	Warrington		1.71	B1/B2/B8	Available 0-5 years
	Warrington Central Trading Estate	Warrington		1.40	B1/B2/B8	Available 0-5 years
	Birchwood, Parcel 7, Faraday Street /Cavendish Avenue	Warrington		5.87	B1/B2/B8	Available 0-5 years
	Land at Thomas Lockers Site, Church Street	Warrington		1.38	B1/B2/B8	Available 6-15 years
	Port Warrington, Birchwood Lane	Warrington		11.95	B2/B8	Peel owned. Land adjacent to the port. Potential for large scale distribution
	Warrington Town Football club, Wash Lane	Warrington		2.89	B2/B8	Available 6-15 years
	Former FB Atkins site, Lyncastle Way	Warrington		1.42	B1/B2/B8	Available 0-5 years
	Land East of Victoria Park	Warrington		2.37	B1/B2	Assessed as likely to be developed for alternative uses other than B8
	SE of Woolston M6 junction, Manchester Rd	Warrington		6.00	B8	Available 16+ years, green belt
	Beers Timber Yard, Station Rd, Latchford	Warrington		1.48	B2/B8	Available 0-5 years, residential consent
	George Howard Scrap Yard, Folly Lane	Warrington		1.33	B2/B8	Available 0-5 years, currently scrap yard
	Pierpoint & Bryant Lagoon, Rear Pichael Nook	Warrington		3.45	B2/B8	Available 6-15 years, land contamination
	Capitol Park, Calver Road	Warrington		6.57	B1/B2/B8	Available 0-5 years

**Key**

Sites from 1.25-4.99 ha capable of B8 Development

Sites in excess of 5ha capable of B8 Development

Sites and buildings committed or likely to be developed for alternative uses other than B8

LOCAL AUTHORITY	ADDRESS	TOWN	SIZE: M2 (BUILDING)	SIZE: HA(SITE)	USES: B2/B8	COMMENTS
	Warrington 101, Chesford Grange	Warrington	9,438		B2/B8	Detached warehouse facility undergoing refurbishment at present
	Unit 1, Chesford Grange	Warrington	10,445		B2/B8	Prominent industrial/warehouse facility with trade consent
	Unit 1, Warrington South Distribution Park, Lyncastle Rd	Warrington	9,768		B2/B8	High bay distribution facility - can be expanded to 13,935 sq m. Prime location close to intersection of M6/M56 motorways
	Omega North	Warrington		2.49	B2/B8	33.75 ha in total - Virtually fully developed. Recent deals to Hermes/Brake Bros & Travis Perkins.
	Omega South	Warrington		48.00	B2/B8	93ha in total for fully mixed use scheme. Asda 46,450 sqm due on site. Approx 48ha available for future B8
	Gemini 16, Westbrook Crescent	Warrington		7.60	B1/B2/B8	Available
	Gemini 8, Westbrook Crescent	Warrington		3.18	B1/B2/B8	Available
	Forrest Way Business Park	Warrington		7.50	B1/B2/B8	Available
	Land at Cameron / Colville / Chetham Courts	Warrington		9.42	B1/B2/B8	Available
	Lingley Mere, Phase 3, Lingley Green Av	Warrington		3.62	B1/B2/B8	Available
	Lingley Mere, Phase 2, Lingley Green Av	Warrington		12.58	B1/B2/B8	Available
	Former G&J Greenalls, Loushers Lane	Warrington		2.45	B8	Available
	Former FIAT warehouse, Winwick Road	Warrington		5.31	B1/B2/B8	Available
	Land at Aston Avenue, Birchwood Park	Warrington		1.38	B1/B2/B8	Assessed as likely to be developed for alternative uses other than B8
WEST LANCASHIRE	North of Asda (XL Plot E), Stanley Extension Site, XL Business Park,	Skelmersdale		1.89	B2/B8	Site currently available and being marketed.
	North of Asda (XL Plot E), Stanley Extension Site, XL Business Park,	Skelmersdale		6.14	B2/B8	Available
	Comet site, XL Business Park	Skelmersdale	44		B8	Purpose built logistics warehouse



LOCAL AUTHORITY	ADDRESS	TOWN	SIZE: M2 (BUILDING)	SIZE: HA(SITE)	USES: B2/B8	COMMENTS
	Land adjacent to Fredericks Dairies, Simonswood Industrial Park	Simonswood		6.79	B2/B8	Recently allocated through LOCAL PLAN
	Land at Yew Tree Farm, Burscough Industrial Estate	Burscough		10	B1/B2/B8	To be allocated shortly through Masterplan
	North of Comet DHL, Stanley Extension Site, XL Business Park	Skelmersdale		11.2	B2/B8	Available
	Gardiners Place (Site 4), Gillibrands Industrial Estate	Skelmersdale		1.7	B2/B8	Site currently being used for storage of scrap vehicles
	Gardiners Place (Site 5), Gillibrands Industrial Estate	Skelmersdale		1.3	B2/B8	Site currently being used for open storage
	Pimbo Road (Site M), Pimbo Industrial Estate	Skelmersdale		3.5	B2/B8	
	Tollgate Road, Burscough Industrial Estate	Skelmersdale		3.32	B2/B8	Part developed for B2 use.
	Simonswood Site 1, Simonswood Industrial Park	Skelmersdale		5.02	B2/B8	
	Staveley Road (Site F), Stanley Industrial Estate	Skelmersdale		3.5	B2/B8	Available - partially constrained site.
				1,518.28		
		<b>Totals:</b>	<b>279,708</b>	<b>1,518.28</b>		

**Source information**

Knowsley - Appendices D&E, Knowsley Local Plan: Core Strategy Position Statement - Employment July 2013  
 Liverpool - Employment Land Study (Parts 2&3) - March 2009  
 Sefton - Employment Land and Premises Study - Refresh 2012  
 West Lancashire - West Lancashire Local Plan 2012-2027 and Joint Employment Land and Premises Study 2010  
 Halton - Halton Employment Land Report 2012  
 Wirral - Employment Land and Premises Refresh - Sept 2012 and Wirral Land Supply - April 2012  
 Cheshire West & Chester - Employment Land Supply 2013 and Employment Land Study Update July 2013  
 Warrington - Employment Land Availability Position Statement 2013  
 St Helens - Review of Employment Land in St Helens to 2027 - Sept 2011

Continued

**APPENDIX C – DRIVE TIMES**

HGV TIME FROM PORT (MINS)	HGV TIME TO MOTORWAY (MINS)	2 HR CATCHMENT (MHH)	LOCAL AUTHORITY	ADDRESS	SIZE (HA)	USES	COMMENTS	QUALITATIVE RANK
5	6	5.7	SEFTON	Atlantic Park, Dunning's Bridge Road,	16.75	B1/B2/B8	Available 3-5 years, Part office development since 2010 report and 2012 Refresh	2
7	4	5.7	SEFTON	Former Peerless Refinery, Dunning's Bridge Road, Netherton	5.82	B1/B2/B8	Available 1-3 years, Bestway Wholesale (7,430 m2) built since 2010 report	2
12	2	5.7	KNOWSLEY	Alchemy, Located Off East Lancashire Road, Kirkby	6	B2/B8	8,640 m2 existing buildings, can accommodate up to 27,870 m2	1
12	4	5.6	KNOWSLEY	Land adjacent to Former Ethel Austin Building, School Lane, Knowsley Business Park	5.06	B1/B2/B8	Site currently being marketed - available 3-5 years	3
12	2	5.7	KNOWSLEY	Land at Britonwood Industrial Estate, Knowsley Industrial Park	6.36	B2/B8	Site currently being marketed - available 1-3 years	3
15	2	5.7	KNOWSLEY	Land at Academy Business Park, Moorgate Road, Knowsley Industrial Park	10	B2/B8	Can accommodate units from 9,290 - 39,482 m2	1
16	7	5.4	KNOWSLEY	Land to the East of Knowsley Industrial Park	7	B1/B2/B8	Available 5+ years	2
17	2	5.9	KNOWSLEY	Prescot Park, Junction 2 M57	26.3	B1/B2/B8	Partially developed mixed uses. Residential nearby. Available	3
19	13	5.9	ST HELENS	Land SW of Sandwash Road, Hazel Business Park	6.17	B2/B8	Available	3
19	13	5.9	ST HELENS	Sandwash Park, Rainford	10.12	B2/B8	Available, can accommodate upto 37,160 m2	3
20	2	6.3	KNOWSLEY	Land Between Crontron Road And M62 Motorway (Junction 6)	8.03	B1/B2/B8	Site currently being marketed.	2
20	2	6.4	KNOWSLEY	Roscoe's Wood, Crontron Road, Huyton	7.9	B1/B2/B8		3

HGV TIME FROM PORT (MINS)	HGV TIME TO MOTORWAY (MINS)	2 HR CATCHMENT (MHH)	LOCAL AUTHORITY	ADDRESS:	SIZE (HA)	USES:	COMMENTS:	QUALITATIVE RANK:
20	5	4.6	WIRRAL	ITC, West Float, Wirral Waters	24.28	B2/B8	Owned by Peel Dev. International Trade Centre consented - could accommodate up to 92,900 sq m logistics related uses allied to ITC and Automotive Supplier Park	1
21	4	5	WIRRAL	Former Stone Manganese, Dock Road	6.86	B2/B8	Partially cleared, part of Wirral Waters hinterland	2
21	6	5.5	LIVERPOOL	Stanley Industrial estate (North of Prescott Road)	12.7	B1/B2/B8		2
21	6	5.8	WEST LANCASHIRE	North of Asda (XL Plot E), Stanley Extension Site, XL Business Park,	6.14	B2/B8	Available	2
21	6	5.8	WEST LANCASHIRE	North of Comet DHL, Stanley Extension Site, XL Business Park,	11.2	B2/B8	Available	1
22	8	5	WIRRAL	Wirral Waters, Bidston Dock	17.49	B2/B8	Filled Dock (4.37 Ha)	1
22	10	5.5	KNOWSLEY	North Perimeter Road / Moss End Way, Knowsley Industrial Park	5.31	B2/B8	Available 1-3 years	2
22	10	5.5	KNOWSLEY	Potter Logistics Rail Freight Terminal, Knowsley Industrial Park	8	B2/B8	Site 21.70 Ha total. Room for 37,160 m2	1
22	3	6.6	LIVERPOOL	N/W Corner of Gillmoss Industrial Estate / Stonebridge Lane, East Lancashire Road	5.87	B1/B2/B8		2
23	10	5.5	KNOWSLEY	Former Sonae (UK) Ltd, Moss Lane, Knowsley Industrial Park, Kirkby	12.62	B2/B8	Marketing recently commenced as development opportunity	2
23	3	6.6	LIVERPOOL	Gillmoss Business Park / East Lancashire Road	21.72	B8		2
23	16	4.3	WEST LANCASHIRE	Simonswood Site 1, Simonswood Industrial Park	5.02	B2/B8		3
23	1	4.9	WIRRAL	Former River Streets, Beaufort Rd	5.85	B2/B8	Industrial use in Birkenhead Masterplan & Wirral Waters	2

HGV TIME FROM PORT (MINS)	HGV TIME TO MOTORWAY (MINS)	2 HR CATCHMENT (MHH)	LOCAL AUTHORITY	ADDRESS:	SIZE (HA)	USES:	COMMENTS:	QUALITATIVE RANK:
24	5	5.6	HALTON	Express Way Development Lane, Speke Road	9.54	B2/B8	Within 3MG - Sites for sale or design and build up to 41,805 sq m	2
24	4	5.7	KNOWSLEY	Land at South of the M62,	24.51	B1/B2/B8	Available 5 + years.	3
24	9	5.9	ST HELENS	Land South of Washway Road, Pilkingtons City Rd Site	13.82	B2/B8	Available - known as Cowley Hill	3
24	2	4.5	WIRRAL	Premier Brands, Reeds Lane, Leasowe & Morton East	7.93	B2/B8	South of access road, former company playing fields	2
25	5	5.7	HALTON	3 MG, Widnes (formally Ditton Strategic Rail Freight)	61.54	B2/B8	90 ha in total inc. container park and bio-mass facility. Stobart Park partially developed - Tesco occupy 71,533 sqm. 26ha remaining. HBC Field 26ha available and Ex Sleeper depot 9.54ha available	1
25	6	6.4	ST HELENS	Land at Lea Green Farm West, Elton Head Road	6.99	B2/B8	Available	2
26	9	5.6	HALTON	North of Hale Bank Road,	24.8	B1/B2/B8	Available, possible freight use	2
26	6	5.8	LIVERPOOL	Liverpool International Business Park	8.09	B1/B2/B8	Owned by Peel Dev. Consent granted for 32,515 sqm. Requires utilities connection	1
26	6	6.5	ST HELENS	Former Ibstock Brick Site	8.1	B2/B8	Available 6-10 years	3
27	4	6.5	HALTON	G.Park Widnes, Gorsey Lane	16.18	B2/B8	Can accommodate up to 48,704 sq m in a single building.	2
27	17	5.6	KNOWSLEY	Ford Expansion Land	18.5	B2/B8		3

HGV TIME FROM PORT (MINS)	HGV TIME TO MOTORWAY (MINS)	2 HR CATCHMENT (MH)	LOCAL AUTHORITY	ADDRESS:	SIZE (HA)	USES:	COMMENTS:	QUALITATIVE RANK:
27	3	6.6	LIVERPOOL	Stonebridge Business Park, Land along A580 between Lower Lane and Back Gillmoss Lane	39.78	B1/B2/B8	Planning submitted by Stoford Dev. for 111,480 sq m (1.2m sq ft distribution space) - Advised that application will be heard at Committee Meeting on 19 Nov 2013	2
27	2	6.7	WARRINGTON	Omega South	48	B2/B8	93ha in total for fully mixed use scheme. Asda 46,450 sqm due on site. Approx 48ha available for future B8	1
28	9	6.4	ST HELENS	Hays Chemicals Site at Peasley Cross	5.44	B2/B8	Available	3
29	14	5.7	LIVERPOOL	Former British Rail Land, Dock Road, Garston	5.15	B2/B8		3
29	14	5.7	LIVERPOOL	Wellington Employment Park South, Dunes Way, Liverpool	5.46	B1/B2/B8		3
30	2	6.7	WARRINGTON	Gemini 16, Westbrook Crescent	7.6	B1/B2/B8	Available	1
30	7	4.8	WIRRAL	Former MOD Tank Farm, Old Hall Road	8.05	B1/B2/B8	Available 3-5 years	2
30	8	4.8	WIRRAL	Centuria Business Park, Stadium Rd	8.05	B2/B8	Owned by Casey Group. Site contaminated - Available 5+ years	3
30	12	4.8	WIRRAL	Former Croda / Uniqema site	12.94	B1/B2/B8	Site, land & plant owned by IPP	3
31	8	6.6	HALTON	Manor Park III	15.32	B2/B8	Available	2
31	8	6.6	HALTON	Manor Park III	6.31	B2/B8	Available	2
31	4	6.7	WARRINGTON	Lingley Mere, Phase 2, Lingley Green Av	12.58	B1/B2/B8	Available	2
32	9	6.4	HALTON	Johnsons Lane	8.66	B2/B8	Available - site contaminated	3



HGV TIME FROM PORT (MINS)	HGV TIME TO MOTORWAY (MINS)	2 HR CATCHMENT (MHH)	LOCAL AUTHORITY	ADDRESS:	SIZE (HA)	USES:	COMMENTS:	QUALITATIVE RANK:
32	2	6.8	WARRINGTON	Capitol Park, Calver Road	6.57	B1/B2/B8	Available 0-5 years	2
32	4	6.8	WARRINGTON	Land at Cameron / Colville / Chetham Courts	9.42	B1/B2/B8	Available	3
33	3	7.3	WARRINGTON	Birchwood, Parcel7, Faraday Street /Cavendish Avenue	5.87	B1/B2/B8	Available 0-5 years	3
33	5	6.6	WARRINGTON	Former FIAT warehouse, Winwick Road	5.31	B1/B2/B8	Available	2
34	1	5.9	CHESHIRE WEST & CHESTER	Land adjacent to Vauxhalls, North Rd	15.38	B2/B8	24.96 ha - 9.58 ha in use. Rationalisation could release 15.38 Ha	2
34	6	5.6	CHESHIRE WEST & CHESTER	Vauxhalls, Hooton Park, South Rd	9.18	B2/B8	28.74 ha in total. 19.56 Ha in use. 9.18 Ha potentially available	2
34	1	7.2	WARRINGTON	SE of Woolston M6 junction, Manchester Rd	6	B8	Available 16+ years, green belt	3
35	3	5.9	CHESHIRE WEST & CHESTER	Port Bridgewater, North Rd	18.61	B1/B2/B8	New inland logistic port on the site of the former Bridgewater Paper Mill. Benefits from an existing rail spur serving the site.	1
36	9	6.6	ST HELENS	Sankey Valley Industrial Estate, Former Sugar Works	12.9	B2/B8	Available 6-10 years, owned by Revelan Group	3
37	14	6.4	WARRINGTON	Spectra Park, End of Slutchers Lane	7.87	B8	Access problems, available 0-5 years	3
37	11	6.4	WARRINGTON	Forrest Way Business Park	7.5	B1/B2/B8	Available	3
38	13	6.4	WARRINGTON	Crosfield's South Bank, Eastford Road	10.03	B2	Access problems, available 6-15 years	3

HGV TIME FROM PORT (MINS)	HGV TIME TO MOTORWAY (MINS)	2 HR CATCHMENT (MHH)	LOCAL AUTHORITY	ADDRESS:	SIZE (HA)	USES:	COMMENTS:	QUALITATIVE RANK:
39	15	6.4	WARRINGTON	Port Warrington, Birchwood Lane	11.95	B2/B8	Peel owned. Land adjacent to the port. Potential for large scale distribution	1
40	2	5.8	CESHIRE WEST & CHESTER	Cabot Carbon Ltd, Lees Lane, Ellesmere Port	18.98	B2/B8		2
44	8	6	CESHIRE WEST & CHESTER	Ince Park (Former Ince Power Station)	28.5	B1/B2/B8	Available	2
47	9	6.8	CESHIRE WEST & CHESTER	New Cheshire Salt Works, Wincham Lane	7.05	B1/B2/B8	Available	3
48	20	7	CESHIRE WEST & CHESTER	Engineering Works, Winnington Avenue	5.53	B1/B2/B8	Available	3
48	17	7	CESHIRE WEST & CHESTER	Winnington & Wallerscote Urban Village	5.3	B1/B2/B8	Available	3
48	12	6.9	CESHIRE WEST & CHESTER	Land at Lostock Works Railway Sidings	7.68	B1/B2/B8		3
56	11	6.9	CESHIRE WEST & CHESTER	Land West of Road One	10	B1/B2/B8	Potential traveller site (2 Ha max) and part ecological value, newts - development area reduced to 10ha	3

<b>TOTAL AREA:</b>	<b>851.54</b>
<15 mins drive time to Port	39.99
15 - 30 Mins drive time to Port	559.05
31 - 60 Mins drive time to Port	252.5

## APPENDIX D – SENSITIVITY ANALYSIS

Three different baselines have been used to explore demand for land further:

- The 2012 baseline used in the main body of the report;
- The 2008 baseline from the MPMP; and
- A baseline based upon a 5% growth rate in container throughput.

### 2012 BASELINE

This takes the 2012 throughput at the port of Liverpool as a starting point and uses the same growth rates used in the MPMP to project container throughput forward.

BASELINE 2012		YEAR 5	YEAR 10	YEAR 15	YEAR 20	
	Containers (mTEU)	1	1.44	1.74	2.11	0
	Estimated demand for additional land (Ha)					
		0-5 years	6-10 years	11-15 years	16-20 years	Total
	Economic demand	60	60	60	60	240
	Port-centric warehousing					
	Scenario 1 - road	13	14	11	16	54
	Scenario 2 - rail	11	10	5	13	39
	RORO	8	8	8	8	32
	Cars	3	3	3	3	12
	Non-unitised cargos	4	11	2	9	26
	Complementary sectors		76		28	104
	Secondary demand					
	Scenario 1 - road	85	85	83	87	340
	Scenario 2 - rail	83	83	79	85	330
	Totals					
	Scenario 1 - road	173	257	167	211	808
	Scenario 2 - rail	169	251	157	206	783

### 2008 BASELINE

This follows the profile of the forecast throughput in the MPMP without taking into account the actual data on throughput available for 2008-2012.

BASE CASE MERSEY PORTS MASTER PLAN		YEAR 5	YEAR 10	YEAR 15	YEAR 20	
	Containers (mTEU)	1.3	2.1	2.6	3.1	0
	Estimated demand for additional land (Ha)					
		0-5 years	6-10 years	11-15 years	16-20 years	Total
	Economic demand	60	60	60	60	240
	Port-centric warehousing					
	Scenario 1 - road	24	28	17	25	94
	Scenario 2 - rail	21	22	8	20	72
	RORO	8	8	8	8	32
	Cars	3	3	3	3	12
	Non-unitised cargos	4	11	2	9	26
	Complementary sectors		76		28	104
	Secondary demand					
	Scenario 1 - road	92	95	87	93	368
	Scenario 2 - rail	91	91	81	90	352
	Totals					
	Scenario 1 - road	191	282	177	226	876
	Scenario 2 - rail	187	271	162	218	838

**5% GROWTH**

This takes the 2012 data as a starting point and applies a 5% rate of growth across the forecast horizon. This implies that growth in throughput at the port of Liverpool is slower than anticipated. However, 5% is still a significant rate of growth.

BASELINE		5% GROWTH				
		YEAR 5	YEAR 10	YEAR 15	YEAR 20	
	Containers (mTEU)	0.82	1.05	1.34	1.71	0
	Estimated demand for additional land (Ha)					
		0-5 years	6-10 years	11-15 years	16-20 years	Total
	Economic demand	60	60	60	60	240
	Port-centric warehousing					
	Scenario 1 - road	6	7	10	16	39
	Scenario 2 - rail	5	4	6	13	28
	RORO	8	8	8	8	32
	Cars	3	3	3	3	12
	Non-unitised cargos	4	11	2	9	26
	Complementary sectors		76		28	104
	Secondary demand					
	Scenario 1 - road	80	81	83	87	331
	Scenario 2 - rail	79	78	80	85	322
	Totals					
	Scenario 1 - road	161	246	166	211	784
	Scenario 2 - rail	159	240	159	206	764


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This research report was produced by a project team co-ordinated by NAI Global & NAI Haywards. Members of the team comprised:

**PAUL DANKS**

Managing Director-Europe  
NAI Global  
[pdanks@naiglobal.com](mailto:pdanks@naiglobal.com)

**MARTIN LOVERIDGE**

Director - Industrial and Logistics  
NAI Haywards  
[martin.loveridge@naihaywards.co.uk](mailto:martin.loveridge@naihaywards.co.uk)

**JOHN BOWLES**

Porta Planning LLP  
[john.bowles@portaplanning.com](mailto:john.bowles@portaplanning.com)

**BOB THOMPSON**

RETRI group  
[jc72@dial.pipex.com](mailto:jc72@dial.pipex.com)

**PROF. ANGUS MCINTOSH FRICS**

Economic and Sustainable Property Consultant Real Estate Forecasting Limited Oxford Brookes University  
[angus.mcintosh@ntlworld.com](mailto:angus.mcintosh@ntlworld.com)

**SARA-JANE PRESTON**

Partner  
Preston O'Herlihy  
[sj@prestonoherlihy.com](mailto:sj@prestonoherlihy.com)





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[www.naiglobal.com](http://www.naiglobal.com)