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Parkside Logistics and Rail Freight Interchange Study

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St.Helens Council

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This study has been conducted by AECOM and Cushman & Wakefield on behalf of St. Helens Council to investigate the feasibility of delivery options for a road and rail-linked logistics development on land at the former Parkside colliery site. The study will help to inform and advise the preparation of the St. Helens Local Plan 2018-2033.

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Glossary

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Term	Definition
Strategic Rail Freight Interchange (SRFI)	A large multi-purpose rail freight interchange and distribution centre linked into both the rail and trunk road system. (See Section 2.2.1 for SRFI qualifying criteria as per the National Planning Statement).
SMART Motorway	A section of motorway, which uses active traffic management techniques such as variable speed limits and hard shoulder running at busy times to increase capacity.
Strategic Road Network (SRN)	Nationally significant roads used for the distribution of goods and services, and a network for the travelling public. Highways England manages the SRN.
W8 Gauge Rating	The minimum rail loading gauge which allows for the transportation of high cube containers. SRFIs must be connected to a railway line with at least W8 gauge rating.
Primary movements	Truck movement from Regional Distribution Centre to Regional Distribution Centre.
Primary – local movements	"Last leg" road movements where the containers are unloaded from a train and then taken locally to Regional Distribution Centres.
Secondary movements	Truck movement from Regional Distribution Centre to other local warehouses or direct to stores.
Small Rail Freight Terminal	Rail freight terminal facilitating 1-3 trains per day
Medium Rail Freight Interchange	Rail freight terminal facilitating 4-8 trains per day
Large Rail Freight Interchange	Rail freight terminal facilitating 9+ trains per day
CO_2e	All greenhouse gas emissions eg Methane, Ozone, Nitrous Oxide converted to their CO_2 equivalent according to their global warming potential e.g. 1Kg of methane is equivalent to 4kg of CO_2 therefore 1kg Methane is 4kg CO_2e
Active travel	An approach to travel and transport, which focuses on physical activity (e.g. walking and cycling); as opposed to carbon-dependent means.
Loading gauge	The height and width profile of a rail route.
Rail siding	A low-speed track section, which is distinct from the main line, branch line or spurs. Sidings may connect to through track or to other sidings at either end.
Tri-modal terminal	A freight terminal which is connected to three transport ways for example road, rail and inland waterway.
Intermodal transport	Transportation using two or more transport modes with goods transported in intermodal loading units (ILUs) such as containers to avoid the handling of goods during transit.
Pad tracks	The section of track at an intermodal rail terminal which is accessible to trucks for loading and unloading.
Pantograph	A device that collects electric current from overhead lines for electric trains.
Locomotive	A powered railway vehicle for pulling trains.
Staging areas	An area for temporary container storage based on a calculated percentage of containers handled and the average dwell time in the terminal.
Lifting equipment	Mechanical handling equipment used in intermodal terminals for the transfer of containers. Examples include rail-mounted gantry cranes, and reach stackers.
Shunting	Refers to movements made on private land e.g. the movement of equipment or containers at a transport depot or terminal.
Rail loop	A place on a single line railway where trains travelling in opposite directions can pass each other.
Headways	A measurement of the minimum possible distance or time between trains, without a reduction in speed.
Semi fast service	A direct service between two stations, which makes no stops in between.
Stopping service	A passenger rail service, which stops at all intermediary stations on its route.

Executive Summary

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Executive Summary

Introduction

This study has been conducted by AECOM and Cushman & Wakefield on behalf of St. Helens Council to investigate the feasibility of delivery options for a road and rail-linked logistics development on land at the former Parkside colliery site. The study will help to inform and advise the preparation of the St. Helens Local Plan 2018-2033 and has therefore been conducted in compliance with the National Planning Policy Framework (NPPF) and the Planning Practice Guidance (PPG).

Since the colliery was decommissioned in 1993, there has been interest in bringing the site forward for development, with planning applications submitted for a Strategic Rail Freight Interchange (SRFI). In 2010 background papers were prepared by consultants Scott Wilson (now AECOM) to support the identification of the site as a strategic location for a SRFI in the St. Helens Core Strategy (2012).

Transport and Planning Policy Assessment

As is shown in the analysis presented in Chapter 2 the development of new rail-linked logistics is strongly supported at both a national and regional policy level. The Parkside site itself is also named specifically in the **Transport for the North Freight Strategy (2016)** as a site suitable for consideration of rail freight interchange viability and is identified in the **Liverpool City Region Growth Plan and Strategic Economic Plan (2014)** as one of the key projects in delivering SUPERPORT.

Market Demand and Supply Assessment

As a site adjacent to the M6 and with the benefit of significant scale, the Parkside site best lends itself to logistics and distribution uses.

It is clear from the market demand and supply assessment and stakeholder engagement that there is sufficient demand for a SRFI in the North West. Nationally the demand for both warehouses and rail freight interchanges is along the M6/M1 corridor between Manchester and London.

Stakeholders are also very positive about the site's feasibility as a SFRI. This is mainly due to its unrivalled ability to serve both North-South intermodal flows on the West Coast Mainline and East-West intermodal flows on the Chat Moss line. The site can also receive trains from all directions (north, south, east and west) which provides maximum operational flexibility and resilience to allow changes in market trends to be catered for. Road access is also good with the M6 and M62 in close proximity to the site.

In comparison to other current and potential SRFI sites, the Parkside site scores well on investment criteria metrics. No other sites in the catchment area have the potential to receive trains from all directions, with some only able to receive trains from one direction. For example Garston can only receive trains from the South. Additionally the Parkside site's access to both the M6 and M62 is highly advantageous meaning that Parkside has the potential to be an 'all points' operation, offering as much in terms of intermodal activities as it might in terms of being a destination and general logistical base in its own right. The market feels that there is room for both Port of Salford and Parkside due to growth in the market demand for intermodal terminals in the North West, as stated in the Transport for the North Freight and Logistics Strategy (2016).

It is therefore felt that the site is of national importance as well as regional significance in relation to the market demand and need for the delivery of new and improved SRFIs, and in supporting economic and employment growth objectives in St Helens and the Liverpool City Region.

Operational Requirements

It is critical to match the specification and functionality of a rail freight terminal at Parkside with the freight market in the surrounding area. Therefore as part of this study, the broad operational requirements for varying sizes of rail freight interchanges has been provided with the demand (number of trains per day) then used to match the required specification and functionality of the site.

The following important aspects of developing the specification and functionality of a rail freight interchange have been considered:

- Major infrastructure components:
  - Rail support infrastructure;
  - Road support infrastructure;
  - Cargo transfer infrastructure;
- Terminal equipment; and
- Ancillary services

Typically intermodal terminals need to have a balance between these three components to avoid mismatched investment in any one terminal area. In order to determine this balance, each component has been measured in terms of their throughput capacity.

Table E1 outlines the specification requirements that have been utilised to consider the potential scale of rail facility that could be delivered at the Parkside site.

Table E1 – Specification of the potential rail freight terminal

Terminal size		Small	Medium	Large
Indicative number of trains per day		**1-3**	**4-8**	**9+**
Terminal track length		**>750m**	**>750m**	**>750m**
Number of handling tracks		**2**	**4**	**6+**
Handling equipment	**Reach stackers**	✓	✘	✘
	Rail Mounted Gantry	✘	✓	✓

Table E2 outlines the functionality requirements of the potential site.

Table E2 – Functionality of the potential rail freight terminal

Terminal size		Small	Medium	Large
Indicative number of trains per day		**1-3**	**4-8**	**9+**
Core services	**Road to rail**	✓	✓	✓
	Rail to road	✓	✓	✓
	Rail to rail	✘	✓	✓
	Warehousing	✓	✓	✓
Ancillary services	**Container storage**	✓	✓	✓
	Reefer / Dangerous Goods services	✓	✓	✓
	Customs facility	✘	✓	✓
	Equipment repair area	✘	✘	✓
	Terminal trucking services	✘	✘	✓

Rail Access

Parkside is well situated for potential rail access, being adjacent to both the West Coast Mainline (to the west of the site boundary) and the Chat Moss line (running along the northern edge). A series of junctions and chords connect both routes, allowing trains to arrive and leave the area in all four directions.

To the north and south of the site, the West Coast Mainline is a mostly four track, fully electrified railway running between Scotland and London via the North West and West Midlands. It is a key freight and passenger artery. The Chat Moss site runs east to west linking Liverpool to Manchester, Yorkshire and east coast ports, and is a two track partly electrified route.

There are currently four passenger trains per hour off-peak utilising the Chat Moss route adjacent to the Parkside site with Transpennine Express, Northern and Arriva Trains Wales all operating services. There are also a number of freight services utilising the route (such as Drax-Liverpool biomass). However, these tend to operate outside of peak hours and are very limited in number (3-4 trains daily). At the December 2017 timetable change, it is forecast that six trains per hour (off peak) will be utilising the Chat Moss line past the Parkside site.

On the West Coast Mainline Virgin (West Coast) operates two trains per hour off-peak. Both originate at London Euston and terminate in Scotland (one fast via the Trent Valley and one via the West Midlands). As of April 2016, there are a considerable number of freight services that utilise the route (carrying between 5-10 million tonnes per annum[1]). In a standard off-peak hour, there is an average of around 1 timetabled path per hour. However actual utilisation of these paths differs on a day to day basis due to actual market demand. It is not expected that there will be any major uplift in Long Distance High Speed passenger provision on the West Coast Mainline by Virgin West Coast in the near future.

Post-2018 Alliance Rail Holdings have secured paths to operate six return services each day between Blackpool and London. There will therefore be up to three express passenger trains per hour utilising the West Coast Mainline past the Parkside site off-peak. There is also predicted to be an increase to 1.5-2 freight paths per hour on this section of route by 2023. In the longer term the construction of HS2 is likely to offer additional paths on the legacy West Coast Mainline so it is not envisaged that obtaining train paths should be an unsurmountable problem.

[1] Network Rail Freight Market Study, 2013

Road Access

To achieve access to the west of the site, reinstating the former access road from the A49 (Figure 6.1, **no.1**) is considered to be the most feasible option. This access requires minimal investment due to the junction and former road still being in place. The alternative access route via the access lane to Newton Park Farm (Figure 6.1, **no.2**) has been discounted as it is unsuitable for HGVs.

In order to facilitate a larger-scale development at Parkside, it is likely that a direct access onto M6 Junction 22 will also be required to minimise the amount of traffic on the local network. The preferred option to provide access to the west of the M6 from the eastside of the M6, from a technical, cost and deliverability point of view would be a box type tunnel structure under the M6 but away from the Chat Moss railway line (Figure 6.1, **no.4**). This option is preferable because the construction of the structure can take place under the live running motorway and whilst not without risk and complexity, from a high level assessment point of view it represents a better option than an alignment adjacent to the Chat Moss railway line (Figure 6.1, **no. 3**). The option to build a bridge over the M6 (Figure 6.1, **no.5**) has been discounted mainly due to several operational challenges related to gradients and large infrastructure cost required to bridge over a SMART motorway.

On the east side of the M6, a new road would also be required. This could potentially run parallel with the M6 to connect directly to the Junction 22 roundabout, or could utilise the former road known as Barrow Lane, which connects to the A579 approximately 500 metres north east of Junction 22.

For a medium and large scheme with the intermodal terminal located on the east of the M6 ,it is felt that the main site entrance would ideally be off the A579 around 0.5km to the north east of Junction 22 on the M6 (Figure 6.4, **no.6**). Having the main site entrance located here would minimise the distance trucks had to travel on the local network before joining the Strategic Road Network (SRN) at Junction 22 of the M6 and additionally, it would mean the site entrance is within the St. Helens boundary. The volume of traffic expected to be accessing the site necessitate a new junction to be constructed. This is likely to be a demand responsive signalized junction however further detailed assessment is required to understand the exact specification of the junction.

The road access to the site at present is constrained by the reliance on a single access junction, which connects to a single-carriageway road, the A49, which also serves a number of residential properties and local services and facilities. Despite the presence of the M6 immediately adjacent to the site, the driving route to access the motorway network from the existing access junction is approximately 3 km to both the north and the south.

Although both of the M6 junctions (J22 and J23) are scheduled to be upgraded as part of the Smart Motorway scheme, there are a number of proposed large developments adjacent to both junctions that would increase the pressure on the SRN at these locations as and when they are brought forward. Likewise, there is potential for future junction improvement works to come forward at M6 Junction 23, as a result of a number of proposed developments in Haydock. As with M62 Junction 9, however, any spare capacity is likely to be taken up by background growth and committed development trips.

Finally, the proximity of Croft Interchange, M6 Junction 22, and M62 Junction 9 means that there can be issues with weaving traffic between these junctions.

An initial estimate of the likely trip distribution from Parkside would indicate that around 85% of trips would travel south along the A49, to access the SRN at M62 Junction 9. This route passes through three junctions in Winwick – A49 / Hollins Lane, A49 / Golbourne Road, and A49 / Winwick Link Road, which all presently experience congestion at peak periods. It is likely that junction improvement works would be required at all these junctions to accommodate any additional traffic from Parkside. It should be noted that all three junctions are within Warrington Borough Council's administrative boundaries.

Public Transport

There are three existing bus services (No. 22, No. 34 and No. 360) in operation in the vicinity of the site. The No. 34 operates every 20 minutes, the No. 360 operates every 30 minutes and the No. 22 operates hourly. At present there are bus stops located along the A49 to the west of the site and along the A572 to the north of the site.

It can be seen that Newton-le-Willows Station is located approximately 1 mile to the north west of the site, a reasonable walking distance for commuting. Newton-le-Willows station is situated on the Liverpool to Manchester Line and adjacent to the West Coast Main Line, and has two platforms. The station benefits from relatively high frequency services with hourly services offered by both Northern and Arriva Trains Wales. Earlestown Station offers an additional service that is operated by Northern Rail between Liverpool and Warrington (hourly Monday-Saturday).

The site is relatively well served by public transport; however peripheral times that are required to enable workers to arrive in time for the early shift (6am-2pm) and leave after the late shift (2pm-10pm) are not well catered for.

With regards to cycle routes it can be seen that whilst there is one continuous long distance route (the Sankey Valley Trail) within the vicinity of the local area, there is little opportunity to access the site via this route due to severance caused by the West Coast Mainline. There are just two points to access the route within the immediate area surrounding the site, via the Sankey Trail through Alder Lane or Old Alder Lane. There are a few other local routes within relative proximity to the site which are traffic free; however these are not part of the National Cycle Network and are fragmented, i.e. there is a lack of an integrated network of routes. The identified walkable routes consist of public rights of way (PRoW), shared-use paths, green spaces, parks and waterways. Minor roads have also been included as these tend to be quieter routes which increase the propensity to walking.

There are issues and opportunities presented by the development of the Parkside site on the local network of services and routes. It is clear that there does need to be investment made in local transport provision to enable employees to access the site at the forecast time periods to allow a logistics development at Parkside to function. Improvements made to the local network would also benefit the local community in the vicinity of the site in terms of reducing severance, improving accessibility and providing a network more conducive to active travel. The Meresytravel Bus Alliance and St Helens Bus Review process will during its regular review, provide an opportunity to enable bus improvements and better access to Parkside to be achieved.

Options Development

This section outlines options for small (3 trains per day), medium (8 trains per day) and large (10-12 trains per day) logistics and rail freight interchanges. The following options have been developed:

- 1 x Small
- 1 x Medium
- 2 x Large

Table E3 provides a summary assessment of the 4 options developed.

Table E3 – Summary of options assessment

Option	Size	Trains per day	Floor space (sq. ft.)	Rail Access	Cost of Rail Terminal (£)	Main Site Access	Cost of Road Access (£)	CO_2e saved annually (tonnes)	Year of Economic Payback
1	Small	3	750,000	South and west	£12,162,636 - 15,101,036	A49	£2,121,000	6,458	N/A
2	Medium	8	1,000,000	North, south, east, west	£24,994,084	A573	£9,501,324.	12,515	2046
3	Large	10	1,250,000	North, south, east, west	£35,642,306	A573	£9,930,000	14,820	2057
4	Large	12	4,500,000	North, south, east, west	£38,899,641	A579	£29,579,122	16,200	2044

Conclusions and Recommendations

There is clear policy justification for the development of Parkside into a Logistics and Rail Freight Interchange as part of a network of intermodal terminals.

As far as national, sub-regional and local policy is concerned, major policy developments since the adoption of the Core Strategy such as the publication of the National Policy Statement for National Networks (NPSNN) (2015) have strengthened the policy justification for a rail-linked development at the Parkside site, and help support the exceptional circumstances case required to meet the national Green Belt planning policy tests. The Parkside site itself is named specifically in the Transport for the North Freight Strategy (2016) as a site suitable for consideration as a rail freight interchange and is identified in the Liverpool City Region Growth Plan and Strategic Economic Plan (2014) as a key project in delivering SUPERPORT and the wider Liverpool City Region Freight and Logistics Hub.

The development of the site to accommodate a development of up to 1 million square feet, 8 trains per day (Medium Option) could be accommodated within the existing motorway network taking into account proposed infrastructure developments as part of RIS 1, notwithstanding highways and environmental constraints related to a sole vehicular access via the A.49.

To assist in the build-out and viability of the development, up to 750,000 sq. ft. could be supported (subject to detailed analysis) with access solely via the A49 providing:

- Three main sets of mitigation measures are made on the A49.
- Land is safeguarded for rail to ensure that later phases are not constrained.
- Road access is provided under the M6 to the eastern side and through to the A579 to service all development following the first phase, and at second phase and beyond, to re-route HGV traffic via the eastern part of the site. Domestic (cars) traffic serving the west side would continue to access via the A.49.
- Environmental and heritage concerns are addressed and appropriate mitigation measures are introduced to ameliorate any adverse impacts on the site and neighbouring communities.
- Masterplanning proves deliverability of the whole site (east – west combined development).

The site could support a larger scale development (12 trains a day) by utilisation of the eastern side of the site. The eastern side could be used for the core rail freight terminal or additional intermodal sidings. It could also be used for other traffics such as automotive or express parcels. In addition to mitigation work on the A49, once traffic levels reach an agreed level, HGV access for land both west and east of the M6 must only be permitted via the east and a new link road to the M6 J22 via a new junction on the A579.

It is fundamental to the delivery of a viable SRFI, that land on the west and east sides of the M6 is included for future development, including the associated road access to the A579.

Because of this east-west connectivity we suggest that consideration is given to the modification of Core Strategy CAS 3.2 to achieve a development which aligns with our conclusion that a medium scale or larger facility is appropriate for this area. Both the east and west sides of the M6 at the Parkside Site will be required for this scale of development. We envisage a scenario where as a first phase the development, is expected to commence on the western side accessed by road off the A49. This would assist in supporting the financial case for the development (required in order to make the development viable). Subsequent phases must have rail access. HGV road access for latter phases will be exclusively provided from the eastern side of the site to junction 22 of the M6 via the A579. This creates a requirement for both west and east sides of the M6 to be released from the Green Belt.

As part of this, the required land (to east and west of the M6) would need to be allocated for the intermodal terminal along with land required for the associated rail infrastructure. The provision of road access arrangements under the M6 to link the west side to the east side and access to the M6 is fundamental to the development of this site as access for LGVs and HGVs via the A49 should be prohibited as traffic levels grow.

This development should only take place in the context of an agreement to safeguard land for the necessary rail and road infrastructure on the western and eastern sides, to ensure that the build-out of early phases does not constrain future development and especially should consider the need for sustainable transport. Any masterplan for the whole site (east and west) would have to allow for the land safeguarded for the rail and road infrastructure. This masterplan should consider Highways and Traffic Management implications including a Traffic Management Plan and wider environmental issues which have not been covered in this brief.

With regard to release of Green Belt land under exceptional circumstances, it is crucial for the delivery of a viable SRFI, that land on the west and east sides of the M6 is included for future development, including the associated road access to the A579. Without the required release, the market attractiveness, operational efficiency and financial viability of a SRFI will be adversely affected.

It is recommended that St. Helens, Wigan and Warrington Councils work together to meet the range of national and sub-regional sustainable freight policy requirements. There is currently no rail freight terminal in any of the three areas capable of serving the needs of the local population and industry. It is believed that one "purpose-built" rail terminal at the Parkside site could serve the three Councils and the wider city regions, and help to reduce the long distance road trunking movements on busy routes such as the M6 and M62. As well as reducing congestion and improving journey time reliability, it would result in reductions in carbon dioxide and other pollutants as rail freight is 76% less polluting than road freight.

Through cross border collaboration between the local authorities, the development of the required case for an area wide mitigation package of infrastructure improvements could be brought forward in conjunction with Highways England to support the development of Parkside and the wider economic and employment aspirations of Wigan and Warrington Councils.

From industry consultation it is clear that there is more than enough demand to support a SRFI in the North West, with Parkside regarded as the best placed site to satisfy this need. This narrative is evidenced through the positive findings from the workshop, online survey and one-to-one discussions presented throughout this report. Indeed we have consulted with at least two companies who would be seriously interested in running the intermodal terminal at this site.

The opportunities for rail access from the site are second to none in the North West and also nationally with access to the West Coast Mainline and Chat Moss line easily achievable. This allows train movements to/from the north, south, east and west to be catered for at the site provided the required internal rail layout is implemented. Based on current evidence it is likely that 8 trains can be feasibly serviced by Parkside in the medium term. We would also recommend early formal engagement with Network Rail and Rail North to establish the viability of paths to the forecast destinations in a pre and post HS2 environment within the current and future passenger franchises.

Our transport analysis has confirmed that road access is potentially good with the site in relatively close proximity to the M6 (J22) and M62 (J9) allowing access to the Strategic Road Network at around 2 miles from Parkside. However there are junction capacity issues to be overcome at three junctions on the A49 at Winwick leading to J9 of the M62. From our engagement with Highways England, the development of the site to accommodate a development of up to 1 million square feet, 8 trains per day (Medium Option) could be accommodated within the existing motorway network taking into account proposed infrastructure developments as part of RIS 1. It has been concluded that the western part of the Parkside site is capable of supporting a small development on its own. The site could support a larger scale development (12 trains a day) by utilising of the eastern side of the site. The eastern side could be used for the core rail freight terminal or additional intermodal sidings.

The study has established that from an operational and financial perspective a small terminal is not viable and that only a terminal that is at least a medium would be operationally and financially viable and thus ultimately deliverable as a sustainable development. It is important to note that unlike a purely road based development there are particular operational requirements for intermodal freight terminals that are crucial to include at the design stage to meet current and forecast future requirements and to minimise terminal operational costs for the operator and user.

Table E4 summarises the key reccomendations in relation to developing a logistics and rail freight interchange at Parkside.

Table E4 – Key recommendations

Rail Access

- Based on current evidence it is likely that 8 trains can be feasibly serviced by Parkside in the medium term.
- Early formal engagement with Network Rail and Rail North is required to establish the viability of paths to the forecast destinations in a pre and post HS2 environment within the current and future passenger franchises.

Road Access

- The development of the site to accommodate a development of up to 1 million square feet, 8 trains per day Medium Option could be accommodated within the existing motorway network taking into account proposed infrastructure developments as part of RIS 1, notwithstanding highways and environmental constraints related to a sole vehicular access via the A49.
- To assist in the build-out and viability of the development, up to 750,000 sq. ft. could be supported (subject to detailed analysis) with access solely via the A49 providing:
    - Three main sets of mitigation measures are made on the A49.
    - Land is safeguarded for rail to ensure that later phases are not constrained.
    - Road access is provided under the M6 to the Eastern Side and through to the A579 to service all development following the first phase, and at second phase and beyond, to re-route HGV traffic via the eastern part of the site. Domestic (cars) traffic serving the west side would continue to access via the A49.
    - Environmental and heritage concerns are addressed and appropriate mitigation measures are introduced to ameliorate any adverse impacts on the site and neighbouring communities.
    - Masterplanning proves deliverability of the whole site (east – west combined development).

Green Belt Implications

- It is fundamentally crucial that land on the west side of the M6 and to the east is included for future development including the associated road access to the A579.
- .
- As part of the development, an initial rail connection allowing access from the west (and ideally also to the east) should be provided on the alignment for the intermodal rail terminal.

Core Strategy Policy CAS 3.2 Amendments

- Consideration should be given to the modification of CAS 3.2 to provide a more flexible policy position to support a viable and deliverable SRFI scheme to come forward.
- Green Belt boundaries to the east of the M6 will be affected by these proposals, amendments to Green Belt boundaries would be justified by the arguments presented in this report. This requires a review of Green Belt policy to ensure consistency between land requirements of a SRFI development and Green Belt boundary.
- The Planning policy framework should be guided by the new Transport for the North, Freight and Logistics Strategy.
- Mitigation measures addressing the growth in local traffic should be included.
- Land should be allocated for rail access and suitable terminal facilities.
- New road access should be brought forward via an underpass under the M6 and a new link road to the A579.
- This is a unique opportunity to re-connect a formerly rail served site in an excellent geographical location into a modern SRFI that will meet the needs of modern logistics in the region.

Introduction

01

1. Introduction

1.1 Aim of the Study

This study has been conducted by AECOM and Cushman & Wakefield on behalf of St. Helens Council to investigate the feasibility of delivery options for a road and rail-linked logistics development on land at the former Parkside colliery site. The study will help to inform the preparation of the St. Helens Local Plan 2018-2033 and has therefore been conducted in compliance with the National Planning Policy Framework (NPPF) and the Planning Practice Guidance (PPG).

It is also important to note that this study has been prepared independently of the Joint Venture between St Helens Council and Langtree to bring forward development at the site.

1.2 ATLANTIS Programme

The study will also be used to inform and support the ATLANTIS Programme. This is a European transnational project that is seeking support under the EU's new Motorways of the Sea.

1.3 Site Location and History

Parkside refers to the 600 acre plot of land which was the former location of Parkside Colliery. The colliery which employed roughly 2,000 people until its closure in 1993 forms part of the Lancashire Coal Field. The site is located to the east of Newton-le-Willows, a market town of over 22,000[2] in the Metropolitan Borough of St. Helens. The site is abutted by Lowton (Metropolitan Borough of Wigan) and Winwick (Borough of Warrington).

In terms of road infrastructure, the site is dissected by the M6 motorway, the M62 and A580 are also in close proximity. The site is also crossed by both the West Coast Mainline and the Liverpool to Manchester (Chat Moss) lines. The location of the site and surrounding transport infrastructure can be seen in Figure 1.1.

Figure 1.1 - Location of Parkside Site

There is a longstanding history of organisations wishing to bring forward the former colliery site for development. The previous owners of the site, Astral Developments/Prologis originally submitted a planning

[2] 2011 Census

application to St. Helens and Warrington Borough Councils in 2006 to develop a SRFI with over 700,000 square meters of rail served warehousing, train assembly area, container depot, cargo exchange, secure multi-modal access terminal and waste recycling centre at the former colliery site.

Astral/Prologis withdrew their planning application in July 2010, ultimately blaming the economic climate and market conditions. This withdrawal followed a lengthy period of pre-application discussions, planning applications and amendments between the developer, Prologis and St. Helens Council, the Highways Agency (now Highways England) and Warrington Borough Council, which began in 2004[3].

Figure 1.2 is an extract from the Astral Developments planning application and shows the full provisions of their previous SRFI application.

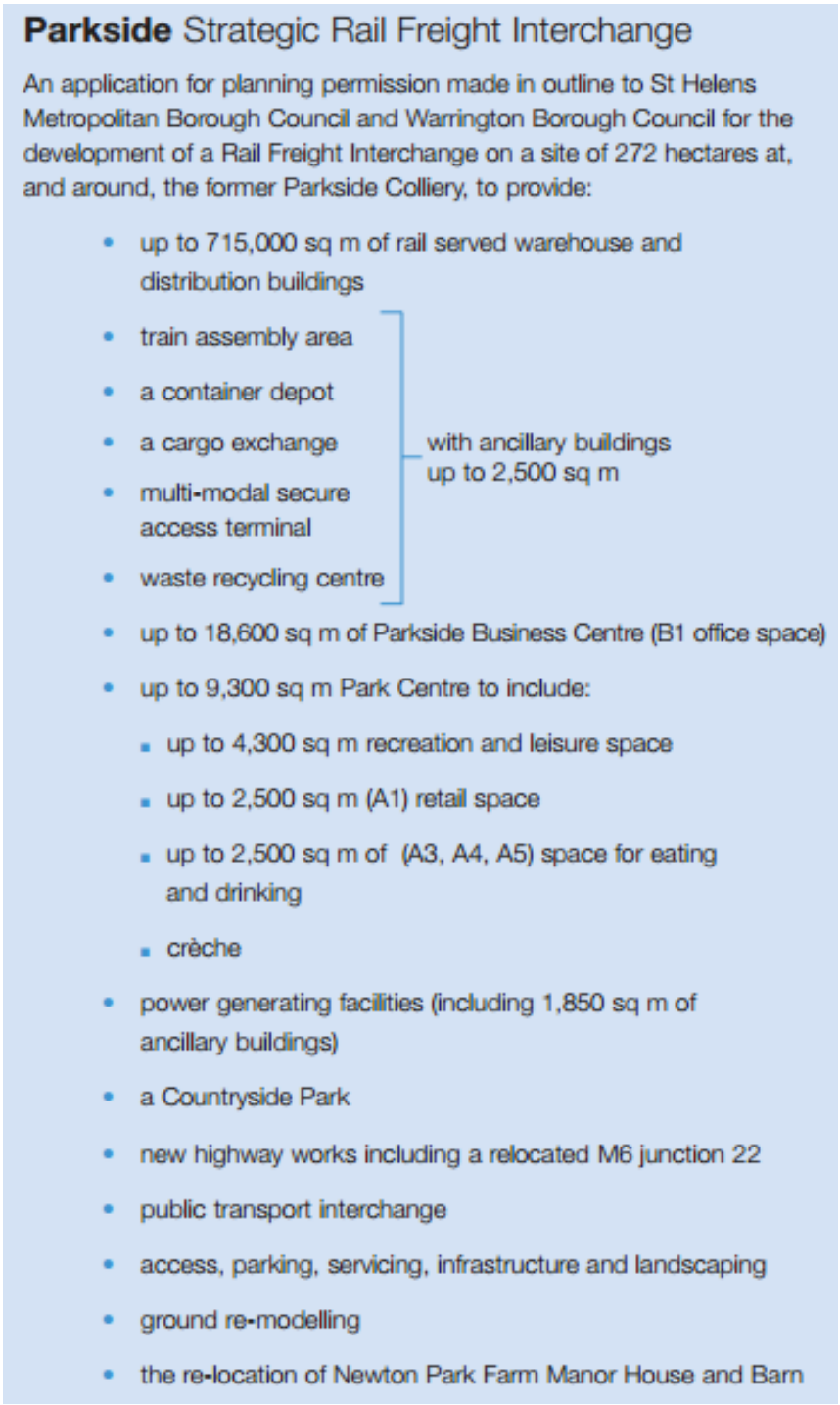


Figure 1.2 - Extract from Parkside SRFI Volume 1 Planning, Design & Access Statement[4]

In 2014, approximately 230 acres of the former colliery site was purchased in a joint venture between St. Helens Council and Newton-le-Willows based developer Langtree from the previous owners[5]. It is understood

[3] http://www.sthelens.gov.uk/media/158581/ex024.pdf
[4] http://www.sthelens.gov.uk/media/253586/ex031.pdf
[5] http://www.langtreepp.co.uk/development/parkside-colliery

that Parkside Regeneration LLP are preparing development proposals to bring forward logistics development on the site.

1.4 Previous Planning Policy Evidence Base Work Conducted

The St. Helens Core Strategy (2012) identified Parkside as a strategic location for a SFRI in Policy CAS 3.2. Background papers were prepared by Scott Wilson (now AECOM) to support the identification of the site as a strategic location in the Core Strategy. The Core Strategy identified the potential to provide an SRFI of between 85 and 155 hectares in size. The Parkside site was not counted within the Core Strategy supply of suitable sites for general market employment land, as it was considered that if a SRFI was developed, it would be strategic in nature and therefore should not be counted as meeting general market employment land needs.

The Council is currently in the process of preparing a new Local Plan which will contain all policies and allocations and will replace the Core Strategy and Saved Unitary Development Plan Policies (2014). As part of the preparation of the Local Plan, the Council is currently undertaking a Green Belt review to find land to accommodate housing and employment uses. The Parkside site has elements of brownfield and greenfield land and lies within the Green Belt, therefore in accordance with National Planning Policy exceptional circumstances will be required to allocate the site for development in the new Local Plan.

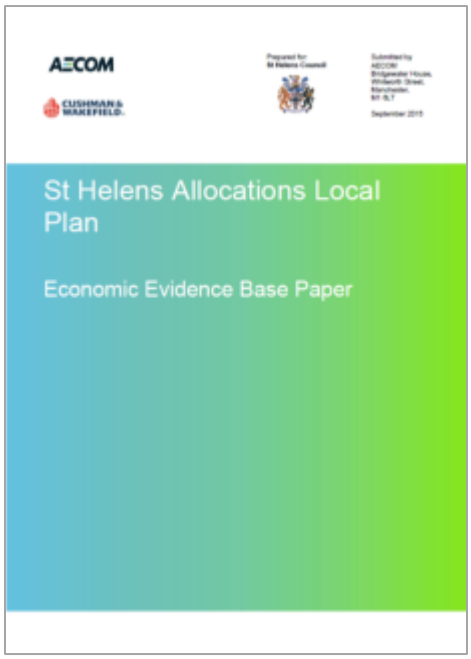
1.5 Employment Land Evidence Base Work

Since the adoption of the Core Strategy in 2012, there have been two new evidence based studies prepared relating to employment land provision in St. Helens.

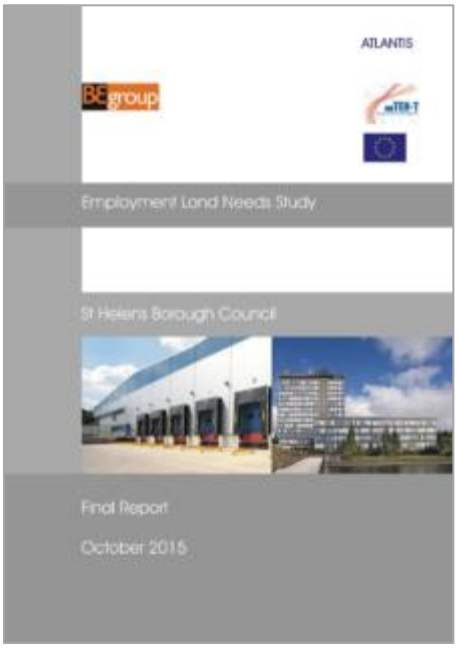
In 2015, AECOM in partnership with Cushman & Wakefield developed the St. Helens Allocations Local Plan – Economic Evidence Base Paper. The purpose of this Paper was to provide an update on the economic development situation since the adoption of the St. Helens Core Strategy in 2012. It also provides a refresh of the employment land market evidence supporting the Core Strategy. Where required, the paper provides recommendations for change through the remaining elements of the St. Helens Local Plan, chiefly the Allocations Local Plan.

The Paper indicates that large scale logistics is the most active market in the region and a particular opportunity for St. Helens. There is however, zero provision of suitable land for large scale logistics and distribution uses within the Borough's identified employment land supply at present. Therefore, the Paper concludes that there is currently an imbalance between demand and supply for large scale distribution and manufacturing sites in the Borough.

The Paper recommends that as part of the preparation of the Local Plan, a search is carried out to identify new employment sites that could meet the demands of a large scale logistics and distribution site. The Paper states that the Parkside site remains crucial in meeting overall economic development aspirations for the Borough.



In 2015 BE Group were commissioned by St. Helens Council to undertake an Employment Land Needs Study (ELNS) to provide robust evidence of objectively assessed need (OAN) for employment floorspace in the Borough. The ELNS found that St Helens' key location on the M6 and M62 motorways means that it is ideally positioned in the North West to provide a critical role in the large-scale logistics sector. The ELNS identified an employment land OAN baseline of 174ha for St. Helens from 2012 up to 2037. The ELNS also sought to consider the potential of SuperPort and a SRFI at the former Parkside Colliery increasing demand for employment land in St Helens through multiplier effects, particularly in the large-scale logistics sector. Accounting for the potential uplift in employment land demand due to these potential major projects, the ELNS concludes that St. Helens has an overall employment land objectively assessed need of 214ha from 2012 up to 2037 (the 214ha does not include the actual land needed to deliver a SRFI at Parkside), this compares to an employment land requirement of 37ha up to 2027 in the Core Strategy.



In summary, a considerable amount of previous work has been conducted in relation to the Parkside site and employment land needs in the Borough. This study aims to build on this work.

1.6 Stakeholder Engagement

A key part of the study has been engaging with stakeholders on the potential for a Logistics and Rail Freight Interchange at Parkside. Due to the important strategic nature of the study the project team have sought to engage with as wider range of stakeholders as possible. This has been achieved through the following engagement activities:

- A Workshop;
- An Online Survey; and
- One-to-one discussions.

1.6.1 Workshop

The stakeholder workshop was held on the 18th May at St. Helens Town Hall. The session aimed to discuss the deliverability and viability of road and rail-linked logistics at the site and further develop the options proposed by the project team for development at the Parkside site. Specifically, discussion was focussed on the following:

- Planning policy context
- Market supply and demand
- Rail access issues and layout
- Road access issues and layout
- Public transport / active travel

The workshop was attended by a total of 27 stakeholders. This included public sector representatives from St. Helens, Warrington and Wigan Councils, Highway England, Liverpool Local Economic Partnership and Mersey Travel. A wide range of private sector stakeholders were also in attendance including logistics companies, independent consultants, CILT representatives and six attendees from the project team (AECOM and Cushman & Wakefield). Table 1.1 provides a full list of the workshop attendees. The workshop findings, including direct quotes from stakeholders are presented throughout this report.

Table 1.1 – Workshop attendees

Attendee	Organisation
Jan Lourens	St. Helens Council
Lyndsey Darwin	St. Helens Council
Melanie Hale	St. Helens Council
Mark Osborne	St. Helens Council
Fiona Soutar	St. Helens Council
Alan Kilroe	St. Helens Council
David Scrivens	Wigan Council
Kevin Hargreaves	Wigan Council
Richard Flood	Warrington Borough Council
Shaun Reynolds	Highways England
Darren Kirkman	Mersey Travel
John Whaling	Liverpool Local Economic Partnership
Alan Heaton	Eddie Stobart
Simon Ives	DB Schenker
Julian Worth	CILT Rail Freight Group
Andrew Hemmings	CILT Rail Freight Group
Jonathan Moser	Railfreight Solutions
Tom Bateson	Tarmac
Rupert Dyer	Rail Expertise Ltd
Simon Small	Arup
David Rolinson	Spawforths
Geoff Clarke	AECOM
Michael Whittaker	AECOM
Alan Houghton	AECOM
Heather Standidge	Cushman & Wakefield
Duncan Carter	AECOM
James Mayes	AECOM

1.6.2 Online Survey

An online survey was developed using an online software package called SNAP. The survey was distributed to approximately 150 stakeholders via email between 29th April & 11th May to organisations in the North West of England who are directly involved with rail freight or are involved in developing rail freight interchanges. The survey had a total of 16 respondents which equates to a response rate of around 10%. Online surveys of this nature achieve a response rate of around 5% on average. The project team managed to achieve a 10% response rate by ensuring that the stakeholder list was targeted to relevant industry contacts and by sending reminders for the survey to be completed.

Figure 1.3 illustrates the split of survey respondents. 25% of respondents are freight users, while 13% are transport operators. Developers and rail freight operating companies (FOC) accounted for 6% respectively. Additionally 50% of respondents indicated that they operate in other business activities and these included:

- Rail freight consultant
- Commercial Real Estate/Property agent
- Independent rail freight consultant
- Transport planner
- Professional Institute
- Industrial Agent

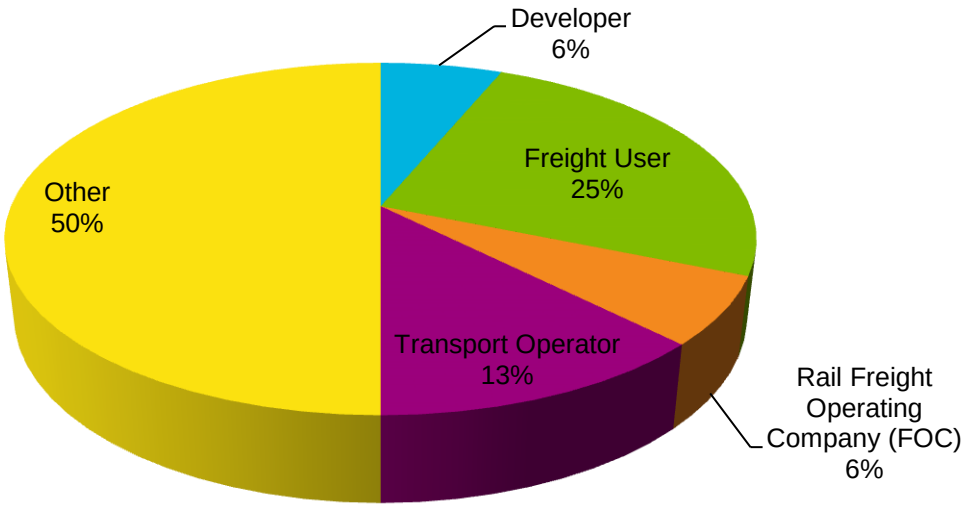


Figure 1.3 – Survey respondents

1.6.3 One-to-One Discussions

To further support the study one-to-one discussions were conducted with key stakeholders. This enabled detailed views to be gained in relation to the feasibility of Parkside as a logistics and rail freight interchange.

Table 1.2 outlines the stakeholders we have consulted with. Findings from the discussions are presented throughout the report.

Table 1.2 – One-to-one discussions completed

Rail Freight Operators	Other Stakeholders
• DB Schenker • GB Rail Freight • Europorte • Rail Freight Group • Freightliner	• Russells Group • DHL • Tarmac • Kilbride Rail • Peel Ports

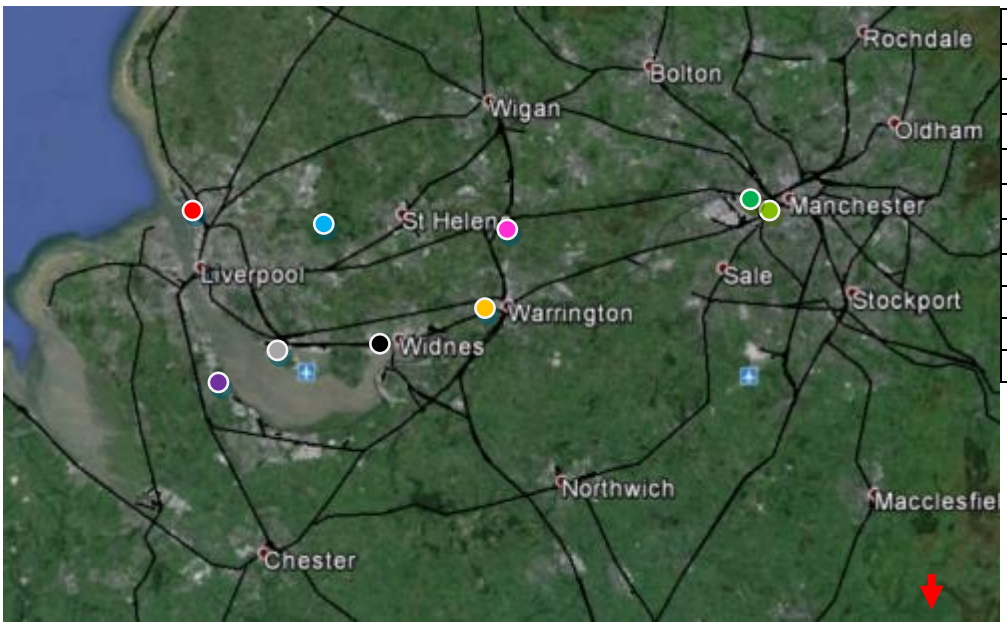
1.7 Competing sites

There are a number of competing rail freight interchange sites. It is important these are considered when assessing the feasibility of a rail-linked logistics development at the Parkside. As such a comparison of the sites that could compete with Parkside will be conducted. Table 1.3 outlines identified sites in the wider catchment area for comparison.

Table 1.3 – Other sites (existing, proposed, under construction) in the wider catchment area

Site	Status	County Name and Region
Ditton	Existing	Cheshire, North West
Knowsley	Being refurbished	Merseyside, North West
Seaforth	Proposed	Merseyside
Port Warrington	Proposed	Cheshire
Port Cheshire (EP)	Proposed	Cheshire
Four Ashes	Proposed	Staffordshire
Port Salford	Under construction	Greater Manchester
Garston	Existing	Merseyside
Trafford Park	Existing	Greater Manchester

These sites will be compared to Parkside on aspects such as road connectivity and rail connectivity in Section 3.8.3. This will allow an understanding of the main competitors to the potential development of an SRFI at Parkside in terms of freight movements and warehouse tenants. Figure 1.4 shows the locations of the competing sites in relation to the Parkside site.



Rail Terminal Location
Parkside
Garston
Ditton
Trafford Park
Port Salford
Port Warrington
Knowsley
Seaforth
Port Cheshire
Four Ashes

Figure 1.4 – Competing Rail Freight Terminal Locations

Transport and Planning Policy Assessment

02

2. Transport and Planning Policy Assessment

2.1 Introduction

This section provides an assessment of relevant planning policy at a European, national, regional and local level. This assessment aims to inform St. Helens Council's emerging Local Plan with regards to the potential allocation of a logistics and rail freight interchange at the Parkside site.

Key research papers that are relevant to the study have also been included in this section. Additionally due to the relevance of rail freight to the study a definition of a Rail Freight Interchange compared with a SRFI is outlined (see Section 2.1.1 for definitions).

2.2 European Policy

The White Paper 2011: "Roadmap to a Single Transport Area – Towards a competitive and resource efficient transport system", provides the European policy context.

This document sets out the vision for transport in Europe over the next 40 years. The Commission sets out the following key goals to be achieved by 2050.

- Halve the use of 'conventionally-fuelled' vehicles in urban transport by 2030; phase them out in cities by 2050.
- Achieve essentially CO^2-free city logistics in major urban centres by 2030.
- 30% of road freight over 300 km should shift to other modes such as rail or waterborne transport by 2030, increasing to more than 50% by 2050. This should be facilitated by efficient and green freight corridors and appropriate infrastructure developments.
- Ensure that all core seaports are sufficiently connected to rail freight and, where possible, inland waterway systems.
- Achieve a 60% overall reduction of transport emissions by the middle of the twenty first century.

Whilst not all related directly to rail freight, there is a clear focus on rail freight as a key contributor to progress towards sustainable freight transport in Europe.

During the development of this report the referendum was held with the decision to leave the EU. It is much too early to factor in any possible changes in policy. But it is likely that any UK Government will continue to work towards more sustainable transport, so the sentiment of this White Paper is still relevant.

2.3 National Policy

At a national level the main policy documents of relevance are the **National Policy Statement for National Networks (2015)** and the **National Policy Framework (2012).**

2.3.1 National Policy Statement for National Networks (2015)

The National Policy Statement for National Networks (NPS) sets out Government policies for nationally significant rail and road infrastructure projects for England. It also provides planning guidance for promoters of nationally significant infrastructure projects on the road and rail networks, and the basis for the examination by the Examining Authority and decisions by the Secretary of State.

The NPS recognizes that railways are a vital part of the UK's transport infrastructure. Specific to freight and in the context of the Government's vision for the transport system as a driver of economic growth and social development, it states the railway network must:

> *"provide for the transport of freight across the country, and to and from ports, in order to help meet environmental goals and improve quality of life"*

Strategic Rail Freight Interchanges are strongly supported with the following stated as the main drivers of demand:

- The changing needs of the logistics sector;

- Rail freight growth;
- Environmental; and
- UK economy, national and local benefits – jobs and growth.

The NPS strongly supports the need for an expanded network of SRFIs in the UK. It also recognises the importance that SRFIs are located near the business markets they will serve such as major urban centres, or groups of centres and are linked to key supply chain routes. The NPS suggests that SRFI capacity needs to be provided at a wide range of locations, in order to provide the flexibility needed to match the changing demands of the market.

Nationally Significant Infrastructure Project / Strategic Rail Freight Interchange Definitions

This section outlines the definition of a Nationally Significant Infrastructure Project / Strategic Rail Freight Interchange.

The **National Planning Statement (NPS) for National Networks** outlines that the following criteria should be met for a prospective site to be deemed 'Nationally Significant':

- Be at least 60ha in area;
- Be capable of handling goods from more than one consignor and to more than one consignee;
- Be capable of handling at least four goods trains per day; and
- Include warehouses to which goods can be delivered from the railway network either directly or by means of another form of transport.

A Strategic Rail Freight Interchange is a Rail Freight Interchange that is considered to be strategic due to the level of its operation. In order for a Rail Freight Interchange to qualify as 'strategic' it needs to meet certain criteria.

The criteria taken from the **National Planning Statement (NPS) for National Networks** are as follows:

- Can handle four or more trains per day
- Can handle 775m trains without splitting
- Substantial element of buildings on site to be rail connected / rail accessible with a substantial element connected from the outset
- Is connected to a railway line with at least W8 gauge rating
- Appropriately located relative to markets that they will serve and to road / rail networks and access to strategic Rail Freight Network
- Where possible be able to accommodate an increased number of trains

An independent body known as the Evidencing Authority is responsible for conducting an assessment of NSIP planning applications against the necessary requirements outlined in the National Policy Statement for National Networks (2015).

The Evidencing Authority, an independent Inspector or panel of Inspectors based on the evidence presented in the planning application makes a decision as to whether they feel planning permission should be granted or denied. It is then up to the Secretary of State to consider the assessment put forward by the Evidencing Authority and makes a final decision on the application.

Therefore if a development does not directly meet the Nationally Significant Infrastructure Project (NSIP) criteria, but is considered to be nationally significant, there is a power in the Planning Act for the Secretary of State, on application, to direct that a development should be treated as a nationally significant infrastructure project. The Secretary of State used this power in its decision to approve planning consent for the East Midlands Gateway Rail Freight Interchange (EMGRFI). The next section explores this decision in more detail outlining the lessons that can be learnt.

The East Midlands Gateway Rail Freight Interchange (EMGRFI) Planning Application

The East Midlands Gateway Rail Freight Interchange (EMGRFI) site is located north of East Midlands Airport in Leicestershire with good accessibility to the road (M1) and rail networks. The site is being promoted and developed by Roxhill (Kegworth) Limited.

The Examining Authority recommended that development consent should not be granted on grounds of non-compliance with the NPSNN. However consent for the development was provided on the 12th January 2016 against the recommendation of the Examining Authority. Patrick McLoughlin (Secretary of State) was not personally involved in the decision because of his potential interest, since his constituency is near the EMGRFI site. The Minister of State for Transport, Robert Goodwill was responsible for the decision instead.

The main reasons for non-compliance stated by the Examining Authority and the Secretary of State's reason for overruling the decision are outlined in Table 2.1.

Table 2.1 – Summary of key points from the EMGRFI Secretary of State's decision letter

#	Examining Authority's reasoning for non-compliance	Secretary of State's reasoning for overruling
1	The SRFI would not be able to accommodate rail activities *"from the outset"* (**paragraph 4.83** of the NPSNN) or be capable of providing *"for a number of rail connected or rail accessible buildings for initial take up"* (**paragraph 4.88** of the NPSNN). These requirements were considered not to be met because a number of warehousing units would be constructed at the outset of the development programme, but would not be rail accessible until the rail link was constructed, which would take 3 years	Appreciates that the construction of warehousing and the construction of a new railway will involve different timescales and considers it entirely reasonable that a commercial undertaking should seek to generate income from the warehousing facilities before the railway becomes operational. The Secretary of State considers that the interpretation of these NPSNN requirements must allow for the realities of constructing and funding major projects such as this.
2	No warehouses will be directly connected to the railway. NSPCC guidance states that *"it is not essential for all buildings on the site to be rail connected from the outset, but a significant element should be".* Because none of the proposed warehousing would be directly rail-connected the proposal failed to meet this requirement, both at the outset and when the development was fully completed	Felt this was a narrow interpretation of the requirement and was happy that the warehouses were "rail accessible" or "rail served" using road tractors.
3	The proposals should include *"rail infrastructure to allow more extensive rail connection within the site in the longer term".* Application does not consider extension of rail connections above that authorised by the order	Felt that the capacity is large enough to allow sufficient rail freight volumes to and from the site without the need for expansion (up to 1800 road movements per day). This is considered to be a significant worthwhile contribution to modal transfer which is a key objective of the NSPNN policies for SRFIs.
4	Proposal does not meet the requirement of **paragraph 4.88** of the NPSNN that *"the initial stages of the development must provide an operational rail network connection and areas for intermodal handling and container storage".*	The Secretary of State recognises that on a narrow interpretation of the phrase "the initial stages of development" this part of paragraph 4.88 of the NPSNN would not be satisfied. However, for the same reasons given in **#1** it is felt that the rail network connection, the area for intermodal handling and the container storage would be provided as early as reasonably practicable in the carrying out of this development
5	Feels there is a risk that a significant part of the development could remain road-based as the proposal permits the occupation of nearly 47% of the proposed total volume of warehousing before the rail connection was operational.	Feels that the requirement for the rail freight terminal to be operational before the occupation of more than 260,000m^2 of rail served warehousing gives sufficient assurance that the rail facilities will be delivered as soon as is reasonably practicable in the programme for this development.

		It is recognised that there is no certainty that the rail facilities will be used to their fullest extent. However the Secretary of State is reassured that the strong and growing demand for rail freight facilities means that there are reasonable prospects that as this SRFI is developed it will fulfil its potential for contributing to modal transfer in the freight sector, which is the clear purpose of this application.

The implications of the decision to overrule the Evidencing Authority (as outlined in Table 2.1) are important to consider when developing the options for a Logistics and Rail Freight Interchange at Parkside. However upon consultation with industry stakeholders at a workshop the decision was not seen as negative.

> "The decision to overturn the evidencing authority's decision is not a negative one – There was such a strong need for an SRFI in the area that the Secretary of State was prepared to give slack to the developer"
>
> ***CILT Rail Freight Group Representative***

The EMGRFI will not be able to accommodate rail activities "from the outset" however the Secretary of State overlooked this requirement. Whilst this represents an opportunity for the developer to generate revenue to finance the rail connection in a latter phase, the risks of not installing the rail connection outweigh the opportunities of this approach.

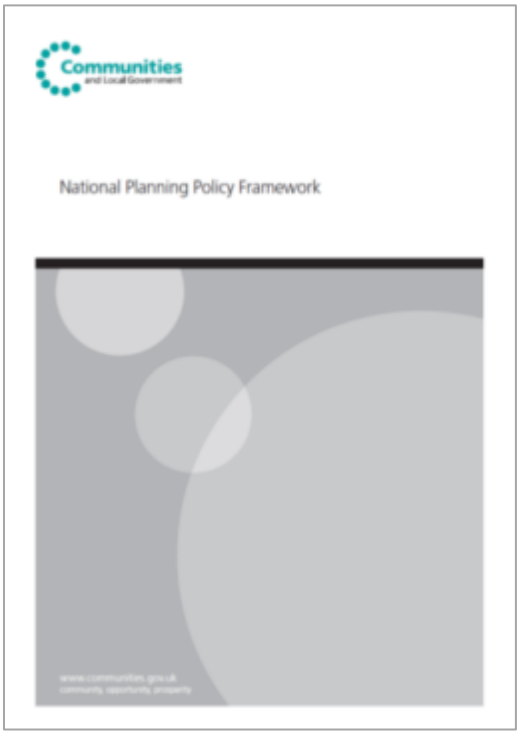
If rail is not installed from the outset then companies will be required to develop road based logistics solutions to meet their needs. Trying to influence them to switch to rail freight at a later date is challenging due to their financial investment in the road based solution. Additionally, tenants that aren't interested in using rail freight may take up prime warehouse space that could be used by tenants that would like to take advantage of a rail connection.

> "There is an overwhelming logic to start with what you are to end up with. Therefore a rail connection should go in from the outset"
>
> ***Private Sector Rail Freight Expert***

> "Constructing a rail connection during the last stage of the development is the worst time to do it. This is because tenants have had to develop a road based solution and convincing them to change and use rail freight is difficult."
>
> ***Private Sector Rail Freight Expert***

Initially the options should aim to meet all the NSIP requirements. However the leniency shown by the Secretary of State means that if the viability of a rail interchange at the site is threatened by the requirements or some requirements and these cannot be met, then NSIP status could still be achievable due to the strategic need for rail freight interchanges across the UK.

2.3.2 National Planning Policy Framework (2012)



Chapter 4 (Promoting sustainable development) of the National **Planning Policy Framework** recognises that developments with sustainable credentials in relation to reductions in greenhouses gases and congestion should be encouraged:

> *"Encouragement should be given to solutions which support reductions in greenhouse gas emissions and reduce congestion. In preparing Local Plans, local planning authorities should therefore support a pattern of development which, where reasonable to do so, facilitates the use of sustainable modes of transport."*

Chapter 4 also specifically supports the development of rail freight terminals to help achieve sustainable development:

> *"Local authorities should work with neighbouring authorities and transport providers to develop strategies for the provision of viable infrastructure necessary to support sustainable development, including large scale facilities such as **rail freight interchanges**, roadside facilities for motorists or transport investment necessary to support strategies for the growth of ports, airports or other major generators of travel demand in their areas."*

It does however recognise that developments generating a significant amount of traffic movements should be supported by a Transport Statement or Transport Assessment taking account of whether:

- The opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure;
- Safe and suitable access to the site can be achieved for all people; and
- Improvements can be undertaken within the transport network that cost effectively limits the significant impacts of the development.

Additionally any future Local Plan policy relating to the Parkside site must pass the test of soundness outlined in the **National Planning Policy Framework.** In order to be considered 'sound' under examination from an independent inspector the Plan should be:

- **Positively prepared** – the plan should be prepared based on a strategy which seeks to meet objectively assessed development and infrastructure requirements, including unmet requirements from neighbouring authorities where it is reasonable to do so and consistent with achieving sustainable development;
- **Justified** – the plan should be the most appropriate strategy, when considered against the reasonable alternatives, based on proportionate evidence;
- **Effective** – the plan should be deliverable over its period and based on effective joint working on cross-boundary strategic priorities; and

- **Consistent with national policy** – the plan should enable the delivery of sustainable development in accordance with the policies in the Framework.

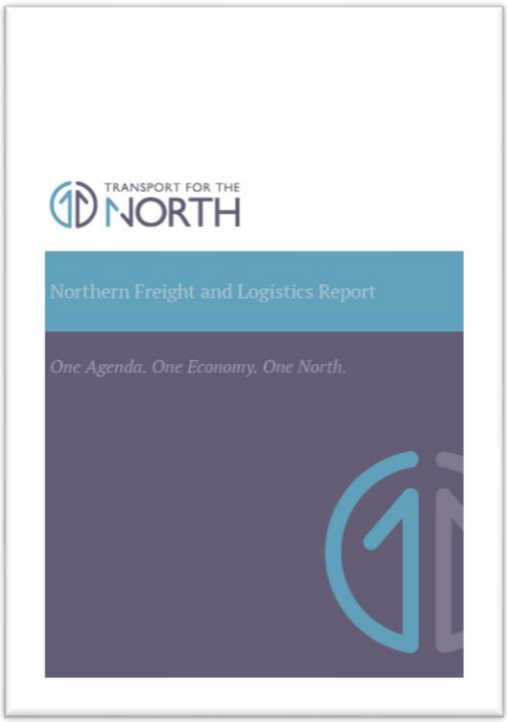
2.4 Regional

This section provides a more focused policy review at a sub-regional level focusing primarily on the Liverpool City Region.

2.4.1 Transport for the North - Northern Freight and Logistics Strategy Report – September 2016

The strategy has been designed to:

- Reduce the cost of freight transport to both users and non-users (for example, reducing the environmental impacts of freight and logistics movements);
- Expand market share in the logistics sector; and
- Attract inward private sector investment to the Northern Powerhouse.



The strategy has a strong focus on the increased use of rail freight through improved availability of train paths and development of rail freight interchanges to help achieve the goals of the strategy. The core of the strategy is as follows:

- The development of 50 hectares of rail and/or water connected Multimodal Distribution Parks (MDPs) per year, to be located at the edge of urban centres
- Rail network upgrades to allow 20% longer freight trains to operate on a six day week basis, which will reduce unit costs through improved asset productivity.
- The promotion of short-sea shipping (particularly for unitised freight) to bring cargo directly to Northern ports
- Complementary land-side access improvements to ports to reduce local road congestion, most importantly along the route of the M62/M60 north of Manchester and into Hull and Liverpool.
- Raising the quality of the environment to further promote the Northern economy

The strategy recognises that the lack of capacity on the existing rail network in the North is threat to growth in rail freight traffic in the region. Additional capacity is therefore required along both north-south and east-west routes to help achieve the rail/port centric distribution outlined in the strategy.

The strategy states that incremental expansion in capacity will be required more or less immediately to provide the private sector with the confidence to invest in additional equipment and terminals so that forecast growth can be reached in a progressive and sustainable manner.

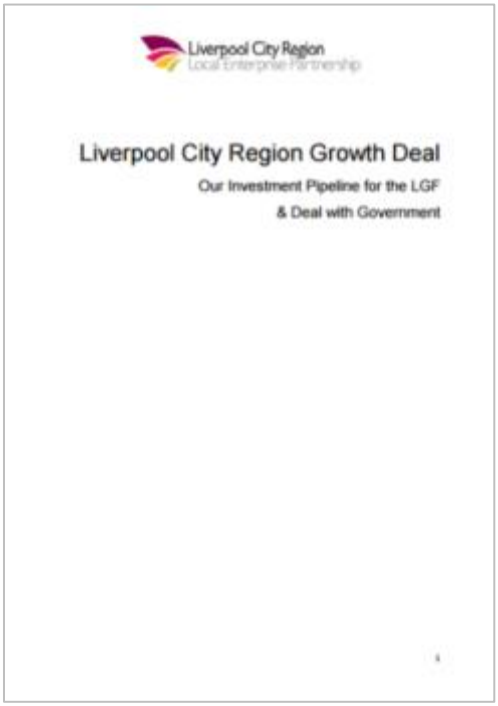
With regard to potential rail freight interchanges in the North West, Parkside is specifically recognised by the strategy along with 9 other sites. See Table 2.2 for a full list of the potential sites in the North West.

Table 2.2- Potential UK Multimodal Distribution Parks

Site	County Name	Status (spring 2016)
Ditton (3MG)	Cheshire	Existing*
Kingsway	Greater Manchester	Not yet rail-linked
Knowsley	Merseyside	Being re-developed
Parkside	**Merseyside**	**Not yet consented**
Port Cheshire (EP)	Cheshire	Potential to expand
Port of Salford	Greater Manchester	Being developed
Port of Warrington	Cheshire	Not yet rail-linked
Risley	Cheshire	Not yet developed
Seaforth	Merseyside	Land being assembled
Wigan	Greater Manchester	Not yet developed

** Potential to expand*

2.4.2 Liverpool City Region (LCR) Growth Deal (2014)



The Liverpool City Region Growth Deal was announced on July 7th 2014 and allocated over £232m of resources to the area - with £35m of new funding confirmed for 2015/16 and £153.2m from 2016/17 to 2021. The Growth Deal focusses on transport and skills projects which will support the city region's ambitions to create a freight and logistics hub serving an expanded Port of Liverpool.

The Liverpool City Region Growth Deal focuses on four priority areas:

- Creating a Liverpool City Region Freight and Logistics Hub
- Liverpool City Centre
- Low Carbon Liverpool City Region
- Skills and business support to enable growth

Based on evidence and in the context of the City Region's considerable asset base, the Growth Deal identifies five transformational strategic projects:

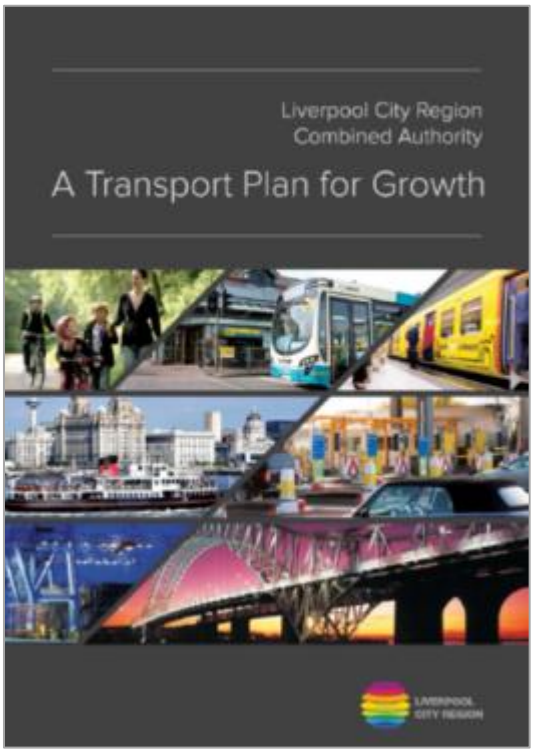
- Liverpool City Centre as a global brand, visitor and business destination, a centre for commercial and business growth and a location for a growing cluster of knowledge assets
- The Liverpool City Region Freight and Logistics Hub that builds on our natural assets and the changing nature of the international and national logistics industry
- LCR2Energy which will facilitate the transition of the City Region's energy requirements to a more low carbon supply

- Access to the Port of Liverpool
- A City Region Capital Investment Fund, to act as an intermediary mechanism between the Local Growth Fund nationally and investments at the local level

The programme of projects aimed at creating a **Liverpool City Region Freight and Logistics Hub** builds on the investment in Liverpool2 and the £600m investment in the Mersey Gateway. Both these projects complement the Atlantic Gateway initiative and the aspirations of the Cheshire and Warrington, and Greater Manchester LEPs for job creation resulting from expanding freight capacity.

2.4.3 A Transport Plan for Growth

A Transport Plan for Growth was developed by Liverpool City Region Combined Authority and was released in 2015. It outlines five strategic projects. One of the five strategic projects at the heart of the Transport Plan for Growth is to create a freight and logistics hub. This project aims to put the City Region in the best place to respond to changes in the UK and international logistics market.



Three priorities are identified as part of the plan:

- Growth
- Low carbon
- Access to opportunity

Wider strategic priorities are also outlined with **Freight and Logistics** considered the most important. The other wider strategic priorities are:

- Housing and Land-use Planning
- Economic Development and Regeneration
- Employment and Skills
- Health and Wellbeing
- Carbon Reduction and Air Quality
- Connecting Communities
- Visitor Economy

A Transport Plan for Growth aligns our transport priorities with these wider strategic priorities, facilitating effective cross-sector collaboration and shared investment (Figure 2.1).

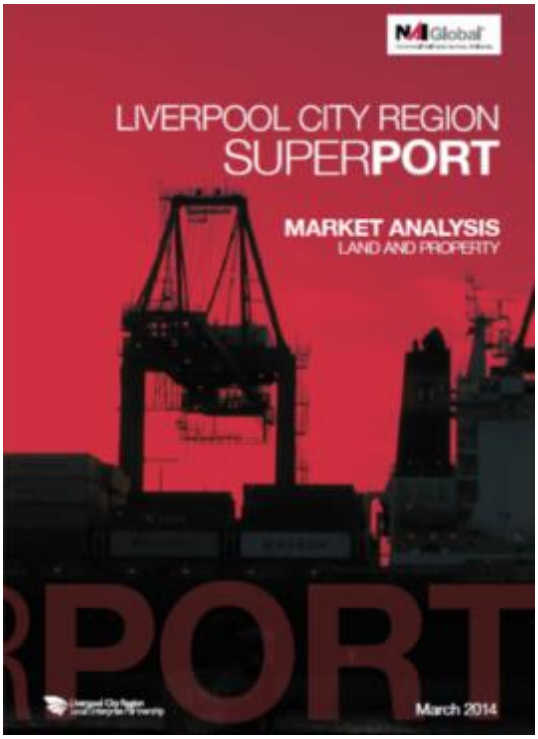
Figure 2.1 – Alignment of transport priorities with the wider strategic priorities

The plan recognises that improving connectivity and capacity for freight on our road and rail networks opens up access to the Port from across the whole of the UK, and is therefore fundamental to supporting the economic prosperity of the Region. There is also a strong emphasis on logistics and freight as a means of supporting and enhancing the economic output of the region.

Delivering the SUPERPORT Freight and Logistics Hub (developments, sites and premises) is designated as a shared priority. The Parkside site along with Knowsley Industrial Park and 3MG in Halton are recognised as key to achieving the SUPERPORT Hub.

2.4.4 Liverpool SUPERPORT Market Analysis Land and Property Report (2014)

The market analysis for land and property in relation to the **Liverpool SUPERPORT** outlines a minimum land supply of 634 hectares over the next 20 years, split across logistics (418ha) and manufacturing use (216ha). Factoring in a 25% headroom in supply, to allow for client choice etc. to enable the market to function properly this would inflate the totals required to 793 hectares for logistics (522ha) and manufacturing use (271ha) overall.



As part of the market analysis for land and property a number of current and potential sites have been identified that are capable of addressing the specific need for logistics facilities in the Liverpool City Region.A SRFI at the Parkside site is identified as a key project if the SUPERPORT is to be successfully delivered.

2.4.5 Liverpool City Region Long Term Rail Strategy (2014)

Developed by Merseytravel in collaboration with Network Rail, the LCR Long Term Rail Strategy is a vital and timely vision of the role that an expanded rail offer can play in facilitating the proposed accelerated economic growth of the LCR.

- Improving National Passenger and Freight Connections (CP5 – CP7)

In terms of freight, the aspirations of the SuperPort masterplan to more than double the rail freight handling capacity of the city region is a vital scheme for the economic future of the area, but is likely to result in conflict with increased passenger services.

2.5 Local Policy

The St. Helens Local Plan Core Strategy (2012) and the St.Helens Unitary Development Plan Saved Polices (2014 version) are Development Plan Documents for St. Helens. Together with the Merseyside and Halton Joint Waste Local Plan (2013) they form the Development Plan for St.Helens, which sets out the spatial planning policy framework for the Borough of St.Helens.

The St. Helens Local Plan Core Strategy was published in October 2012 and was the culmination of various consultations and background papers spanning 7 years from 2005 - 2012. It takes account of, and will support a number of local strategies. However the St.Helens Plan 2011-2014 and City Growth Strategy 2008-2018 are overarching.

The Core Strategy provides a strategic level plan for how the Borough will develop to 2027. The document outlines the current situation in St. Helens (as it was at adoption in 2012) and identifies the key issues, problems and challenges. The Strategy then outlines the Vision for St. Helens by 2027, and identifies what detailed objectives need to be met to achieve the overall Vision.

The Parkside site and immediately adjacent land is identified as a strategic location with potential to facilitate the development of an SRFI. It is stated that the Council believe a deliverable and viable SRFI can be developed on the western side of the M6 with an operational area of approximately 85 hectares. Therefore the Council will support the development of the site identified to the west of the M6 as a SRFI, provided that it meets national Green Belt planning policy tests, including the demonstration of very special circumstances along with a set of additional criteria such as:

- Direct access to the rail network is achieved and conforms with rail industry strategies and capacity utilization;
- The ability of the local road network to accommodate traffic generated by the development without unacceptable impact on residential amenity and traffic flows; and
- All uses within the site should have the primary purpose of facilitating the movement of freight by rail. Any ancillary uses to this main use must be directly related to the movement of freight by rail and must demonstrate clearly why they need to be located on the site.

Parkside Policy CAS3.2[6]

The site of the former Parkside Colliery and immediately adjacent land is identified as a strategic location which has the potential to facilitate the transfer of freight between road and rail. The Council supports in principle the delivery of a SRFI in this location. The Council believes a deliverable and viable SRFI can be developed on the western side of the M6 with an operational area of approximately 85 hectares.

The Council will support the development of the site identified to the west of the M6 as a SRFI, provided that each of the following criteria are met:

1. It meets national Green Belt planning policy tests, including the demonstration of very special circumstances; 66 St.Helens Local Development Framework; St.Helens Local Plan Core Strategy

2. Direct access to the site from the M6 for HGVs can be obtained avoiding use of Traffic Sensitive Routes identified in the Network Management Plan. Adverse impacts on the Strategic Road Network will be mitigated;

3. Direct access to the rail network is achieved and conforms with rail industry strategies and capacity utilisation;

4. The ability of the local road network to accommodate traffic generated by the development without unacceptable impact on residential amenity and traffic flows;

5. Measures are incorporated which encourage travel to/from the site using sustainable transport modes, including access by public transport, cycle and foot, in accordance with Policy CP 2. A travel plan will be essential;

6. That the character and amenity of the Newton High Street and Willow Park Conservation Areas are preserved or enhanced;

7. Significant adverse impacts from the development itself or associated road and rail access routes should be avoided and, wherever possible, alternative options which reduce or eliminate such impacts should be pursued. Where adverse impacts are unavoidable, measures to mitigate the impact should be adopted. Where adequate mitigation measures are not possible, compensatory measures should be considered and adopted if appropriate. The aim should be to minimise any adverse impact. In applying this policy, a developer should address the following land use impacts as a minimum: environment; biodiversity/ecology; heritage; archaeology; agricultural land; community; quality of life; health; air quality; light; noise; visual intrusion; buffer zones; contributions to sustainable development; waste management; energy generation by renewable means; energy efficiency; water conservation and sustainable drainage; reuse of materials; traffic and sustainable transport; and remediation of land affected by contamination or surface hazards caused by past mining activity;

8. All uses within the site should have the primary purpose of facilitating the movement of freight by rail. Any ancillary uses to this main use must be directly related to the movement of freight by rail and must demonstrate clearly why they need to be located on the site; 9. Impact on Green Belt and landscape character is mitigated by significant landscape and green infrastructure enhancement, including tree planting;

10. Provision for the positive management of existing and new environmental assets;

11. Special regard should be had to the desirability of preserving the Listed Buildings at Newton Park Farm, their setting or any features of special architectural or historical interest which they possess. Should a suitable SRFI scheme require the removal of the Listed Buildings then substantial public benefits will be required including the relocation of the listed structures in a rural setting within the vicinity of Newton-le-Willows and preferably within the St.Helens local authority area;

12. Training schemes will be put in place to increase the opportunity for the local population to obtain employment at the complex; and

13. All other material issues are satisfied.

It is understood, however, that for operational, viability and commercial reasons a larger area of land extending to the east of the M6 motorway may also be required to accommodate an enlarged SRFI. It is considered that any expansion to the east would cover approximately 70 hectares of additional operational land.

The Council will also support the development of land to the east of the M6 provided the above criteria are met, plus the following additional criteria:

14. That the area of land to the western side of the M6 is developed first; and

15. That the SRFI is proven to be not deliverable without the additional eastern land area. Planning permission will not be granted for any other use of the land which would prejudice its use as a rail freight interchange. Subject to a SRFI being fully developed on site, that meets the requirements listed above, the Council will consider favourably a revision to the Green Belt boundary in the Allocations DPD and Proposals Map, or subsequent revision.

[6] St. Helens Local Plan Core Strategy, 2012

The purpose of the policy is as follows;

i. To facilitate the transfer of freight between road and rail by making best use of Parkside's unique locational advantages in terms of road and rail infrastructure;

ii. The national, regional and local need for a SRFI in this location;
iii. To identify an appropriate scale of development;
iv. To outline an appropriate phased release of land;
v. To outline the criteria that a SRFI proposal will need to satisfy to be considered acceptable;
vi. To identify a trigger for the consideration of changes to the Green Belt boundary in this location.

2.6 Green Belt Implications

The Parkside Rail Freight Interchange Core Strategy evidence base Background Paper of 2010 reflects on the case for Parkside having exceptional circumstances as follows:

"*The exceptional circumstances which support the release of Green Belt land in (and around) Parkside comprise the need to provide a SRFI in the North West to meet anticipated medium/long term market demand and to meet the Government's objective of developing a more sustainable distribution industry, combined with the significant benefits the development would have in terms of generating significant employment opportunities in the Borough and the wider positive impacts on the sub-regional and regional economy.*

The development of Parkside as a SRFI is also supported by the RSS. The Secretary of State and the Inspector have in the past refused development for two schemes, Newton Park Farm and a Motorway Service Area at Parkside, in order to safeguard the site for an intermodal freight terminal. 12.5.3 The Government's commitment to tackling climate change, and especially reducing CO2 emissions, is unequivocal. The modal shift of freight movement from road to rail is a clear and urgent policy objective, the removal of Parkside west from the Green Belt in order to enable the development of a SRFI as a whole would result in a clear balance of advantage, notwithstanding some adverse effects in the immediate locality. The development of a SRFI at Parkside would bring about numerous positive benefits and provides a key opportunity to meet national and regional transport, environmental and economic aspirations whist delivering both short and long term benefits to St. Helens and the wider sub-region. Parkside has locational advantages in terms of access to the main rail network and the strategic road network and would be ideally placed to become an important logistics hub serving the North West region to meet forecast demand from distributors serving an active economic region. The harm to the Green Belt by reason of inappropriateness and any other harm is outweighed by other considerations and accordingly exceptional circumstances can be demonstrated to release Green Belt land at Parkside."

This study has reviewed the case in support of an SRFI proposal at Parkside. In doing so, the strength of our findings provides the ongoing case for Exceptional Circumstances with regard to the site, and with minor amendments we believe these circumstances still apply.

2.7 Emerging Local Plan

As is shown in the analysis presented in this Chapter the development of new rail-linked logistics development is strongly supported at both a national, regional and sub-regional policy level. The Parkside site itself is also named specifically in the **Transport for the North Freight Strategy** and **Liverpool SUPERPORT Market Analysis, Land and Property Report (2014)** as a site suitable for consideration of a logistics and rail freight interchange.

Additionally as part of the Liverpool City Region 'A Transport Plan for Growth' delivering the SUPERPORT Freight and Logistics Hub (developments, sites and premises) is designated as a shared priority. The Parkside site along with Knowsley Industrial Park and 3MG in Halton are recognised as key to achieving the SUPERPORT Hub.

2.8 Key Research Papers

2.8.1 Mode Shift Benefit Values – Technical Report[7] and Refresh[8]

In deciding whether to send freight by road an operator will compare the additional costs he expects to incur with the additional benefits he expects to obtain. The additional costs faced by the operator, or 'marginal private costs', will include wage costs, fuel costs, oil, tyres and any other mileage related repair costs, including any taxes (such as fuel duty) incurred.

However the operator will also impose costs on other groups in society, which it will not factor into its decision to transport freight by road. These are referred to as 'marginal external costs'. In this review the same categories of external cost that were considered as part of the previous review of the values, reported in SRA (2003) have been used:

- Congestion costs
- Accidents costs
- Noise costs
- Climate change costs
- Air pollution costs
- Infrastructure costs
- Other costs

In summary, the net social benefit of transferring freight from road to rail or water is made up of the net benefit of reducing the amount of freight traffic on road and the net cost of increasing the amount of freight traffic on other modes. This assessment has been used to assess the net benefits of having a rail connection for each option.

2.8.2 Double-Deck Trailers: A Cost-Benefit Model Estimating Environmental And Financial Savings[9]

Double-deck trailers could be a key contributor towards the UK's commitment to reducing CO2 emissions towards 2020. A double-deck trailer greatly increases carrying capacity with current vehicle size and weight limits. Double-deck trailers are particularly well suited to retail distribution. This paper introduces a model that calculates the financial and environmental impact of deploying double-deck trailers on a specific set of routes. This paper is of particular relevance to rail freight as double-deck trailers are a strong competitor to rail freight due to the additional carrying capacity of these vehicles.

[7] Department for Transport, 2009 - Mode Shift Benefit Values

[8] Department for Transport, 2015 - Mode Shift Benefit Values: Refresh

[9] Double-Deck Trailers: A Cost-Benefit Model Estimating Environmental And Financial Savings - Logistics Research Centre, Heriot-Watt University

Market Demand and Supply Assessment

03

3. Market Demand and Supply Assessment

3.1 Introduction

As a site adjacent to the M6 and with the benefit of significant scale, the Parkside site clearly lends itself to larger scale logistics and distribution uses. This section of the Market Demand and Supply Assessment considers the likely potential and scale of demand for such uses at the Parkside site, including the attractiveness of rail facilitated property, relative to broader market trends and competing locations. It has been informed by Cushman & Wakefield's substantial industrial market research and through consultations with both our in-house and other external North West industrial market agents together with AECOM's extensive knowledge of the rail freight sector.

3.2 National and Regional Market Overview

Global and domestic economic concerns including weak export numbers and the uncertainty surrounding the EU referendum impacted upon the national industrial sector in 2015. As a result, Cushman & Wakefield's market research indicates that industrial enquiries plateaued as a result of occupier caution in 2015 (5,806 enquiries across the year) and take up eased to 29.7m sq. ft., 15% lower than the 2014 figures. These economic factors are anticipated to continue to have a dampening effect on take up in the first half of 2016, and there is uncertainty relating to the potential for improvement in the second half of the year due to the result of the EU referendum.

The growth of online spending has led to e-commerce becoming the most influential sector on the UK big box industrial and logistics market, with retail accounting for 38% of total take up in 2015, the highest level since 2010. The UK has the most mature online retail market in Europe with 16% of total retail spend anticipated to be spent online by 2019. As online consumers have become increasingly demanding, logistics operators have had to streamline and optimize their supply chains to ensure next day deliveries and 'click and collect' deliveries can be made. This increasing need to move vast volumes of stock at a fast pace has resulted in requirements for progressively larger distribution centers built to high specifications in most suitable locations near to consumers, including increased interest in multi-modal facilities such as DIRFT (Daventry International Rail Freight Terminal) enabling heavier goods to be transported over longer distances.

These advances have driven a key trend within the large scale industrial and logistics market – a 'flight to quality' for occupiers in terms of both premises and location, resulting in the highest Grade A take-up on record in 2015 (47% of the total).

A lack of Grade A logistics space in prime locations had led to the 'big box' occupiers favouring build-to-suit solutions, although the volume of Grade A floorspace taken up via such deals fell to around half in the second half of 2015 (from c. 76% in H1) as more speculative development entered the market.

Cushman & Wakefield currently estimate there to be in the order of 10.3m sq. ft. of speculative industrial floorspace over 50,000 sq. ft. under construction in the UK and a further 3.1m sq. ft. proposed. Developers are targeting the highly sought after mid-size market, with 100,000 to 250,000 sq. ft. schemes accounting for 49% of developments completed, under construction or proposed. Whilst much of this development remains centered on the highly accessible M1/M6/M25/M62 motorway corridors (for example, Omega in Warrington), speculative logistics development is now starting to spread along other major trunk routes as illustrated in Figure 3.1.

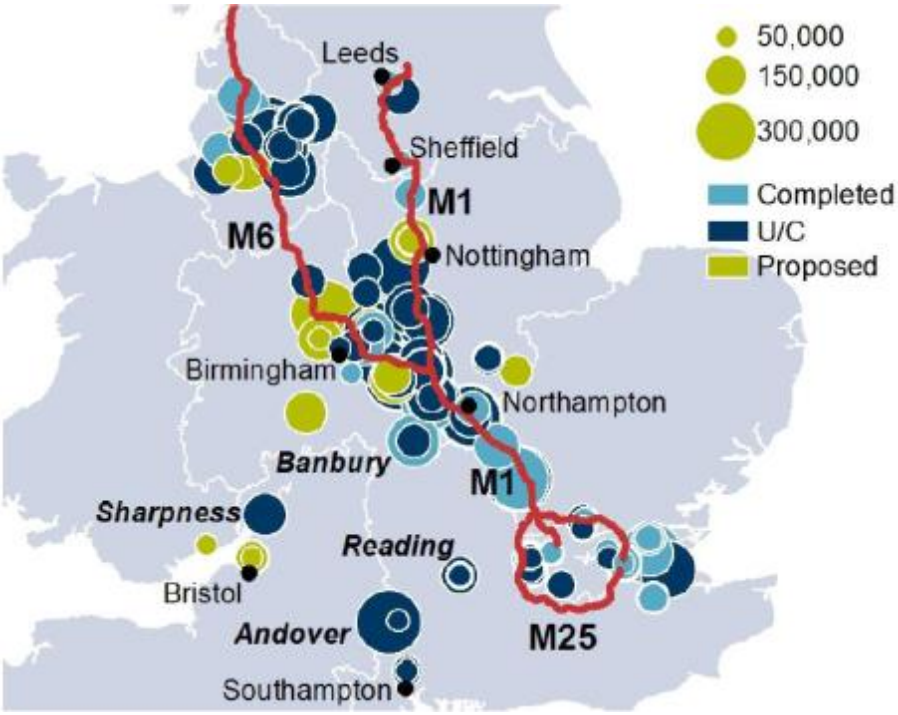


Figure 3.1- Speculative Development Since Q1 2014 (Million sq. ft.)
Source: Cushman & Wakefield Research, ERSI

The UK industrial market is currently the most expensive in Europe, however until recently the dearth of new development and competition over available space has meant that prime rents have increased by 12% since 2011. Cushman & Wakefield forecast that despite an increase in speculative development, a lack of available land in good locations will continue to fuel rent rises of c.10% over the next five years across all key centres.

Within the North West regional market, industrial take up totaled over 5 million sq. ft. in 2015, similar to the previous year but falling significantly in the second half of 2015. As per the national picture, Grade availability in the North West increased by 80% on the previous year to 783,000 sq. ft. at the end of 2015. Speculative development started off at a slower rate than in other regions, and the resulting low availability coupled with a highly active market led to some of the strongest prime rental growth in the UK. However, this also contributed to the slow rate of take-up in the second half of 2015 as occupiers become reluctant to pay such rental levels. Despite this, take up is expected to increase in response to the Liverpool 2 port forecast to open in H2 2016 and consequently rents are expected to continue to rise across the region.

3.3 Drivers of Demand

Regardless of economic trends, the demand for industrial and warehousing floorspace continues to be driven by a series of multiple generic and business specific factors. The primary generic drivers for almost all occupiers are as follows:

- **Location -** there is a need to be in the broad location that best suits business requirements, in terms of access to customers (internal and external), supply chain and employees. In a higher value added economy, evidenced through the emergence of advanced manufacturing (for example), access to higher skills is an increasingly important driver but workers anticipate greater travel to work distances as a consequence of higher pay levels. However, businesses requiring a low skill base will locate where there is a plentiful supply of cheap labour. Therefore, choice of location will be driven by accessibility which, depending on the nature of the business, could be either excellent strategic highways connections or high level public transport access, or a combination of the two.
- **Availability of space** - ultimately most occupiers are opportunistic and will go where the right space is available at the right time and at an acceptable cost. An occupier's first choice is often within their existing location and then places nearby or with similar attributes which satisfy staff need. Decisions tend to be short term e.g. responding to a new contract, and as such there is a need for a supply of 'oven ready' sites and premises of a variety of types and locations to enable areas to serve the needs of both existing and incoming businesses.

- **Financial incentives and public sector intervention** - in the past, occupiers have been driven to particular locations by the public sector, both through the planning system and, more frequently, through the availability of grants and incentives. However, public sector spending cuts mean that this is very unlikely to be such a significant driver moving forward, and the public sector's role will be more of an enabler, in particular through the planning system.
- **Sustainability** - In terms of occupier requirements going forward, increasing importance will also be placed upon build standards and environmental performance as companies seek to reduce running costs and meet corporate and social responsibilities.

3.4 Document Review – Land Demand Indicators

A number of key documents consider the future demand requirement for employment land associated with the rail and sea freight sectors. These have particular relevance to Parkside and could help inform the implications for the demand for property at the site:

- **SUPERPORT Land and Property Market Analysis Report (2014) -** The demand requirement for land in the manufacturing, distribution and transport sectors in the Liverpool City Region is estimated at 800 hectares. At the time of the report in 2014, the supply of high quality, large scale sites such as at 3MG and Omega South were identified as sufficient in the short term, however up to a 20 year period an additional 400 hectares (minimum) of large high quality sites suitable for logistics clusters would be required to maximise the opportunity created by Superport and prevent demand from going elsewhere. Just two years on from this report and Omega is now almost at capacity suggesting the additional requirement for large scale good quality sites may need to be facilitated in the shorter rather than longer term.
- **Transport for the North: Freight & Logistics Strategy:** Concludes that the development of 50 hectares per annum of rail and/or water connected Multimodal Distribution Parks (MDPs) will be required to 2033 (equating to a total of 850 hectares over this period) in order to reduce the cost of freight transport, expand market share in the logistics sector and attract private inward investment to the Northern Powerhouse. Development of MDPs will be focused at the edge of urban centres and along east-west corridors to maximise transport efficiencies. In the North the most obvious opportunities are from the Mersey along the Manchester Ship Canal at sites such as Port Warrington, Port Salford and Runcorn.
- **St Helens Employment Land Needs Study –** Identifies an overall borough-wide employment land requirement of 177-214 hectares to 2037. Opportunities for larger operations, particularly large scale logistics businesses, were found to be very limited despite an anticipated strong shift to B8 warehousing requirements to 2037. As such, the need for Storage and Distribution (B8) employment types accounts for 100-130 hectares of the total employment land requirement, with the next largest need being 50-65 hectares for General industrial (B2) uses. The locations of the additional land should build upon the existing employment nodes in St Helens exploiting its key location advantage.

Each of these documents indicates an anticipated demand for additional employment land across St Helens and the wider sub-region for larger scale industrial and distribution development associated with improvements and growth to the rail, sea and road freight sectors. The Parkside site is well placed to respond to this anticipated growth in demand.

3.5 Market View of the Parkside Site

Consultations with Cushman & Wakefield's in-house agency team, together with other external Industrial Market Agents active within the North West regional market has revealed the following key messages in respect of the local market and potential of the Parkside site for distribution use generally:

- **Improving market sentiment –** There is an improving narrative behind the North West and its regional economy. Positive news stories around the Northern Powerhouse, Liverpool2, Jaguar Land Rover and Manchester Airport have all served to enhance wider market perceptions of the region, particularly around Manchester and Liverpool.
- **Short term speculative supply** – A total of 3.6 million sq. ft. of speculative development has come forward in the North West since 2014, with more announcements expected in 2016. For example, development is currently happening on the ground at:

- Omega, Warrington – Limited availability with just the last couple of plots remaining. London Metric are currently speculatively building a 350,000 sq. ft. cross-dock facility. The Parkside SRFI site is currently not considered to be as attractive a location as Omega owing to visibility and immediate motorway access.
- Logistics North, Bolton – Strategic location on the M61 near Bolton with land available. Speculative development is currently underway on three units of 175,000, 275,000 and 350,000 sq. ft. Parkside is currently not considered to be as good a site, but could be of equal attractiveness if road linkages could be improved.
- Kingsway, Rochdale – 250,000 sq. ft. speculative shed is currently under construction. Parkside's strategic location adjacent to the M6 makes it a more attractive market location than Kingsway near the M62.
- Haydock Industrial Estate, St Helens – Established industrial location situated at the junction of the East Lancs Road with the M6 at Junction 23. The estate is performing well and counts Sainsbury's (350,000 sq. ft.) and Cost-Co as occupiers. The Haydock Cross site has just been purchased and is considered to be of equal attractiveness to the Parkside site.
- South Lancashire Industrial Estate, Ashton-in-Makerfield, Wigan – 3 large sheds of 100,000 to 350,000 sq. ft. are under speculative construction.
- 3MG, Mersey Multi-modal Gateway – Situated in Ditton, Widnes with access to the West Coast Main Line. The site is predominantly owned by Stobart Group and has outline planning consent for 2.7 million sq. ft. of new buildings, but development is not progressing.
- Port Salford – Peel owned site with planning permission for 1.6 million sq. ft. of distribution warehousing
- Port Bridgewater, Ellesmere Port – Proposals for 1 million sq. ft.

- **Constrained future supply –** Several of the key distribution locations identified above such as Omega, Warrington; Trafford Park, Manchester and Logistics North, Bolton are beginning to reach critical mass and there is now a recognised shortage of large scale employment sites in single ownership within the North West with the ability to be delivered within the medium to long term (post 3-5 years). Within St. Helens, the UDP Proposals Map indicates that there is no additional allocated employment land available for development along the M62 and therefore the focus is on the M6. In response, the Employment Land Study recommends that the Parkside site, land at Junction 23 of the M6, and Junction 7 of the M62 should be the key sites to secure for logistics purposes. The Parkside site is in single ownership and is capable of delivering large footprint premises on an edge of motorway location. This limited supply of truly strategic sites in the pipeline is considered to be one of the key advantages to the Parkside site.
- **Attractive local labour market –** The Parkside site is situated within the Borough of St. Helens, but close to the border with Wigan and Warrington. Each of these local authorities is considered to have a labour market that is attractive to the industrial and distribution industry and is bourne out of the area's strategic location at the crossing points of major road and rail infrastructure. 7.7% of St Helen's working age population is engaged in transport and storage sector compared to 4.5% regionally and nationally. In Warrington the rate is 6.2% and Wigan 4.9% (Source: ONS BRES 2014). These figures indicate a strong pool of appropriately skilled labour. Further, full time earnings in St Helens average £480 per week, lower than the £492 regional average, indicating an affordable location in terms of labour.
- **Requirement to improve road access –** The Parkside site is situated in a good location adjacent to the M6 corridor and between Warrington and Haydock. Further, St Helens is deemed to have an attractive labour market. However, road access to the site is currently undermining its market attractiveness. Whilst only a 5 minute drive to the M6 or M62 motorway junctions, congestion is considered to be an issue on the A49/M6 link locally. In order to be the next 'Strategic Site' in the North West and to compete effectively with the likes of Omega and Logistics North, the site really requires its own direct access to the M6 or significantly improved access via the A49. However, there are significant costs to developing such significant new infrastructure.
- **Rental levels -** Prime industrial rental values in the North West are currently in the order of £6.50 per sq. ft. at Omega, Trafford Park, Warrington and in South Manchester. Discussions with market

agents have suggested potential values in the order of £5 per sq. ft. at Parkside based on current accessibility, increasing to £6 to £6.50 per sq. ft. with improved road access. The rail link will drive additional value but the scale of this is largely untested and therefore unknown.

- **Scale of development -** The estimated 74 acres of developable industrial land at the Parkside site is considered by the market to have the ability to deliver up to 1.5 million sq. ft. of industrial and/or logistics space. There is considered to be good demand for big box logistics, although most of the large scale retailer and parcel delivery requirements which had been driving the market on the North West have now been met. Demand will therefore likely be from other distribution users and possibly manufacturers. The St. Helens Employment Land Needs Study supports this market sentiment indicating that B8 employment land growth is expected to be led by the large scale operators (greater than 200,000 sq. ft.). Unit sizes of 100,000 to 200,000 sq. ft. could possibly be delivered speculatively dependent upon timing of delivery, or up to 500,000 sq. ft. with a pre-let. 100,000 to 350,000 sq. ft. units are considered to be most appropriate and market facing. Smaller units of 5,000 to 20,000 sq. ft. could also be provided for local occupiers.
- **The challenge of deliverability –** The market considers the key challenge to developing a SRFI at Parkside to be deliverability. Pro-logis specialize in large scale distribution locations and delivered over 7.8 million sq. ft. of rail connected space at DIRFT in Daventry, and yet were unable to bring forward the Parkside scheme. Langtree specialise in traditional industrial developments and may well face similar challenges to delivery at Parkside.

3.6 The Demand for Rail-Linked Property

In considering the market potential for rail linked property at Parkside, the following points are key considerations:

- **Interest in rail and sea -** Distribution by rail and sea is high on the agenda at the moment as businesses seek to explore more cost efficient means of transportation than road, particularly for those requiring large scale or volume movements such as Jaguar Land Rover and Vauxhall. There is also increased awareness and business interest in improving environmental credentials and reducing carbon footprint to support Corporate Social Responsibility. The findings of the Liverpool City Region Stage 1 Freight Study support this trend, anticipating a modal shift towards water and rail freight transport across the City Region to 2020. It is anticipated that this will drive a demand for large warehousing (100,000 sq. ft. or more) across Merseyside with a focus towards large water and rail connected distribution parks largely around Seaforth, Widnes, Knowsley and at sites along the Manchester Ship Canal.
- **Growth of rail distribution –** The use of rail freight nationally has grown 14% from 18.5 billion tonnes/km in 2002 to 21.1 billion tonnes/km in 2012. The ability to deliver a rail freight interchange at Parkside could be a real game changer being better than most competing sites given connections to two rail lines – north-south via the West Coast Main Line and east-west via the Chat Moss Line. Despite this, there is an industry view that Parkside could work without the rail link as rail is rarely the main driver of an occupier deal.
- **Impact of Liverpool2** - The impending opening of the Liverpool2 port is understood to have led to speculative development along the west end of the M62, with schemes in Speke, Ashton-in-Makerfield and Warrington now under construction or proposed. Liverpool2 could be a real driver for the Parkside scheme, however the introduction of post-Panamax vessels into Liverpool is a largely untested market and the impacts are not yet known. The findings of the Liverpool SUPERPORT Land and Property Market Analysis Report (2014) supports this indicating that port located distribution centres enable businesses to bring cargo close to the end market and reduce carbon emissions by up to 60% by storing stock at the point of import. As a result, it anticipates increased demand for warehousing at ports as shippers increasingly implement the process of slow steaming (operating at less than their maximum speed) to reduce costs and adjust their environmental impact.
- **Site scale and inter-connectivity** - The characteristics of a site which can meet financially and operationally the needs of customers, developers and operators must be of a scale that can defray the required investment to deliver a SRFI specification. The required critical scale for train operators must also match the on-site and local demand for services to Ports, and other supply / demand locations which are rail located. Having the option to secure warehousing space at a site such as

Parkside will enable connectivity between road distribution and rail distribution to be made at the lowest possible cost as enabling access from the site to long distance rail transport for the trunk haul.

- **An established distribution location** - The co-location of other warehouses on the site and in the immediate area of Parkside (Omega, Haydock, Logistics North for example) will enable the scale of supply and demand to permit the development of intermodal train services to be offered from the site both to a range of different markets and locations, mainly for Deep-sea Ports (for Sea imports – Southampton, Felixstowe, but also Teesport, Immingham) Domestic Intermodal (Scottish Central Belt, West Midlands (Daventry)), and European Intermodal Services via the Channel Tunnel.

- **Opportunity for additional supply chain benefits** - Features such as internal private road status enable red diesel, road tugs, higher vehicle weight limits and linked warehousing all allow for a more cost effective end to end supply chain cost and for nearby warehouses a competitive cost and time offer – which is particularly helpful to a freight sector which is typically low margin (circa 4-8 %).

It has already been noted that the future supply of large scale B8 warehousing space with good strategic accessibility and in single ownership is becoming increasingly constrained in the North West. The Parkside site as an intermodal terminal and logistics park of c.100ha would provide a significant contribution towards the 50ha per year of rail and water connected multi-modal distribution space requirement recommended in the Transport for the North – Freight and Logistics Strategy.

Further, there is an increasing interest from users and buyers of warehousing and distribution services to integrate rail freight into their transport operations owing to the potential cost and environmental savings with rail freight options sometimes being specified in procurement contracts.

As such there is a good indication that matching on site and local demand with a rail network which can serve four directions and a population of over 1 million people within a 20km radius makes the Parkside site unrivalled in the North West. However as previously noted, the scale of the additional rental (and subsequently land) value generated by the provision of rail linked facilities is largely untested in the North West. The ability to facilitate a rail connection offering W10 gauge connectivity in all four directions will help to future proof against future shifts in the rail and distribution market.

3.7 Stakeholder Views on the Parkside Site

This section outlines findings from the workshop held on 18/05/2016 and the online survey with regards to view of stakeholders on the potential Parkside Logistics and Rail Freight Interchange.

Respondents were asked via the online survey whether they thought Parkside was one of the most suitable locations for a SRFI in the North-West. The majority (69%) agreed with a small percentage (31%) of respondents disagreeing (Figure 3.2).

Respondents stated that the main advantage for Parkside is its geographical position; Parkside's location is ideal as it has good road access (close proximity to the M6, M56 and M62) and rail links (West Coast Mainline and Chat Moss Line). The site was felt to have a sufficient amount of land and the potential to become a rail connected development.

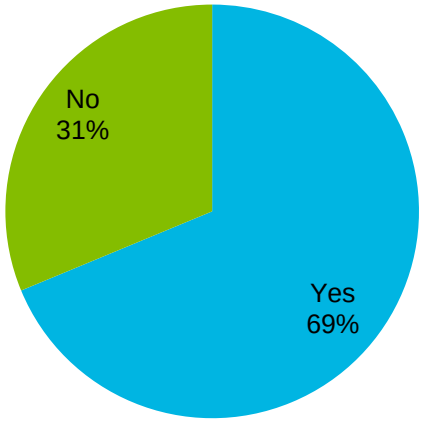


Figure 3.2 – Is Parkside one of the most suitable locations for a Strategic Rail Freight Interchange (SRFI) in the North-West?

> *"Parkside is probably the optimum location for a new SRFI in North West England given its proximity to main markets and the motorways. It should form part of a network of similar facilities up the West Coast Main Line."*
>
> ***UK Rail Freight Operator***

> *"There is a need for rail linked sites to serve the North West, given the lack of capacity now, and the general increase in freight and logistics activity in the region. Parkside has always been a good location by all the usual metrics and if the funding and infrastructure issues can be overcome it will be as good a location as any"*
>
> ***Chief executive, Rail Freight Forum***

> *"The Parkside site would be good as in intermediate stop off between London and Scotland. The site is a convenient location that minimises diversionary mileage and time."*
>
> ***Multi Modal Logistics Interchange Operator***

It was widely regarded by stakeholders that the market could comfortably serve three trains per day from the outset. The site could then build towards 8 over the next 5 to 10 years. The consensus is that Parkside would primarily be served by the deep sea ports in the south (e.g. Felixstowe, London Gateway and Southampton) but it is also thought that the location could support services on an east-west axis to Teesside and the Humber ports, in addition to a service to Scotland and potentially a direct service through the Channel Tunnel. These links would increase the sites importance on both a national and international level with the possibility to align with global supply chain that utilise deep sea movements into these ports. This would also help to fight off competition from other proposed SRFI sites in the UK.

There were some technical issues cited by stakeholders in relation to rail access to the site. These centre around issues such as the positioning of items of infrastructure following the electrification of the Chat Moss railway line and constraints relating to line capacity. The line capacity issues are caused by the multiple crossovers required to enter the site (primarily an issue from the South and West) meaning achieving train paths could be challenging. However direct engagement with Network Rail and other key stakeholders including those at the workshop felt these issues are not insurmountable.

Evidence from stakeholder engagement also highlights the move from operators to base themselves further north away from the traditional 'Golden Triangle'. This is due to increases in rental prices and a lack of labour supply in parts of the Midlands. A tenant at DIRFT had to cancel expansion plans as they could not get enough workers. Parkside provides an opportunity to overcome these issues and would therefore be attractive to potential tenants.

However without an operator for the site, regardless of the strength of stakeholder support, the site is unlikely to become operational as a SRFI. However there has been good interest for operating the site shown by two separate organisations, a rail freight operator and a logistics company.

"Parkside has the potential to deal with 20 train in and out per day. If this was achieved then it would be beneficial to move operations to the site".

UK Rail Freight Operator

"The Parkside location for a terminal is a good one as it is right on the West Coast Mainline and potentially would be good for trains from London to Scotland to call into for delivery and collection with minimum time loss. It is a terminal site that we might be interested in operating."

Logistics company

This is very positive and shows that there is clear market demand for the site as these organisations are closest to the rail freight 'big players' and therefore have the best understanding of their future rail freight strategies.

Another positive to come from the consultation is the possibility to utilise a rail freight connection for the construction of the Parkside site.

"A rail connection from start can help reduce road movements during construction phase, leave a legacy and assist with the funding case going forward."

Construction company

This would help to mitigate the road movements involved in the construction phase of the development and subsequently make expanding the rail infrastructure so it is capable of handling intermodal freight movements much easier as the connection the network is already there (large investment). The reduction in road movements associated with construction would also help to get planning permission for the site and additionally would provide for safeguarding of land for the additional rail freight infrastructure. There is also scope for the site to be used for bulk rail freight movements, this was cited by stakeholders as beneficial for the Parkside site as it would enable the site to be flexible with regard to market trends. A possible bulk movement could be to/from one of the ports in the north. Although the distances are relatively short the volumes achievable from a Port may make this type of movement viable. Similar movements that have proved to be economically viable were outlined by stakeholders.

"We currently operate a rail freight route of 20-25 miles and it has proved to be very efficient and very cost effective."

Construction company

3.8 Existing and Planned (S)RFI's

This section outlines the existing and planned capacity of rail freight in the Parkside catchment area, wider catchment area and nationally.

3.8.1 Catchment Area / Wider Catchment Area

There are several competitor sites to Parkside including several intermodal sites that are already open such as Trafford Park and 3MG at Ditton.

3MG already has an operational intermodal terminal, operated by the Stobart Group next to Tesco's North Western Regional Distribution Centre. This terminal is currently served by 5-6 daily trains, handling containers for major shipping lines e.g. Maersk. This equates to over 120,000 containers per year. The terminal is already capable of handling trains up to 24 wagons in length (approximately 500m trailing length). Freight trains serving 3MG are currently stabled and sectioned at the existing Network Rail freight sidings at Ditton. However, planned investment at Ditton will see the development of three new 775m length reception sidings. These new sidings will increase the rail capacity of 3MG, allowing the site to handle up to 16 trains per day per direction. This is the equivalent of approximately 400,000 HGV movements per annum. The 775m siding length will also allow 3MG to handle full length trains via the Channel Tunnel.

In the future Knowsley which is currently being refurbished and Peel's new Port Salford site are likely to be competing with Parkside for intermodal trade.

The Potter Group based at Knowsley is refurbishing their rail terminal to handle Merseyside trade. They are also planning a development to potentially offer an improved rail freight solution to allow the facilitation of intermodal movements. However at the time of writing the Knowsley terminal is not handling any regular freight trains. Part of the problem has been that the infrastructure has been unsuitable for modern train operation. As part of the upgrade work, the loading gauge on the Kirkby to Wigan line is being upgraded to W9 loading gauge which allows temperature controlled containers to move by rail as well as the standard ambient boxes. The upgrade will also result in extending rail sidings so that the terminal can handle 750m long freight trains.

Peel Holdings is developing the Port of Salford inland tri-modal terminal near the M60 on the A57. The development features a new 1.27km rail link to the Chat Moss Line and four 775m reception sidings. Phase 1 will have the capacity to handle 300,000 container units in its inter-modal terminal and 3.7 million pallets per annum through its distribution buildings. It is intended to attract up to 16 freight trains per day and lead to the substantial net transfer of 21 million HGV kilometres from the strategic road network. The Port of Salford and Parkside are likely to be in competition with each other for Port intermodal traffic. Traffic from Liverpool is unlikely to go to Parkside as Peel have are developing their own facility at Salford. Nevertheless it is thought there is plenty of additional traffic from south or east coast ports and potentially some domestic intermodal flows.

3.8.2 Nationally

On a national scale there is a wide range of SFRIs being proposed, some of which have received approval from the Secretary of State (Radlett, East Midlands Gateway, Port Salford). The proposed SRFI's are predominately located in a line connecting the North West (Parkside) with the London and the South East. This can be seen clearly in Figure 3.3. This fits with the speculative developments since Q1 2014 shown in Figure 3.1.

The expansion plans at DIRFT, known as DIRFT III are of particular note. ProLogis plans to replace the existing DIRFT1 Railport with a much larger facility which will cater for 775m length trains and include warehousing and storage facilities. The aspiration is to operate a significant increase in traffic in the future.

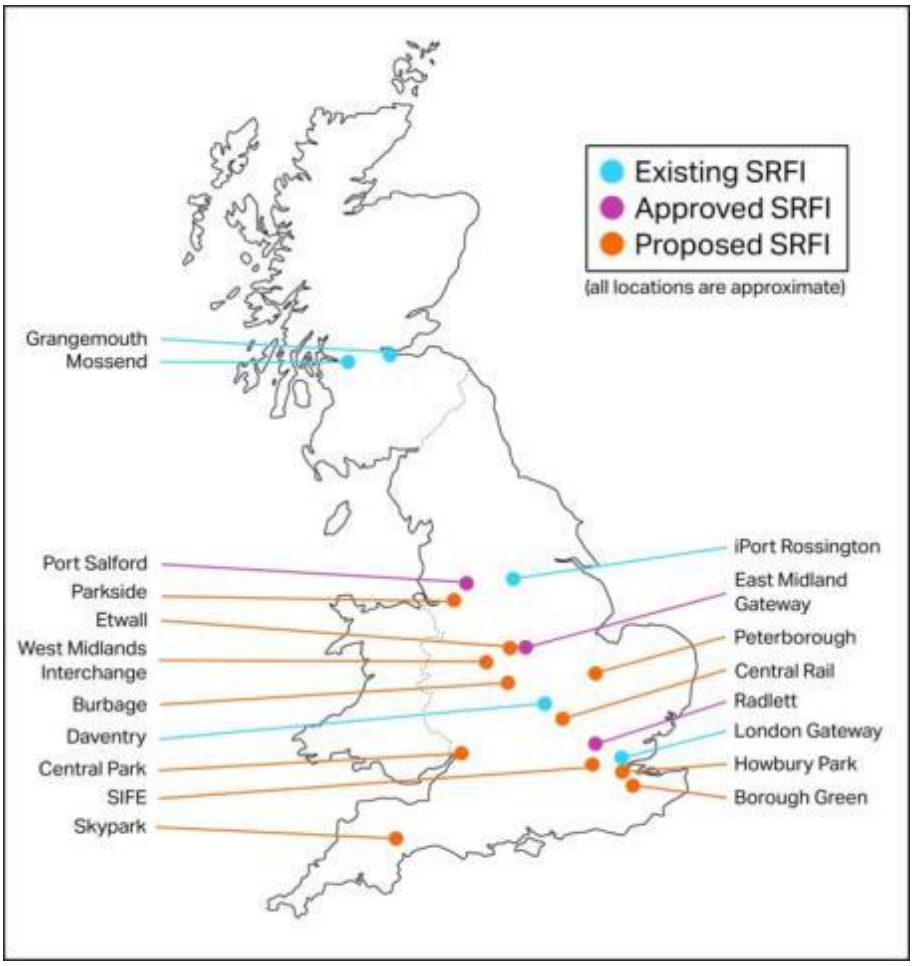


Figure 3.3 – Strategic Rail Freight Terminals (existing, approved and proposed)

"Strategic Rail Freight Interchanges are desperately needed along the line of the M6 between Manchester and London. This would allow the main population areas in the UK to be served within 30 miles."

UK Rail Freight Operator

"Availability of land and labour is an issue – This means that companies are moving further north away from the traditional 'golden triangle' in the midlands."

UK Rail Freight Operator

3.8.3 Comparison of Alternative Sites

As part of the study a comparison of the sites within the wider Parkside catchment area has been conducted. Table 3.1 provides this comparison based on road and rail access.

Table 3.1 – Comparison of access for other sites (existing and planned) in the wider catchment area

Site	Status	County Name and Region	Road Access	Rail Access	Other comments
Parkside	Proposed	Merseyside, North West	• Strategic access via M6 (north and south) and M62 (east and west)	• Previous access to the site via Chat Moss line to the north of the site • Strategically located allowing for movements from/to the north, south, east and west	• Formerly rail connected in its past use as a colliery with disused tracks still in place • Suitable to be a SRFI
Ditton	Existing	Cheshire, North West	• A562 dual carriageway close to site of new Mersey crossing • M62 run to the north of the site – Accessed via A5300 or A557	• Access from Crewe to Liverpool line, west of Widnes	• Expansion of the existing facilities at Ditton (Mersey Multimodal Gateway Logistics Park) • Could result in 16 Intermodal trains a day to and from the major ports as well as domestic traffic • Intention is to receive trains up to 775m in length at this site.
Knowsley	Being refurbished	Merseyside, North West	• Access via A5207 to M57 • Access via A5280 to A580	• Access from Liverpool to Wigan line east of Kirby (diesel only)	• Small facility aimed at catering for waste trains to Teeside but capable of handling 1 or 2 intermodal trains per day
Seaforth	Proposed	Merseyside	• Access via A5036 or A565 in Bootle	• Bootle branch line serving the port	• New facility at the Port of Liverpool to serve the growth of Liverpool 2
Port Warrington	Proposed	Cheshire	• Access via minor road on to A56 and then M56 •	• Connected to West Coast Main Line through Warrington freight yard and Walton Old Junction	• Small rail freight facility to serve 1 or 2 companies
Port Cheshire (EP)	Proposed	Cheshire	• Access via local road on to M53	• Connected to Helsby to Hooton line (diesel only)	• Small rail freight facility to serve 1 or 2 companies
Four Ashes	Proposed	Staffordshire	• Access via A5 to M6 junction 12	• Connected to West Coast Mainline	• Planned to be a SRFI • Would serve a different catchment area to Parkside

Site	Status	County Name and Region	Road Access	Rail Access	Other comments
					(North Midlands) main
Port Salford	Under construction	Greater Manchester	• Access via M60 / M62	• Connected to the Manchester to Liverpool route (Chat Moss route),	• It will be the inland water served distribution park using the Manchester Ship Canal • Potential to be a large rail facility
Garston	Existing	Merseyside	• A561 - Speke – Liverpool	• Access off Crewe – Liverpool line	• Existing terminal that is already serving approximately 4 trains per day
Trafford Park	Existing	Greater Manchester	• Access via urban roads • Located inside the M60	• Access to the terminal is achieved through central Manchester and Piccadilly	• 3 existing terminals • Fairly constrained

Table 3.2 provides a comparison of the current train movements and the potential maximum for each site. This allows the potential additional train movements in the catchment area to be assessed and Parkside's role in achieving that to be examined.

TfN's Freight and Logistics Strategy sets out that demand for GB Freight Train kilometres in the North is set to double between 2014 (10.8 million km) and the 2033 central case forecast of 19.2 million km. In connection with supporting this increase in train operations additional intermodal train handling capacity will be required in the form of terminal handling slots. In the North only Parkside and Port Salford offer fully open access services. The Long Term Planning Process – Freight Market Study (2013) is forecasting a near doubling of total intermodal traffic (tonne Km). With Port Salford offering a potential 10 trains a day and Parkside offering under the medium scenario 8 trains a day (Table 3.2), there is a requirement for the supply of additional intermodal train handling slots (over the current 25 trains per day) to support the TfN Freight and Logistics Strategy recommendation of 50ha per year target of multi-modal distribution parks in the North of England.

Table 3.2 – Comparison of current / potential maximum capacity (number of trains) at other sites (existing and planned) in the catchment area

			Number of trains		
Site	**Status**	**County Name and Region**	**Current**	**Potential Maximum**	**Potential Additional**
Parkside	Proposed	Merseyside, North West	0	12	**3 (small) /8 (medium) /12 (large)**
Ditton	Existing	Cheshire, North West	6	16	**10**
Knowsley	Being refurbished	Merseyside, North West	0	2	**2 (*)**
Seaforth	Proposed	Merseyside	0	15	**15 (*)**
Port Warrington	Proposed	Cheshire	0	2	**2 (*)**
Port Cheshire (EP)	Proposed	Cheshire	0	2	**2 (*)**
Four Ashes	Proposed	Staffordshire	N/A – Not in catchment area		
Port Salford	Under construction	Greater Manchester	0	10	**5 (*) 5**
Garston	Existing	Merseyside	4	4	**0**
Trafford Park	Existing	Greater Manchester	15	15	**0**

(*) – Trains associated with specific port and single customers so are not open access

3.9 Summary

It is clear from the market demand and supply assessment and stakeholder engagement that there is sufficient demand for a SRFI in the North West. Nationally the demand for both warehouses and rail freight interchanges is along the M6 corridor between Manchester and London as shown in Figure 3.1 and 3.3.

Stakeholders are very positive about the site's feasibility as a SFRI. This is mainly due to its unrivalled ability to serve both North-South intermodal flows on the West Coast Mainline and east-west intermodal flows on the Chat Moss line. The site can also receive trains from all directions (north, south, east and west) which provide maximum operational flexibility and resilience to allow changes in market trends to be catered for. Road access is also very good with the M6 and M62 in close proximity to the site.

In comparison to other current and potential sites the Parkside site scores highly on all the attractiveness metrics. No other sites in the catchment area have the potential to receive trains from all directions with some only able to receive trains from one direction. For example Garston can only receive trains from the South. Additionally the Parkside site's access to both the M6 and M62 is highly advantageous meaning that the Parkside site has the potential to be an 'all points' operation, offering as much in terms of intermodal activities as it might in terms of being a destination and general logistical base in its own right. The site is also felt to be complimentary to Port of Salford and any competition is likely to stimulate the market rather than suppress it. This is due to growth in the market demand for intermodal terminals in the North West as stated in the Transport for the North Freight and Logistics Strategy (2016).

It is therefore felt that the site is of national importance as well as regional significance in relation to the market demand and need for the delivery of new and improved SFRIs, and in supporting the economic and employment growth objective in St. Helens and the Liverpool City Region.

Operational Requirements

04

4. Operational Requirements

4.1 Introduction

It is critical to match the specification and functionality of a rail freight terminal at Parkside with the freight market in the surrounding area. Therefore, in this section the broad operational requirements for varying sizes of rail freight interchange will be provided. This will allow the demand (number of trains per day) to be matched with required specification and functionality of the site.

The different aspects of specification and functionality will be outlined under the following headings:

- Major infrastructure components
    - Rail support infrastructure
    - Road support infrastructure
    - Cargo transfer infrastructure;
- Terminal equipment; and
- Ancillary services

The specification and functionality required for a small, medium and large rail freight terminal at Parkside will be outlined in this section. General aspects of rail terminal specification and functionality are outlined initially as context.

4.2 Major Infrastructure Components

The design capacity of a domestic (non-port) intermodal terminal needs to be measured for three basic areas:

- Rail (arrival and departure trains)
- Road (arrival and departure of trucks)
- Cargo transfer area (transfer containers from rail to/from trucks)

Typically intermodal terminals need to have a balance between these three components in order to avoid mismatched investment in any one terminal area. In order to determine this balance, each component can be measured in terms of their throughput capacity.

4.2.1 Rail Support Infrastructure

This relates to the amount of track in the terminal required to effectively and efficiently handle the volume of trains serving the terminal. This will require estimating the peak rail demand and then creating sufficient track capacity in terms of length and number, to support the rail operations based on track occupancy and usage.

Arrival/Departure Tracks

These tracks keep the terminal fluid and prevent the mainline from becoming congested with traffic. This means tracks should be long enough to hold entire train lengths as defined by EU standards (750m + locomotive) or 775m. The number of tracks will directly relate to how many trains may be arriving/departing within the same time period based on train schedule.

Ideally the number of arrival/departure tracks would be zero with all trains arriving/departing directly from the load/unload area (Pad Tracks). However the conflict between pad tracks, which cannot have overhead electric wires for safety reasons due to the need of overhead cranes to top pick the containers lifting them on and off wagons, versus the mainline locomotives that require overhead catenary system means that such locomotives cannot bring the containers directly into the pad tracks.

Therefore mainline trains will need to arrive on catenary fed tracks and the use of a diesel or battery operated electric shunter locomotive will be required to shunt the wagons into and out of the pad tracks which will not have catenary. Alternatives to this could include having a “last mile” dual energy mode locomotive that could

be an electro-diesel or have a battery pack. Or using the “coasting” method where the train lowers its pantograph and coasts into position.

Furthermore, variances in train schedules may require that arriving trains are held temporarily in the arrival/departing tracks terminal (sometimes called reception siding) while the actual pad tracks are used to finish serving other trains. Therefore these tracks serve as a type of buffer between mainline schedules and the actual cargo transfer taking place on the pad tracks.

Storage Tracks

In addition to the main operational tracks there is a need for sidings for surplus wagons as necessary to support the train service. These tracks could be shorter than 750m to provide for ability to easily shunt wagons using shorter strings. It is also dependent upon how balanced the rail service is.

Ideally all the wagons arriving are unloaded and should depart loaded with another container without any shunting. The ability to fill every wagon with a container involves the ability to balance cargo movements. In reality, there may be imbalances in service that require additional wagons to be held for a period of time for different train services.

Repair Tracks

These tracks enable wagons to be repaired within the terminal without having to move them to remote repair facilities. This requires sufficient track length to hold the longest wagons and capacity to repair wagons at a rate in keeping with the normal peak requirements.

4.2.2 Cargo Transfer Infrastructure

This is the heart of the terminal operation where Rail (trains) meets Road (trucks). The optimum shape and size of this area will be dictated by the forecasted volumes to be handled taking into account the type of container or bulk traffic:

1. Dry
2. Reefer (refrigerated/heated)
3. Bulk/Liquid
4. Dangerous Goods

Rail Pad Track

This should be of sufficient total length to provide access to cranes for transfer as required by the train service requirements. Ideally there is sufficient track to hold any train requiring unloading or loading at any given time. Furthermore trains should be able to arrive/depart directly to/from the pad tracks.

In general practice concerning asset use, a turnover of the Pad Tracks twice every 24 hours is considered a good use of rail asset for a domestic terminal. Port terminals on the other hand may have a much higher turnover based on limited track space typically found in ports, which in turn requires far more rail shunting costs for handling trains arriving and departing.

Based on AECOM terminal design experience, a good benchmark to use is the ratio between the lengths of Rail Support track versus lengths of Rail Pad track. Efficient domestic terminals generally run with a 1:1 ratio respectively. An inefficient terminal about 2:1.

Pad Area

This is the area accessed by outside trucks to drop off containers or pick up containers near or at the pad tracks. Historically trucks were restricted to remote parking areas to pick-up containers already preloaded on chassis that were shunted there by terminal shunt truck operators. However best practice today is to permit outside trucks direct access to pad track “roadway” areas to minimise the distance containers are moved and number of times they are handled by terminal staff.

Staging Area

Ideally the truck arrives just in time to drop off the container for the train, which is directly loaded to the rail in one move by the crane. Similarly the truck picks up the container that has just arrived by train again with one crane move from the train to the truck. If this could be coordinated terminals could be extremely efficient. The staging area design could be very narrow (along pad tracks) and the cranes would thus make a one to one move for every container throughput.

However the reality is that the direct transfer of containers from wagon to truck or wagon to wagon, while preferable, will not always be possible due to timing of service requirements such as shipper loading constraints at their locations, or consignee appointment time restrictions at their locations, or customs holds being placed on a container for inspection, or late trains, or late trucks, etc., all of which are beyond the control of the terminal.

Therefore cargo transfer areas also include container staging areas (temporary storage buffers) based on a calculated percentage of containers handled with the average dwell time in the terminal.

4.2.3 Road Support Infrastructure

Similar to rail support, this is primarily defined by the road access to and egress from, the terminal for trucks. Very simply, the gate activity then requires a certain number of traffic lanes as well as a minimal queue length to ensure that arriving truck traffic is not backed up onto local roads or highways and departing trucks do not congest the terminal exits. The number will be based on peak demand against best practices (see below) to determine the physical gate requirements. This gate calculation includes cars belonging to administration building staff, other employee parking and temporary parking area for trucks requiring assistance on arrival or departure.

The ability of the terminal to handle trucks efficiently as they arrive and depart is part of the “in-gate” and “out-gate” functions.

Ingate

This functions as the primary contact for the truck. For best practice, all of the information transactions for the truck to carry out their work within the terminal including both the dropping off and collecting the container in the terminal, should be processed at the Ingate.

The ability of the terminal to get advance data on which truck, which driver, and which container is arriving is key to keeping the gate flowing and the physical size of the gate infrastructure to a minimum. For liability reasons containers need to be scanned for external damage as they enter and damages noted since they will be receiving and responsible for the container once dropped off.

Ideally the Ingate is one lane wide and only one truck queue that never has to stop a single truck, that is scanned as it moves and identity confirmed and authorized by a wifi system that provides security checks, and sends data directly to the driver for this authority to enter along with their drop off location in the terminal and their authorization to pick up an outbound container with its location and status. The reality is there is a stop required at the Ingate with current technology.

Outgate

This requires a simple scan of the truck and container with authorisation to depart to ensure the correct container is taken by the correct party.

Ideally this should not require any stopping. However at this point with current technology there is a stop required typically for signatures for receipt of container and confirmation of the truck driver ID.

4.3 Terminal Equipment

The service requirements, whether staging or other handling requirements as well as the overall container volumes generally dictate the type of equipment chosen which also affects the overall shape and size of the layouts.

The type of cranes/equipment chosen will dictate the actual shape and size of the transfer areas. The unload/load tracks (Pad Tracks) will be designed by investigating optimum operating impact based on best practices. This typically involves moving containers the least distance per handling, as well as the fewest overall handlings.

Lifting Equipment

Lifting equipment can be either manual or automated depending on the type of equipment used; typically rail-mounted gantry (RMG) cranes are used for an automated environment. Transport equipment is typically manually operated due to the difficulty in separating automated vehicles from street truck activity.

The types of lifting equipment used in an intermodal rail terminal environment are typically either an overhead crane such as an RMG or a rubber-tyre gantry (RTG), or a front-end loader such as a reachstacker (RS) or top-pick.

Rail mounted gantry (RMG) cranes are the most common type worldwide and have a number of advantages over other types of lifting equipment. Figure 4.1 shows RMG cranes being used during night time operations at Birmingham International Freight Terminal (BIFT). The design of this type of lifting equipment allows for easy attachment of the required lighting equipment.

Rail Mounted Gantry cranes are fully customisable to the end customers' requirements. In the UK, it is typical to go to a maximum of a stack of five containers (5*2.9m – 14.5m total). An additional allowance for the RMG 'Spreader' of approximately 4.5m gives a working height in the region of approximately 20m (14.5m + 4.5m). If a lower height of 18m is required then the stack height on containers will be reduced to a maximum of four high. This would result in an increase in the amount of floor space required for the same number of containers (five high to four high).

Figure 4.1- Birmingham International Freight Terminal (BIFT)

RMG's when operated over a large number of tracks can be used to avoid the need for block loading by destination. Instead the RMG's can load trains as the trucks arrive no matter the destination. This is similar to the DHL forwarding operation that flies all parcels to a single sort plant in Leipzig (no matter the destination) and then sorts all parcels by outgoing destination plane loads. While this is not the function of Parkside directly, it does show the strength of a network tied to a single sort terminal with a large number of tracks under the cranes.

RMGs have many appealing features. They are custom designed and can be very wide enabling many tracks to be covered. RMGs are electrically powered and are highly automatable (if required). They can also be operated remotely, with operators sitting in an office building as opposed to on the crane. RMGs can also spin containers which can be very valuable for terminal operations if the containers are not all aligned in a uniform direction.

The primary downside of RMGs is the cost, with a single crane costing £6 million. The other main downside is lack of operational flexibility. RMGs must stay on their rails, and cannot be used for work elsewhere in a terminal. It is also often infeasible to move them between terminals. For this reason RMGs are more appealing for medium to large size terminals with reliable volume. RMGs are especially appealing in areas with high land cost because they are the most land efficient style of operation.

Front loaders, either top-picks or more commonly, reachstackers (RS), are very popular for rail handling worldwide. They are very flexible machines that can work both trains and buffer, and they are off the shelf equipment costing less than £700,000 each to buy. For these reasons front loaders are very popular in small terminals where the budget for capital equipment is low.

Figure 4.2- shows an example of a Reachstacker in operation at Hams Hall UK, rail freight terminal

Figure 4.2- Example Reachstacker Operation – Hams Hall Rail Freight Terminal

The disadvantage of front loaders is the fact that they need at least 20m of clear space perpendicular to the rail tracks between each pair of tracks in order to operate. They also require a very heavy duty pavement surface in order to support the very high wheel loads involved. Front loaders are typically diesel powered but hybrids are now available and tend to have relatively high maintenance costs both for the equipment and the underlying surface pavement.

Table 4.1- Summarises highlights of each likely system to be used for terminals of different sizes.

Table 4.1- Summary if Mode Options vs. Terminal Size

Terminal Size or Throughput target	Small	Medium:	Large:
Rail lifts done by:	Front loader (Top-pick or Reach stacker)	Any, depending on shape, labour and land cost.	Rail Mounted Gantry (RMG)
Internal Transport by:	Tractor or front loader	Tractors	Tractors, or RMG buffer
Buffer	Grounded or wheeled	Grounded or wheeled depending on land cost	As much as possible under the RMG
Comments	Typically using front loaders for both rail and buffer moves to save on cost. Front loaders are also effective on non-rectangular shapes	Nearly any type of operation can be effective for mid-sized terminals. Site specifics will drive the decisions on mode choice	RMGs are expensive machines so they should be used as much as possible (i.e. buffer+rail movements) to reduce their unit cost of operation. Savings on tractors is very important in high labour cost areas.

Reach Stackers could be used in any of the three terminal sizes in Table 4.1, but are most cost effective for small terminals without significant land area and labour cost constraints. Rubber tyred gantry (RTG) cranes become more cost effective for medium size terminals of perhaps 100,000 or more annual rail lifts, depending on local labour conditions, terminal configuration etc.

RMGs are more cost effective for larger terminals due to very high fixed infrastructure costs including electrical infrastructure, fixed crane rails, and the cost of cranes themselves. Most RMG-based intermodal terminals worldwide are designed with a minimum of four working tracks under the frame of each RMG, if not more, in order to keep them productively engaged.

Table 4.2 summarises cost and operating characters of the three primary types of intermodal terminal lifting equipment.

Table 4.2 - Comparison of Features and Costs of Main Types of Lifting Equipment

	Reachstacker (RS)	Rail Mounted Gantry (RMG)
Machine life (operating hours)	40,000	120,000
Typical productivity (mv/hr/machine)	15	20
Fuel type	Diesel	Electric
Working tracks accessed per machine	1 or 2	4 to 8
Ability to store containers in trackside buffers	N	Y
Ability to automate	None	High
Relative infrastructure cost	Low	High
Relative operating cost	High	Low
Relative emissions	High	Low

Reach stackers are a fairly “off-the-shelf” machine that does not vary much from location to location. Another option is to use a larger specialized RTG to allow storage, rail tracks, and a truck lane under the frame of the same machine. While these machines are more expensive, they may save money overall due to reduced operating cost, since a buffer stack under the frame of the RTG eliminated the need for many terminal tractor moves.

RMGs are typically used for medium to large terminal applications in high labour cost and land constrained environments. RMGs allow for very dense operations, as all terminal activity (tracks, truck lanes, and container storage) can take place under the frame of a single large machine.

4.4 Ancillary Services

There are other terminal services which may be provided at the terminal. These will depend upon the logistics involved and each are a potential source of terminal revenue.

Customs Facility
The basic requirement for Customs is to be able to hold a container at their request in a secure compound and then if necessary provide a dock and suitable facility where the contents can be unloaded, inspected and reloaded as necessary. Typically they can request the container be moved to an existing customs site (probably at the port) where they have staff available. However they may be willing to use suitable facilities within the terminal provided they are secure and built to their needs, and they are willing to move staff to the facility to carry out inspections. This will likely depend upon the volume of the intermodal terminal's inspections which is yet to be determined.

Having on-site facilities is advantageous to the terminal in that it saves customers the cost of trucking the container to another site as well as expediting the process. In addition the terminal can charge for this in-terminal service.

Container Storage
Should the dwell time of staging loaded containers become excessive, the terminal may employ demurrage charges. These charges are more to encourage the flow of containers from the terminal to avoid congestion, but they can, depending upon the capacity and situation at the terminal, generate revenue for the terminal.

In some cases it makes sense to bring the empty containers back to the terminal for storage after being unloaded at a customer site while they wait for a new load locally. The owners of the containers typically need them inspected and cleaned, and repaired if necessary after use and prior to being used for a new load. The terminal may provide the best opportunity to do this work provided it has the capacity in the layout and it is not too far from either the unloading or loading point of the next customer. This can also save costs from a trucking point of view if the empty container needs to be taken to the terminal while another container waits at the terminal to be picked up, which provides a double move for the truck (to and from the terminal). In the case of the logistic hub tenants, the empty container storage can be part of a very cost effective solution in the disposition of empty containers.

Equipment Repair Areas
The Lift and Shunt equipment will also require repair areas. If the cranes are rail mounted they will be serviced in position, which would require tools and supplies to be brought by service trucks to the cranes. Otherwise a garage area suitable for the repair of shunt trucks and work area for mobile cranes will be situated in the appropriate area within the terminal. Typically this is along the periphery where they will not interfere with future expansion requirements of the terminal, but central enough to provide good access the staging area of the terminal.

Terminal Trucking Services
The pickup and delivery of containers to customers could provide a significant source of revenue to the terminal. Typically this service would be contracted by the forwarders or shipping lines as part of their overall charges. Since there might be a garage within the facility, there could be the opportunity to have a fleet of road vehicles stationed at the terminal. Whether owned or just maintained on site would need to be determined from the commercial study, but it may be an additional source of revenue for the terminal.

There are several software packages which provide support in this area. This type of Freight ITS application corresponds to advanced systems aimed at simplifying and automating freight and fleet management operations. Once the fleet is equipped and linked to the dispatchers' computers and company's data processing and storage infrastructure, a huge quantity of data becomes available for immediate decisions, as well as for background analysis and planning activities.

These systems aim to process this information and integrate it to the current transportation plan to achieve a more timely operation, efficient allocation and utilization of fleet, and satisfaction of customer requests.

These systems can operate in a demand-responsive mode where the demand for services is not known beforehand and the fleet has to be deployed and managed in real-time to handle them as effectively as possible. This is particularly relevant to rail freight terminals where many “local” pick up and drop operations are performed through the day.

4.5 Specification and Functionality of Potential Parkside Logistics and Rail Freight Interchange

4.5.1 Specification

Table 4.3 outlines the specification requirements of the potential site.

Table 4.3 – Specification of the potential rail freight terminal

Terminal size		Small	Medium	Large
Indicative number of trains per day		**1-3**	**4-8**	**9+**
Terminal track length		**>750m**	**>750m**	**>750m**
Number of handling tracks		**2**	**4**	**6+**
Handling equipment	**Reach stackers**	✓	✘	✘
	RMG	✘	✓	✓

4.5.2 Functionality

Table 4.4 outlines the functionality requirements of the potential site.

Table 4.4 – Functionality of the potential rail freight terminal

Terminal size		Small	Medium	Large
Indicative number of trains per day		**1-3**	**4-8**	**9+**
Core services	**Road to rail**	✓	✓	✓
	Rail to road	✓	✓	✓
	Rail to rail	✘	✓	✓
	Warehousing	✓	✓	✓
Ancillary services	**Container storage**	✓	✓	✓
	Reefer / Dangerous Goods services	✓	✓	✓
	Customs facility	✘	✓	✓
	Equipment repair area	✘	✘	✓
	Terminal trucking services	✘	✘	✓

Rail Access

05

5. Rail Access

5.1 Introduction

This section outlines the rail access issues in relation to the Parkside site. This includes:

- Existing and future rail infrastructure
- Current and future rail capacity (West Coast Mainline and Chat Moss Line)
- Rail freight forecasts
- Potential origins and destination for the Parkside site
- Potential site access

Network Rail (David Hunter, Freight Route Manager, North West and London) have been consulted with through a one-to-one meeting held on the 29/04/2016. The findings from this consultation have been used during the development of this section. Additionally rail freight operators (FOCs) including DB Schenker, GB Rail Freight and Freightliner have been consulted (see Table 1.2).

5.2 Existing Rail Infrastructure

Parkside is well situated for potential rail access, being adjacent to both the West Coast Mainline (to the west of the site boundary) and the Chat Moss line (running along the northern edge). A series of junctions and chords connect both routes, allowing trains to arrive and leave the area in all four directions.

To the north and south of the site, the West Coast Mainline is a mostly four track, fully electrified railway running between Scotland and London via the North West and West Midlands. It is a key freight and passenger artery. The Chat Moss site runs east to west linking Manchester to Liverpool and is a two track electrified route.

There are remnants of both the rail connection to the former Parkside Colliery (accessed via a loop on the Liverpool bound Chat Moss line) and the ex-Motorail Terminal (on the northern side of the Chat Moss line by Newton-le-Willows station) close to the site.

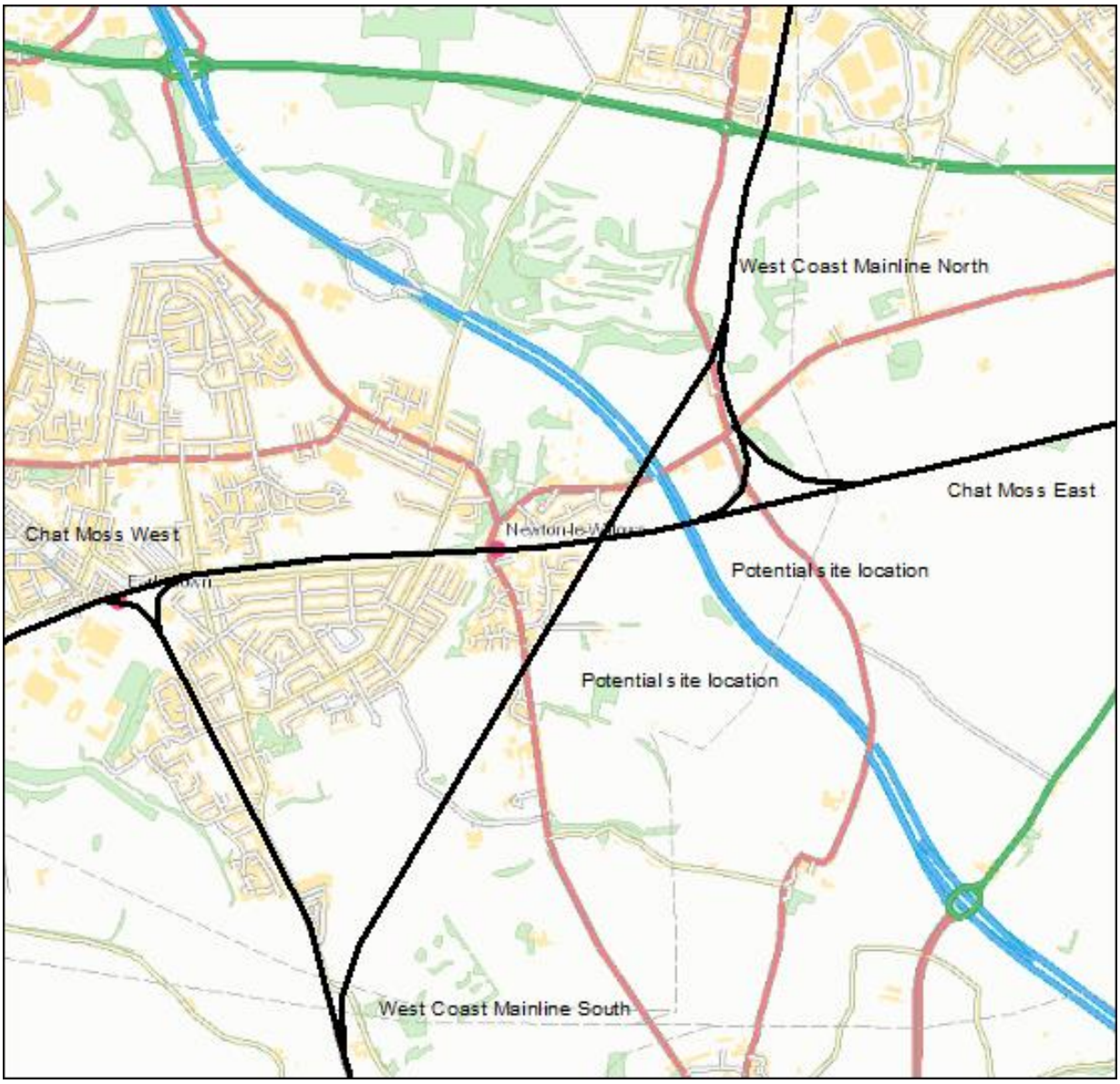


Figure 5.1- Local Area Rail Network

Standard headways on the Chat Moss route are 3 minutes (4 when following freight services), with those on the West Coast mainline being 4 minutes. On the triangular junctions, minimum headways are generally 4 minutes (where values provided).

5.3 Current services (2016)

5.3.1 Chat Moss

There are currently four passenger trains per hour off-peak utilising the Chat Moss route adjacent to the Parkside site. Transpennine Express operates an hourly Liverpool to Newcastle service along the route, non-stop between Liverpool Lime Street and Manchester Victoria. Other Transpennine Express services (generally one per hour) between Manchester and Scotland leave the Chat Moss route to the east of the scheme area at Parkside Junction.

Northern operate both an hourly semi-fast service between Liverpool Lime Street and Manchester Airport, and an hourly stopping service between Liverpool and Manchester Victoria. A (generally hourly) service between Warrington Bank Quay and Liverpool joins the Chat Moss to the west of the Parkside site at Earlestown.

Arriva Trains Wales operate an hourly service between North Wales (predominantly Llandudno) and Manchester via Earlestown with a number of services since the May 2016 timetable change being extended to Manchester Airport. There is also an additional peak hour service to (AM) and from (PM) Manchester that passes Parkside.

There are also a number of freight services utilising the route (such as Drax-Liverpool biomass). However these tend to operate outside of peak hours and are very limited in number (3-4 trains daily).

Outside of these regular passenger services, there are a number of empty coaching stock (ECS) movements, and miscellaneous services such as Railhead treatment trains. It is trains of these types (two timetabled daily, although liable to alteration at short notice) that are the only users of the west to north chord (Newton le Willows Junction to Lowton Junction).

5.3.2 West Coast Mainline

Virgin (West Coast) operates two trains per hour off-peak along the West Coast Mainline along the western edge of Parkside. Both originate at London Euston and terminate in Scotland (one fast via the Trent Valley and one via the West Midlands). There are additional peak time services on the route to/from destinations in the North West.

As of April 2016, there are a considerable number of freight services that utilise the route (carrying between 5-10 million tonnes per annum[10]). In a standard off-peak hour, there is an average of around 1 timetabled path per hour. However actual utilisation of these paths differs on a day to day basis due to actual market demand.

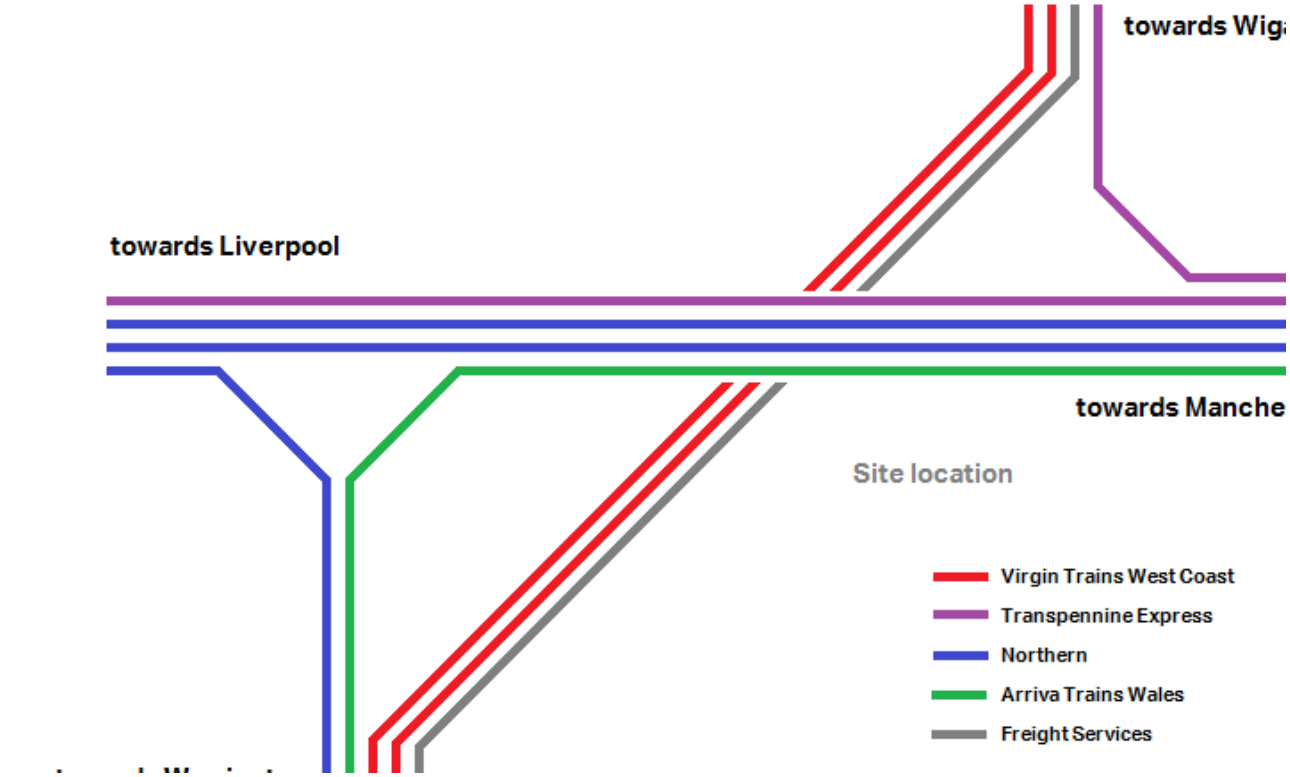


Figure 5.2 - Current Standard Hour Off-Peak Services (Hourly)

5.4 Future (2017-2018) services

5.4.1 Chat Moss

At the December 2017 timetable change, it is forecast that six trains per hour (off peak) will be utilising the Chat Moss line past the Parkside site. Transpennine Express is to divert the existing Liverpool Lime Street to Scarborough service to the Chat Moss route. This will result in two TPE trains per hour passing the site.

Northern will operate an hourly stopper service between Liverpool Lime Street and Manchester Airport. The hourly Warrington Bank Quay – Liverpool Lime Street service will continue to operate via Earlestown. Two new hourly “Northern Connect” services will operate between Liverpool/Chester and Leeds via Manchester and the Calder Valley.

The current hourly Transpennine Express service operating via the east to north Parkside-Lowton curve to the east of the site will be replaced by an hourly Northern Connect service between Manchester and Cumbria.

[10] Network Rail Freight Markey Study, 2013

Arriva Trains Wales will continue to operate their hourly North Wales-Chester-Manchester service, with peak hour additional services.

Whilst there will also be additional rail ECS and other non-passenger services, it is not foreseen that these will deviate in the main from the existing principal axis of movement (i.e. there will be no major change in the usage of the Newton le Willows-Lowton Junction chord).

One freight related issue that may arise around this time would be the rail connection to, and development of, Peel Holdings "Port Salford" scheme. This distribution and transhipment hub is situated adjacent to the M60 and Manchester Ship Canal, with the eventual aim of supplementing current facilities at Trafford Park. Key to the development is the inclusion of a rail link to the West Coast mainline via a new chord and the Chat Moss route. Whilst the intention was for the chord to be in place by 2017, development appears to have slipped in terms of completion dates. In addition, the eventual quantum of development (and how much distribution will be by rail, rather than ship or road based) remains unknown. Given that the current (much larger) combined Trafford Park intermodal terminals generate less than one inbound or outbound rail movement per hour between 0800 and 2000, it is unlikely that Port Salford would significantly increase the number of trains utilising the Chat Moss adjacent to Parkside.

Other potential freight impacts include developments at the Port of Liverpool (including the post-Panamax terminal at Liverpool 2). Rail access between the docks and hinterland is limited to two routes, either via Liverpool South Parkway or via the Chat Moss. Again, any changes in demand for paths as a result of developments at the Port of Liverpool are dependent upon scale, most appropriate mode, and origin/destination of particular flows.

5.4.2 West Coast Mainline

It is not expected that there will be any major uplift in Long Distance High Speed passenger provision on the West Coast Mainline by Virgin West Coast in the near future. However Alliance Rail Holdings have secured paths post-2018 to operate six return services each day between Blackpool and London. There will therefore be up to three express passenger trains per hour utilising the West Coast Mainline past the Parkside site off-peak.

The most recent Network Rail Freight Market Study (2013) predicted an increase to 1.5-2 freight paths per hour on this section of route by 2023. Therefore whilst it is to be expected that there will be a slight increase in required freight capacity by 2017-18, it will not be of a substantial nature.

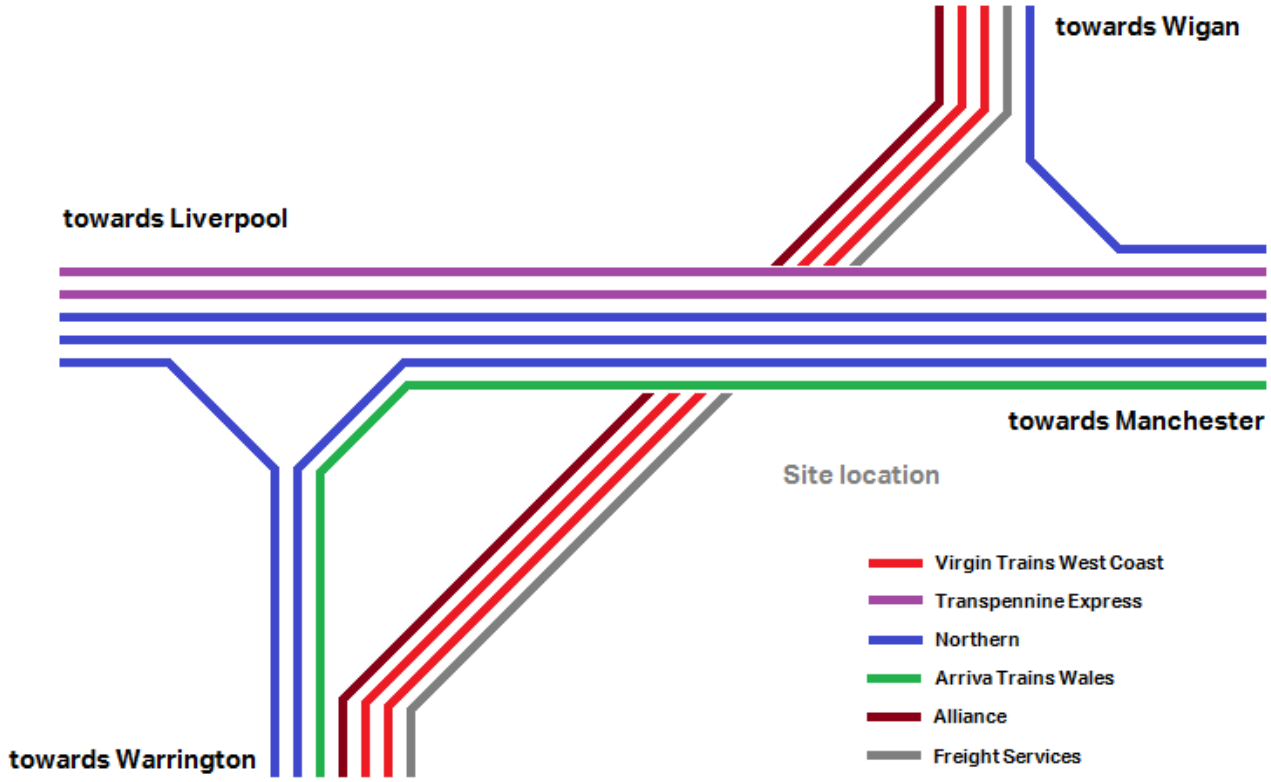


Figure 5.3- Future Standard Hour Off-Peak Services (Hourly)

5.5 Post-HS2 (2026-33)

Whilst only indicative planning assumptions (based on The Economic Case For HS2, PFM v4.3: Assumptions report[11]) are currently available regarding service levels post HS2 Phase 1 and 2, they give a reasonable basis to assess pathing demands on the local rail network. Phase 1 is expected to be completed as far as the Trent Valley by 2026, allowing two "classic compatible" services each hour to operate via the West Coast Mainline adjacent to Parkside towards Preston and Scotland. In addition, an hourly long distance conventional service will continue to operate between Birmingham and Scotland, therefore totaling three trains per hour on the north-south axis. Beyond 2033 when the high speed route as far as Golborne (north of Parkside) is completed, planned passing services will reduce to one HS2 service to Preston, and a regional Birmingham to Preston service each hour.

There are likely to be knock-on impacts upon the Chat Moss route resulting from both HS2 and the emerging rail transport strategy for the North of England. It is however too early to draw any definitive conclusions regarding impacts upon service patterns and capacity utilisation at this stage.

5.6 Rail freight forecasts

This section provides an overview of the rail freight forecast in the UK up to 2043. Traditionally the UK rail freight market has been dominated by coal, however with the closure of coal power stations and the movement to more renewable sources of energy' coal movements are predicted to reduce drastically from 5.76 billion tonne/km in 2011 to 1.57 billion tonne/km by 2023 and 0.58 billion by 2043 (Figure 5.4). This is a decrease of 89%.

The rail freight industry in the UK is therefore currently in a transitionary phase providing opportunities for other commodities to replace the previously dominant coal movements.

As shown in Figure 5.4 biomass is predicted to replace some of these movements increasing by 1460% from 0.15 billion tonne/km in 2010 to 2.34 tonnes/km in 2043.

[11] HS2 Ltd, October 2013

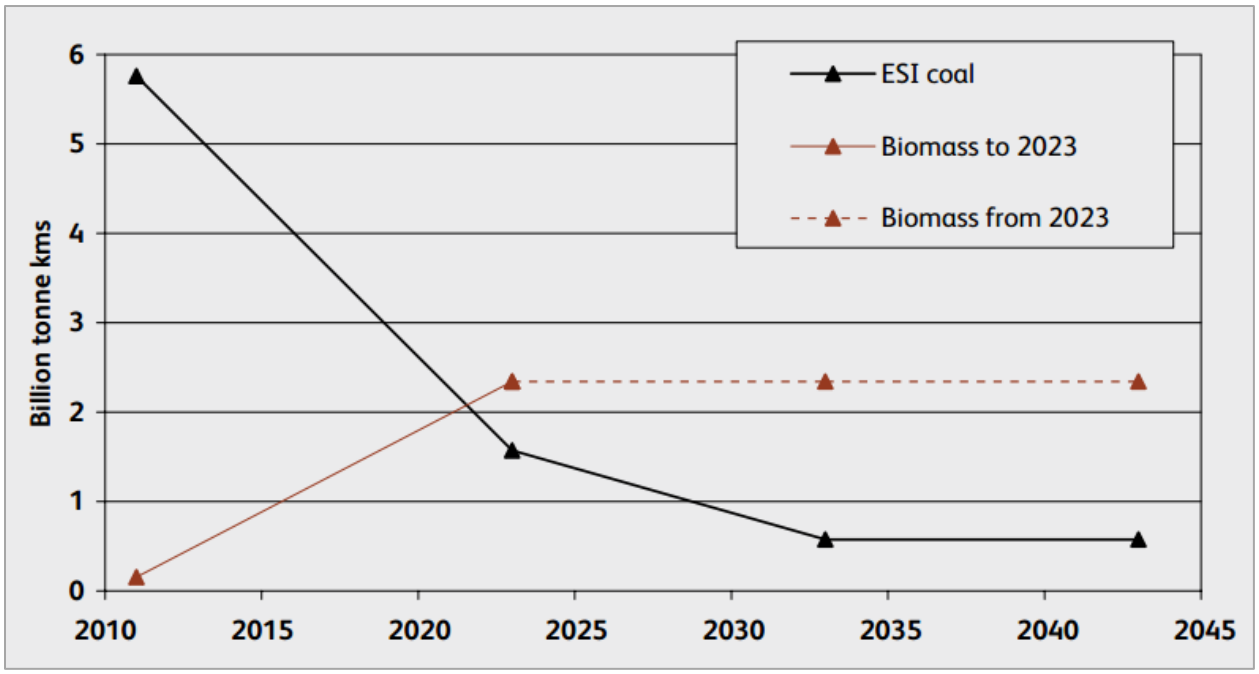


Figure 5.4 – ESI Coal and biomass forecasts: tonne kilometres moved (with 2011 actual data)[12]

Figure 5.5 – Biomass movement running to Drax Power Station

However it is the intermodal sector that is predicted to have the largest growth and is predicted to surpass current levels of coal movements. Figure 5.6 shows the predicted growth in intermodal traffic across ports, domestic and channel tunnel intermodal movements (tonne kilometres moved). It shows that total intermodal traffic is predicted to increase by 570% from 6.4 billion tonne/kms in 2011 to 42.9 billion tonne/km travelled in 2043. The majority of this comes from domestic and ports intermodal movements, with channel tunnel intermodal traffic predicted to stay fairly constant.

[12] Network Rail (2013), Long Term Planning Process: Freight Market Study

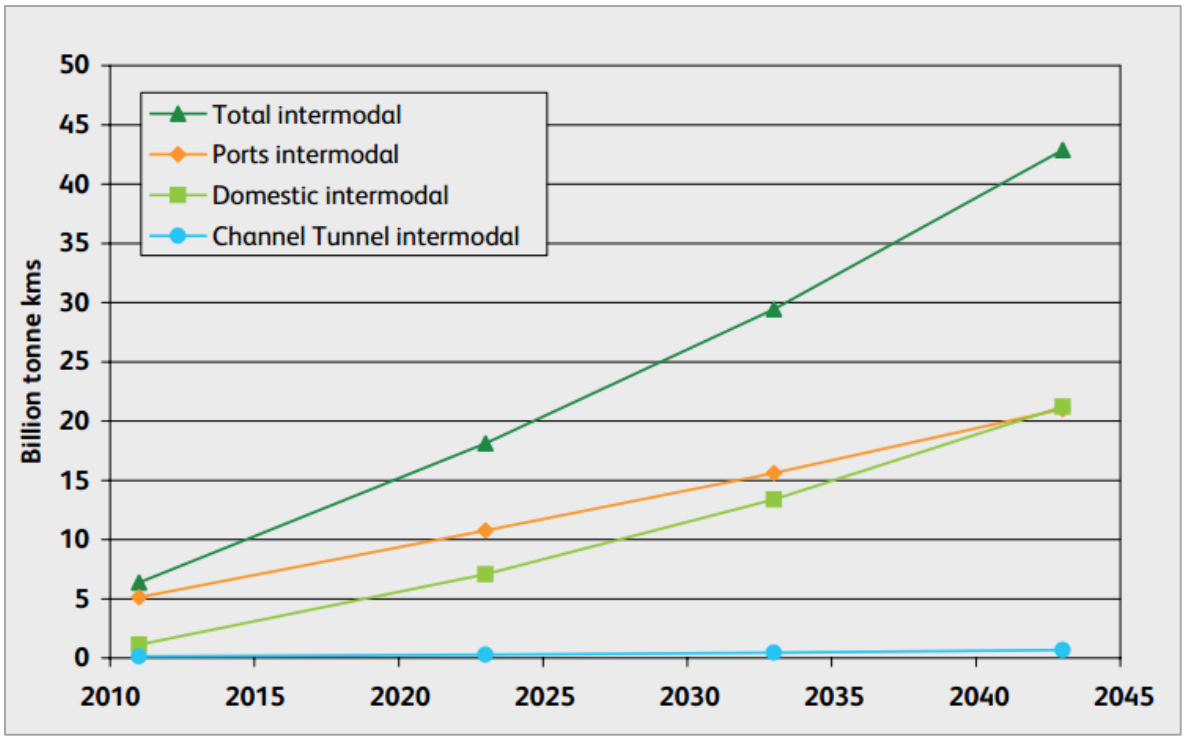


Figure 5.6 – Intermodal forecasts: tonne kilometres moved (with 2011 actual data) [13]

Figure 5.7 shows the overall picture for forecasts across the commodities. It highlights that intermodal is going to be the dominant commodity for rail freight in the UK going forward with construction materials the next most prominent commodity, however with vastly lower tonne/km forecasts.

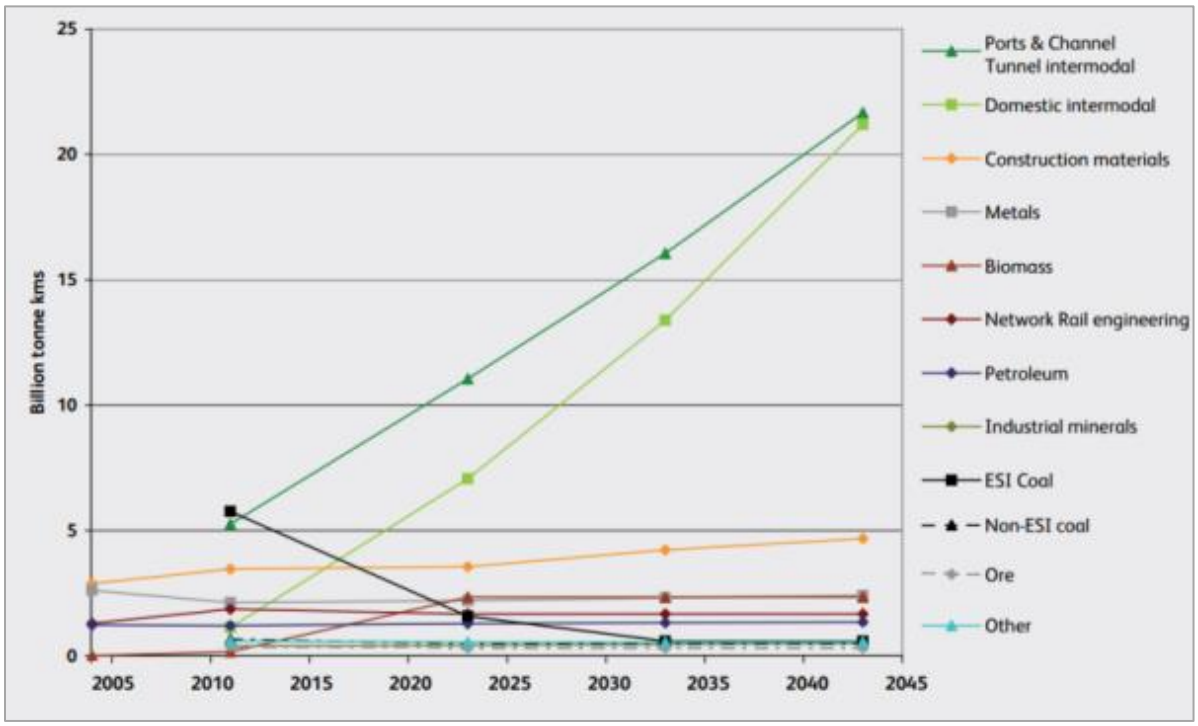


Figure 5.7 – Forecasts by sector: tonne kilometres moved (with 2004 and 2011 actual data) [14]

Even if projected forecasts are optimistic there is clearly still expected to be growth in the domestic and deep sea intermodal markets. There is requirement for additional rail freight terminal in the north to facilitate this anticipated growth. Therefore our conclusion is that Parkside is a suitable site to handle intermodal traffic to meet this potential demand.

[13] Network Rail (2013), Long Term Planning Process: Freight Market Study

[14] Network Rail (2013), Long Term Planning Process: Freight Market Study

5.7 Committed / Planned Infrastructure Upgrades

This section outlines some of the committed and planned rail infrastructure upgrades that may have an impact on the potential site at Parkside.

5.7.1 Northern Hub

As part of the Northern Hub, infrastructure improvements are planned to enhance the capability of the rail network across the North of England. The majority of the infrastructure improvements are in relation to improved capacity and faster, more frequent services for passenger services. However the infrastructure improvements also aim to cater for the required freight capacity up to 2030.

The project is currently in the process of identifying recommended options for each of the proposed infrastructure interventions. The work is split into two phases of work based upon delivery of increased network capability by December 2016 (Phase 1) and December 2018 (Phase 2)[15.]

As part of Phase 2, capacity on the Chat Moss line is to be improved allowing reduced headways between Liverpool and Manchester (via Newton-le-Willows).

5.7.2 Strategic Freight Network[16]

- **Capacity Requirements on West Coast Mainline North of Preston:**

  There is a workstream looking at capacity requirements for movements north of Preston on the West Coast Mainline. The work will assess what options may be appropriate to cater for the forecast increase in freight and passenger traffic between Preston and Mossend, in the periods up to 2019, and between 2019 and 2030. Options will not be restricted to infrastructure enhancements, but may include timetabling solutions and routing options. The current position is that the Strategic Freight Network Steering Group have prioritised the loops at Tebay and Beattock for lengthening, subject to further development work.

- **Capacity Requirements – Southampton to West Coast Mainline**

  Feasibility work is being undertaken along this corridor to assess the options for increasing freight capacity. Investigations are focusing on areas where signaling headways can be reduced and junctions remodelled to create extra capacity.

- **Capacity requirements – Port of Felixstowe to Midlands and North**

  There are currently 31 intermodal rail paths for the Port of Felixstowe and enhancements to the Felixstowe branch line are expected to allow 40 trains a day within the next 2 years. There are longer term plans to increase this to 48 trains per day and it is considered that as Felixstowe currently handles approximately 50% of the UK deep sea container traffic that at least 1 of the additional services could serve a Parkside site.

5.8 Potential Origin/Destinations

It is important to understand where the freight trains are likely to come from and hence the routes they are likely to use. The Parkside site is strategically located with access to both the Chat Moss line (east-west route) and West Coast Mainline (North-South route) in theory easy to achieve.

Therefore it is probable that there will be a mix of services using the Chat Moss line and West Coast Mainline servicing the potential Parkside.

5.8.1 Chat Moss Line (East-West Route)

Currently substantial freight flows link the container ports at Felixstowe, Tilbury and Southampton with the intermodal terminals at Manchester Trafford Park, Ditton and Garston.

[15] Network Rail, Network Specification - London North Western (2015)

[16] Network Rail, Route Plan London North Western (2015)

The Liverpool Docks, Peak District quarries and Manchester waste terminals generate major traffic and there are also significant flows of coal using the West Coast Main Line and Settle – Carlisle route. The Cumbrian coast area caters for specialist rail services for the nuclear industry[17].

5.8.2 West Coast Main Line

The West Coast Mainline links London and South East England to the West Midlands, North West England and Scotland. Therefore it has an intense and wider range of services (passenger and freight). It is one of the busiest rail corridors in Europe and is designated as a priority Trans-European Networks (TENS) route.

As a major interCity route, it supports long-distance high-speed services from London to the West Midlands, North West, North Wales and Scotland. Long-distance services also operate from London Euston via the Trent Valley lines, which serve Nuneaton, Tamworth and Lichfield Trent Valley. Inter-urban services also operate on the route, supporting commuting into London (Euston) from Rugby, Northampton and Milton Keynes, in particular. In terms of freight the route provides a critical North – South spine route between the Channel Tunnel and the southern ports to terminals in the West Midlands, North West and Scotland[18].

5.8.3 Stakeholder Views

Online survey respondents were asked if they believed there was a market demand for north-south and east west intermodal freight flows. From the responses 75% of respondents indicated that there is a market demand for north-south freight flows, while 44% indicated there is a market demand for east-west freight flows. 6% indicated that there isn't a market for north-south flows, and 19% indicated there isn't a market for east-west flows. The key findings are shown in Figure 5.8.

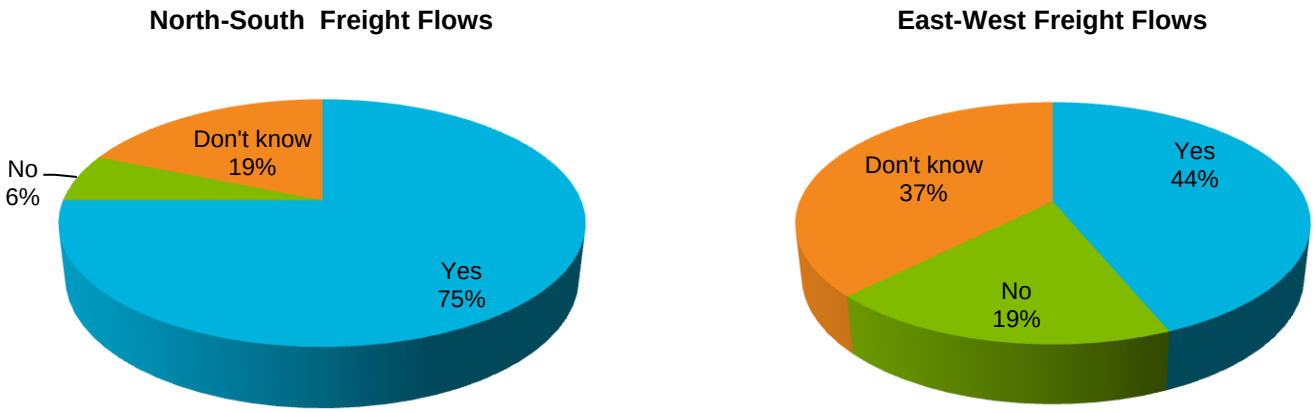


Figure 5.8 – Do you believe there is a market demand for north-south and east west intermodal freight flows?

Key comments relating to **east-west freight flows** are as follows:

- *Improving economic strength of Liverpool and Manchester, plus anticipated growth of Port of Liverpool*
- *See the success of nearby 3MG, which can really only handle trains from the South*
- *The North West processes and offers customer opportunity for return loads*
- *Attractive for inbound flows from Deep Sea ports and outbound to Scotland and SE/SW*
- *We know that there is more traffic to be diverted from road if the price & service of rail can compare.*
- *Deep Sea imports and exports, European imports through southern ports and domestic retail*

[17] Route Plan London North Western (2015)

[18] Route Plan London North Western (2015)

Key comments relating to **east-west freight flows** are as follows:

- *Increasing scope for moving containers by rail from National Distribution Centres to Regional Distribution Centres*
- *Short sea goods ex Europe arriving at Hull/Teesport destined for both North West England (and Ireland)*
- *Import containers from Tees and Humber would be good rail potential, avoiding M62 congestion*

Respondents were also asked about the most likely origins and destinations for rail freight services serving Parkside (Figure 5.9).

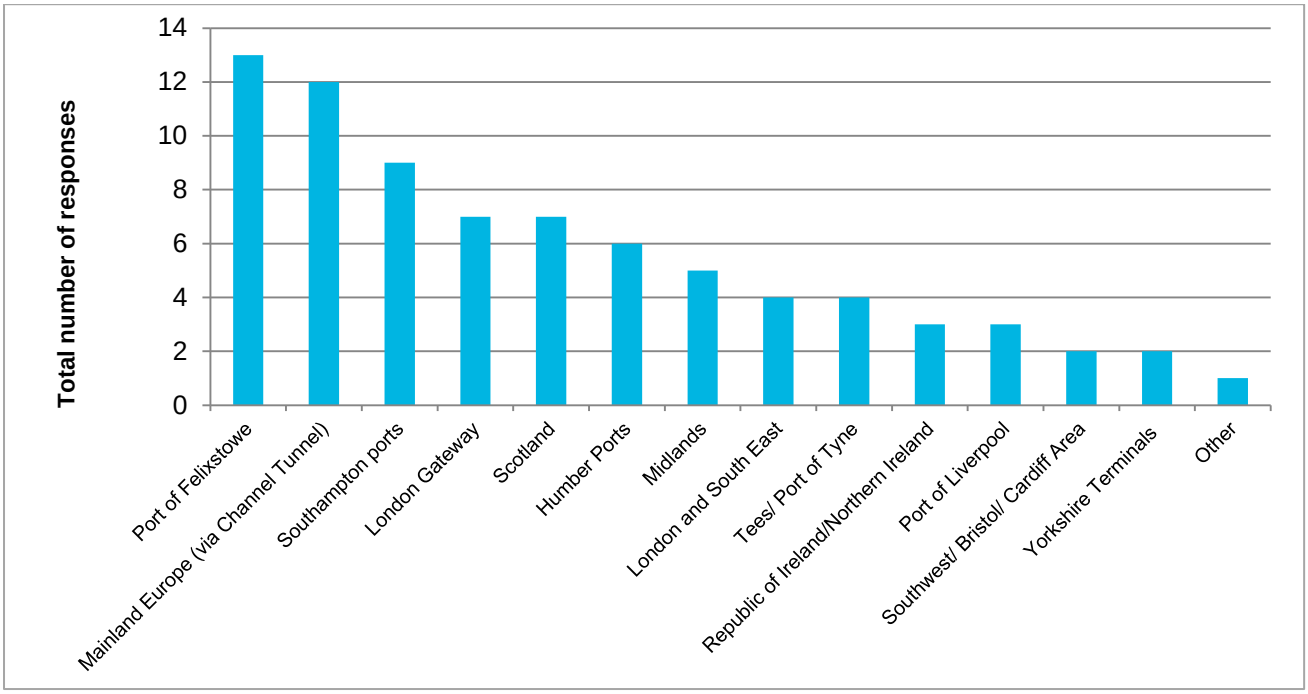


Figure 5.9 - Where are the most likely origins/destinations for the potential Rail Freight Interchange at Parkside?

The top 3 cited locations were the Port of Felixstowe (13), Mainland Europe (via Channel Tunnel) (12) and Southampton Ports (9). Scotland (7) utilising the West Coast Mainline were also considered a potential origin / destination by 7 respondents.

"The focus is now on very large ships – these will predominantly continue to use Felixstowe and Southampton as it is more expensive to go to northern ports"

"A lot of manufacturing is now being reshored to from the Far East to Europe – this provides a large opportunity for rail freight throughout Europe and east coast ports"

UK Rail Freight Operator

"Virtually 100% of consumer goods from the Far East arrive at Felixstowe or Southampton and 70% go by truck"

Private Sector Rail Freight Expert

Despite the optimism of respondents with regard to freight movements to/from the south, current sites in the North West, especially Ditton (3MG), Garston and Trafford Park mainly handle traffic to/from South Eastern ports. This could therefore restrict potential volumes. However the unique selling point of Parkside remains that it could be an 'all points' operation, offering as much in terms of a container exchange as it might in terms of being a destination and general logistical base in its own right.

There was also some interest in East-West freight flows from Humber Ports (6), Tees/Port of Tyne (4), Port of Liverpool (3) and Yorkshire Terminals (2). While not a historically rail freight flow with the development of the 'Northern Powerhouse' there is now a far greater emphasis on East-West commerce making these movements more viable.

Additionally despite its relative proximity to the Port of Liverpool there is potential for the Parkside site to act as an inland container terminal for not only this port but also for certain east coast ports.

> "The development of Liverpool as a deep-water container port could bring the potential for short distance rail shuttles from the West to the Parkside site"
>
> ***Private Sector Rail Freight Expert***

5.9 Potential Site Access

When considering potential site access it is important to consider the loading gauge on the rail network serving the site. W9 loading gauge allows for temperature controlled swap bodies and W10 allows for 9 foot 6 inch high cube containers on standard flat wagons. It is useful if the gauge for the local railway caters for both of these sizes to provide maximum flexibility.

In terms of loading gauge the site has access from the north, south, east and west. The West Coast Mainline is W10 equipped with the Chat Moss line W10 equipped directly past the site entrance with a mixture of W9 and W10 along the entire route (Figure 5.10).

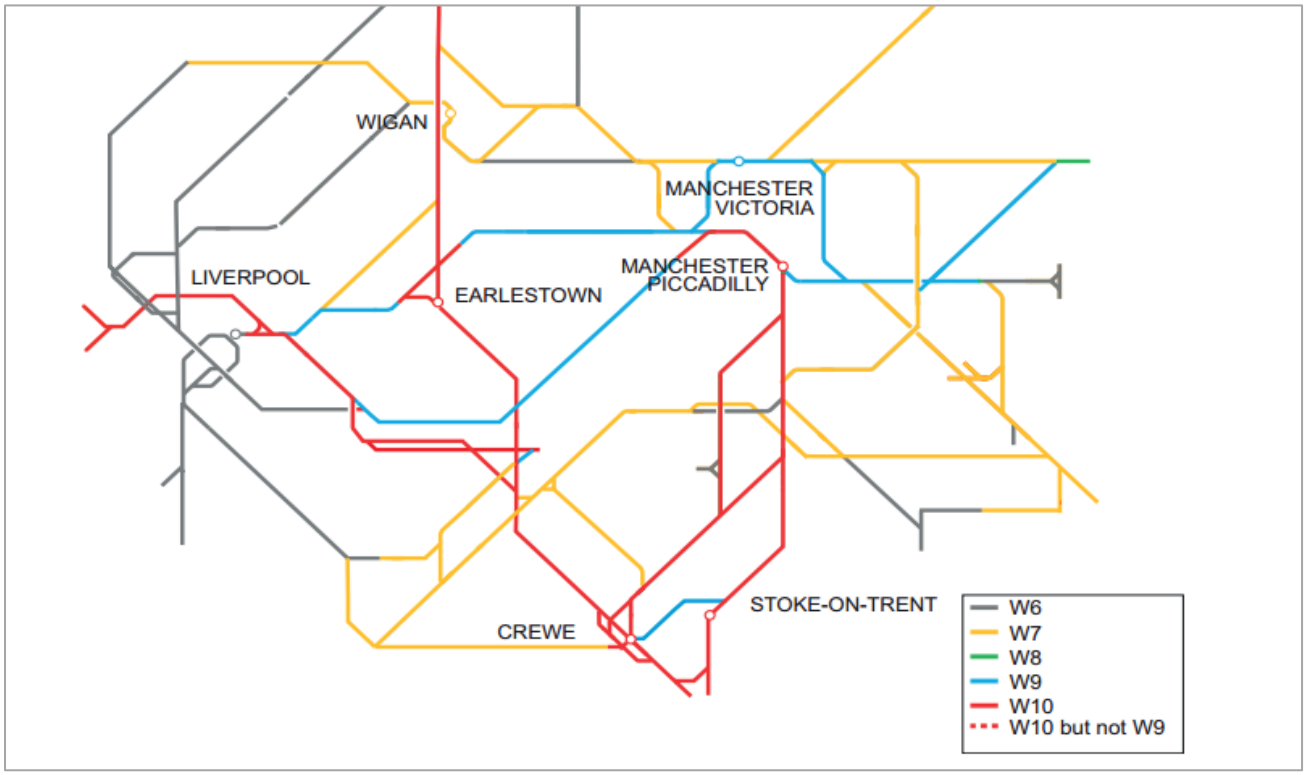


Figure 5.10 – Loading Gauge - LNW North – April 2015

The original rail access to the Colliery which occupied the Parkside site was via the Chat Moss route (between the M6 overbridge and Newton-le-Willows station). This had a number of advantages; it allowed (indirect) access to all routes (Chat Moss - east and west, and West Coast Mainline - north and south), as well as being at grade with the colliery site (rather than the West Coast Mainline which runs in a cutting at this point).

However direct access to the West Coast Mainline does provide a number of benefits, namely more direct access to key intermodal rail flows (north-south) without having to navigate the congested junction at Earlestown to access the Chat Moss line.

This could be a problematic pathing constraint given the predicted increase in through movements along the route over the forthcoming years as outlined above. However given the site constraints, it is questionable whether both north and south facing direct connections could be made between the site and the West Coast Mainline without significant engineering interventions.

One possible solution would be a hybrid approach with a south facing single lead junction provided onto the West Coast Mainline close to the A49 Mill Lane overbridge. A chord would then follow the route of the West Coast Mainline north-east alongside the perimeter of the site before leading onto the eastbound/westbound Chat Moss route. Reception/transhipment sidings could be connected internally on-site to the chord, allowing maximum versatility and flexibility in marshalling or positioning trains without impinging upon main line operations.

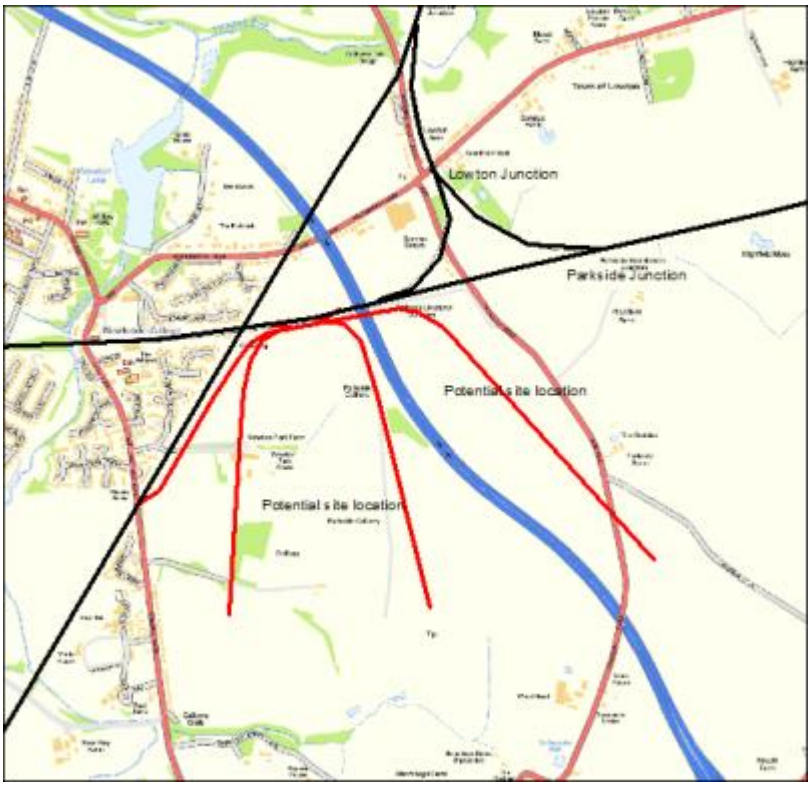


Figure 5.11 - Possible Site Rail Access

5.9.1 Potential Access Routes

Access of the Chat Moss line is considered the dominant access point. However this is subject to engagement with Network Rail and Rail North through the GRIP process to confirm the validation of this rail access to the site. Therefore an assessment of the access routes has been conducted based on this site access (Figure 5.12).

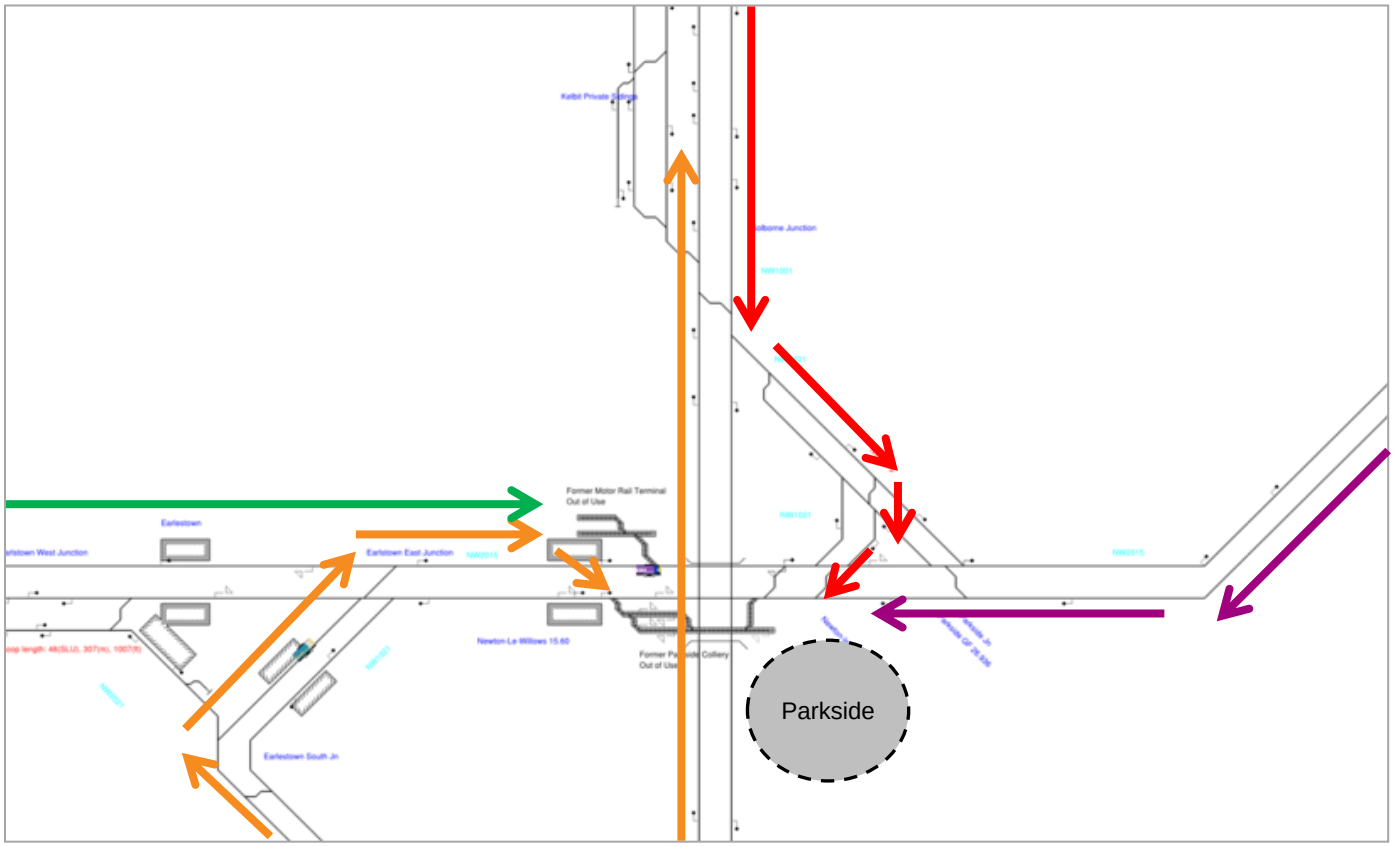


Figure 5.12 – Potential site access

As set out in section 5.9 there are three access routes to the Parkside site (West / South) from Earlestown Station off the Chat Moss Line, from the North (West Coast Main Line) via Lowton Junction and Parkside Liverpool Junction and from the east (Chat Moss Line). A summary of each approach is set out below:

South / West

Expected to be the dominant traffic flow to / from Parkside from the South, the approach to the site will be from Warrington Bank Quay. Train regulation opportunities exist in the Warrington Bank Quay / Crewe areas prior to arrival at the Parkside site.

The main operating constraint is the section of track from Earlestown to the Parkside site which currently has 4 trains per hour (off – peak) increasing to 6 trains per hour in 2018. Another constraint is that a train from the south has to cross the West bound line of the Chat Moss Line in order to access the east bound line with limited opportunity to increase speed between this location and the entrance to the Parkside site where it has to cross the west bound line (for the 2nd time).

Alternative routes exist from the South for trains to go north towards Wigan and reverse using the route as described in 'North' or via Manchester Piccadilly during engineering possessions on the West Coast Main Line.

East

Access to the site from the east will be from just west of the Parkside Liverpool Junction into the sidings on the west side of the site, where the train will then reverse to access the intermodal terminal situated on the east of the site.

Similar capacity issues as for the South / West apply, with the exception that the impact on Chat Moss Line is lower as the on approach the train will be decelerating from a higher speed and accelerating to a higher speed on leaving the site. Additionally the train can enter directly into the site without having to cross over tracks. There are a number of regulation points including one just prior to Manchester Piccadilly.

North

Access to and from the North is achieved off the West Coast Main Line at Golborne Junction prior to Lowton Junction and access into the site at a point just to the West of Parkside Liverpool Junction (same as access from the east). Trains can be regulated at a number of locations including to the North of Golborne Junction.

Road Access

06

6. Road Access

6.1 Introduction

This chapter considers the Parkside site in the context of the local highway network. The existing road access and local highway network in the vicinity of the site will be described, as well as the connections to the site from the Strategic Road Network (SRN).

Highways England have been consulted with during the development of this study, through one-to-one meetings with David Dickinson (Asset Manager, Merseyside), held on 04/05/2016, and Shaun Reynolds (Asset Manager, East (Greater Manchester)), held on 10/05/2016. Shaun Reynolds also attended the workshop held on 18/05/2016. There was also representation from both Wigan and Warrington Councils at the workshop. The findings from this consultation have been used during the development of this section.

6.2 Potential Site Access Options

Figure 6.1 outlines the six potential options for site access at the Parkside site. Initially access to and from the west of the Parkside site from the A49 is considered (potential access no. 1 and 2). However due to the size of the site and its potential capacity for a major logistics development it is envisaged that additional access will be required to and from the east of the site. This is likely to be achieved from the A573. Therefore potential access 3, 4, 5 and 6 are outlined below.

Figure 6.1 – Access options to the site (current land ownership)

The primary site access for the former colliery site connects onto the A49 Winwick Road (Figure 6.1, **no.1**). This junction is still in place, and forms a priority T-junction, with the Parkside access road being the minor arm. The Transport Assessment for the previous ProLogis/Astral planning application noted that this access was no longer in use. However, since that time the junction has been reinstated but is a locked, gated entrance. The site access road is approximately 9 metres wide, and widens to approximately 13 metres at the mouth of the junction. The junction has acceleration and deceleration lanes, both approximately 35 metres in

length, although there is no right-turn lane, meaning traffic turning right into the site would block northbound ahead movements on the A49. The A49 from M62 Junction 9 to the south of Newton-le-Willows and from M6 Junction 23 to the north is currently signed as an HGV access route for the Force 6 Distribution Park and Sankey Valley Industrial Estate in Earlestown. However there are junction capacity issues at Winwick (see Section 6.6). Therefore this access route may only be suitable up to a certain level of traffic unless mitigation work to address the capacity issue is conducted.

A second potential access into the Parkside site is available from the west via the access lane to Newton Park Farm (Figure 6.1, **no.2**), which is achieved from the A49 along Newton Park Drive. This access road crosses the West Coast Mainline via a narrow bridge (approximately 4 metres wide), and would be unsuitable for use by HGVs. Therefore this access has been discounted.

The following options assess the potential site access from the east. Potential access into the site from the east is available from the A573 via a railway maintenance access road (Figure 6.1, **no.3**), which passes underneath the M6 alongside the Chat Moss railway line. This access road is shown in Figure 6.2. However it is envisaged that to fully take advantage of this access the embankment underneath the M6 will need to be removed. See Figure 6.2.

Figure 6.2 – Potential access route no.3

However the use of this alignment is not recommended due to a number of challenges and conflicts. Firstly there is significant uncertainty over the abutment type and the foundations used on the bridge. There would also need to be significant evidence to support that works on a new retaining feature under the existing structure would not impact the structural integrity and undermine the foundations. There could also be major risks during the construction stage with possible limitations on the size of plant used and how this would affect the construction of large retaining features to support the ground conditions and bridge foundations. Additionally the interactions between both Highways England and Network Rail would be challenging to overcome due to the effects construction could have on their live infrastructure assets (e.g. closure of the M6 at certain times).

Additionally such a route would see HGVs coming within close proximity of a high frequency, high speed railway line. Any safety barrier that would be constructed to prevent vehicle ingress onto the track is likely to be ineffective because the collision angle would be between 60-90 degrees and barriers are typically designed for acute angle glancing blows. As a result of a collision at 90 degrees the barrier would not prevent vehicles getting on the track as the barrier would simply fold over (safety barrier is tested at a collision angle of 20 degrees). There are a number of issues that could contribute to a vehicle losing control in that area such

as diesel spillages and ice on the carriageway. For the reasons stated it is felt that locating a tunnel under the M6 adjacent to the Chat Moss Line is unfeasible and has therefore been discounted.

However there is potential to move the alignment of the tunnel south away from the Chat Moss railway line therefore mitigating many of the challenges. There is however a limit to the southerly location that the structure can be placed (around 150m away from the Chat Moss railway line) as motorway alignment moves from being on an embankment to a slight cutting. The precise location would be subject to the relevant surveys as part of the scheme design. However the location of the potential access is indicatively shown in Figure 6.1 (**no.4**). There is a possibility of constructing a box type structure with standard 5.3m headroom with the large embankment providing suitable cover over the substantial structure under the M6 and providing a smaller requirement in level drop.

The last potential access is a bridge over the M6 from the A573 (Figure 6.1, **no.5**). However this has been discounted on feasibility grounds for the following reasons. This section of the M6 is scheduled to be upgraded to a SMART motorway with the associated super span gantries (Figure 6.3). These gantries result in increases to the minimum height clearance required. To provide the required height for a new motorway bridge which has to have a clearance of at least 5.3m to accommodate double deck trailers the gradients of the access ramps will have to be unnecessarily steep. With the volume of HGVs using this route it will prove to be operationally unsatisfactory. Notwithstanding the large infrastructure cost involved with a bridge of this nature would not be economically viable.

Figure 6.3 – Super Span Gantry on the M6 near Birmingham

In order to achieve maximum development capacity at the site it is felt that the main site entrance would ideally be off the A579 around 0.5km to the north east of Junction 22 on the M6 (Figure 6.4, **no.6**). Having the main site entrance located here would minimise the distance trucks had to travel on the local network before joining the SRN at Junction 22 of the M6. Additionally it would mean the entrance is within the St. Helens boundary. The volume of traffic expected to be accessing the site necessitate a new junction to be constructed. This is likely to be a demand responsive signalized junction however further detailed assessment is required to understand the exact specification of the junction.

6.3 Summary of Site Access Options

For a small development, access to the site from the west can be achieved by reinstating the former access road from the A49 (Figure 6.1, no.1). This is recommended because it would require minimal investment due to the junction and former road still being in place. The alternative access route via the access lane to Newton Park Farm (Figure 6.1, no.2) has been discounted as it is unsuitable for HGVs.

In order to facilitate a larger-scale development at Parkside, it is certain that a direct access onto M6 Junction 22 will be required. Discussions with Highways England indicate that Junction 22, taking into account the proposed improvement works as part of the Road Infrastructure Scheme and Smart Motorway schemes, could potentially accommodate HGVs generated by a Parkside development equivalent of up to 8 trains per day. However, any site larger than this, when taken in the wider context of proposed and committed developments in this area, would likely require a more strategic intervention, potentially requiring a redesign of Croft Interchange.

If access to the west of the site from the east of the site is required then from a technical, cost and deliverability point of view a box type tunnel structure under the M6 but away from the Chat Moss railway line (Figure 6.1, no.4) is recommended at the best option. This option is preferable because the construction of the structure can take place under the live running motorway and whilst not without risk and complexity, from a high level assessment point of view, it represents a better option than an alignment adjacent to the Chat Moss railway line (Figure 6.1, no. 3). The option to build a bridge over the M6 (Figure 6.1, no.5) has been discounted mainly due to the challenges and large infrastructure cost required to bridge over a SMART motorway.

On the east side of the M6, a new road would also be required. This could potentially run parallel with the M6 to connect directly to the Junction 22 roundabout, or could utilise the former haul road known as Barrow Lane, which connects to the A579 approximately 500 metres north east of Junction 22.

It should be noted that any new access connecting into Junction 22 would also reduce the distance that HGVs would have to travel to reach the A579. Although this is no longer a primary route, it is likely that a weight restriction would need to be implemented to the north of the Parkside access road to prevent site HGV traffic from using the A579 as a short-cut to the A580.

However access to the M6 Junction 22 is achievable on the section of the A579 that is within the St. Helens boundary therefore any weight restriction will not affect HGVs arriving or departing the site by this route. Consultation with Highways England revealed that they would not have a problem with utilising this site access. Highways England also recognise the importance of the traffic associated with the site joining the SRN as quickly as possible to alleviate local traffic issues. This access route uses minimal local roads and would therefore satisfy this criteria.

6.4 Local Highway Network

The Parkside site is bounded to the west by the A49 Winwick Road and to the east by the A573 Parkside Road.

The A49 Winwick Road runs in a north-south direction between Newton-le-Willows and M62 Junction 9. The road is a single carriageway primary distributor road, subject to a 40mph speed limit in the vicinity of the Parkside site. The speed limit increases to the national speed limit (60mph) approximately 450 metres south of the site. Winwick Road is predominantly residential in nature along the majority of its length in the vicinity of the development site, although the road also provides a through route connecting the M6 to the A580 East Lancashire Road. As such it experiences a high level of through traffic.

Parkside Road (A573) runs in a north-south alignment to the east of the Parkside site. The A573 links the A49 with the A572 Newton Road to the east of Newton-le-Willows. In the vicinity of the development site the A573 is subject to a 30mph speed limit. Parkside Road is generally narrow (approximately 6 metres wide on average), and contains a number of tight bends which would restrict the movement of HGV traffic, particularly in the vicinity of Hermitage Green.

6.5 Strategic Road Network

The SRN in the vicinity of the Parkside site includes the M6 motorway, which runs north-south and passes adjacent to the eastern boundary of the former colliery site. The M62 motorway runs east-west approximately 3 km south of the site. The nearest motorway access from Parkside to the M6 is at Junction 22, although the route to this junction via the local road network is relatively indirect. There are a number of other motorway junctions in the vicinity of the site which can provide access from the SRN. The SRN in the vicinity of the Parkside site currently carries a high volume of freight traffic, and the junctions in this area experience significant peak time congestion which impacts on journey times. The following paragraphs describe each of these junctions in turn.

M62 Junction 8 is located approximately 4.5 km south-west of the Parkside site. The junction does not provide direct access to Parkside, but does provide the primary access into the OMEGA, Gemini and Lingley Mere Business Parks, and this has seen a large growth in freight traffic in the last 2 years.

M62 Junction 9 is located directly north of Warrington. The A49 runs north to south through junction 9, into Warrington Town Centre to the south and Newton-le-Willows north of the junction. Both the M62 and A49 in this area currently experience significant peak time congestion which impacts on journey times. The congestion is primarily focused in the southbound direction in the AM peak and the northbound direction in the PM, as a result of traffic commuting to and from Warrington. North of the junction, the A49 Winwick Link Road is a two-lane dual-carriageway which links Junction 9 with M6 Junction 22. As such, the junction is also used as a rat-run by traffic avoiding congestion on the M62.

The **M62 Junction 10 / M6 Junction 21a (Croft Interchange)** is the intersection between the M62 and the M6. As the primary interchange between the two motorways, Croft is subject to heavy congestion at peak periods. Croft Interchange is also located in close proximity to both M62 Junction 9 (approximately 2.8 km to the west), and M6 Junction 22 (approximately 2.4 km to the north). The distance between the entry slip-road at one junction and the exit slip-road at the next is considerably shorter than this, less than 1 km for the most part. This therefore creates problems with weaving traffic, which is exacerbated by the high volume of HGVs which pass through the junction.

As noted above, **M6 Junction 22** is the closest motorway access to the Parkside site. However, there is currently no direct access into the site from this junction, and the local road access requires traffic to travel southbound on the A49 Winwick Link Road before returning northbound to the site via the A49 Winwick Road. As such, the preferred route for HGV traffic to the current primary site access is likely to be via M62 Junction 9. This route is approximately half a kilometre shorter than the route to the M6 Junction 22 but it may take a minute longer[19] mainly due to having to negotiate additional traffic controlled signals. Table 6.1 shows a comparison of distance and journey time for each of the different SRN junctions closest to the site.

Table 6.1 – Journey time information

From	to	Distance (km)	Journey time
Parkside site	M62 Junction 9	3.5	6 minutes
Parkside site	M6 Junction 22	4	5 minutes
Parkside site	M6 Junction 23	3.5	7 minutes
Parkside site	M6 Junction 21	5.5	7 minutes

Source: AA Route Planner, 2016

This would therefore potentially result in site traffic exacerbating the existing congestion and weaving issues at Croft Interchange. Junction 22 also provides access to the A579 Winwick Lane, which runs north east-south west between the M6 and the A580 East Lancashire Road. The A579 was part of the primary route network, and as such fairly heavily used by HGV traffic travelling between the M6 and the A580. However, due to complaints from residents in Lane Head, the road has recently been de-primed by Wigan Council. As a

[19] AA Route Finder, 2016

result, the primary HGV route is now via the M62 Junction 23. Wigan Council has proposed the introduction of a weight restriction to further enforce the restriction on HGV movement along the A579, although this would also require approval from Warrington Council, since the southern end of the road falls within Warrington Borough.

Junction 23 of the M6 is located approximately 3.5 km north of the Parkside site, and provides connections to the A580, as well as the A49. As such, this junction would provide the primary access to Parkside from the SRN for traffic arriving from the north, or from the east and west via the A580. Junction 23 also provides the primary motorway access for a number of other existing industrial sites at Haydock. In addition to this there are a number of other proposed developments for distribution and warehousing sites at this location, which would further increase the volume of HGVs and increase the pressure on Junction 23. Junction 23 is already at capacity according to Highways England. It is likely that a preferred solution is that traffic coming from the north to Parkside is encouraged to remain on the M6 exiting at Junction 22 rather than using Junction 23 and coming through Newton le Willows.

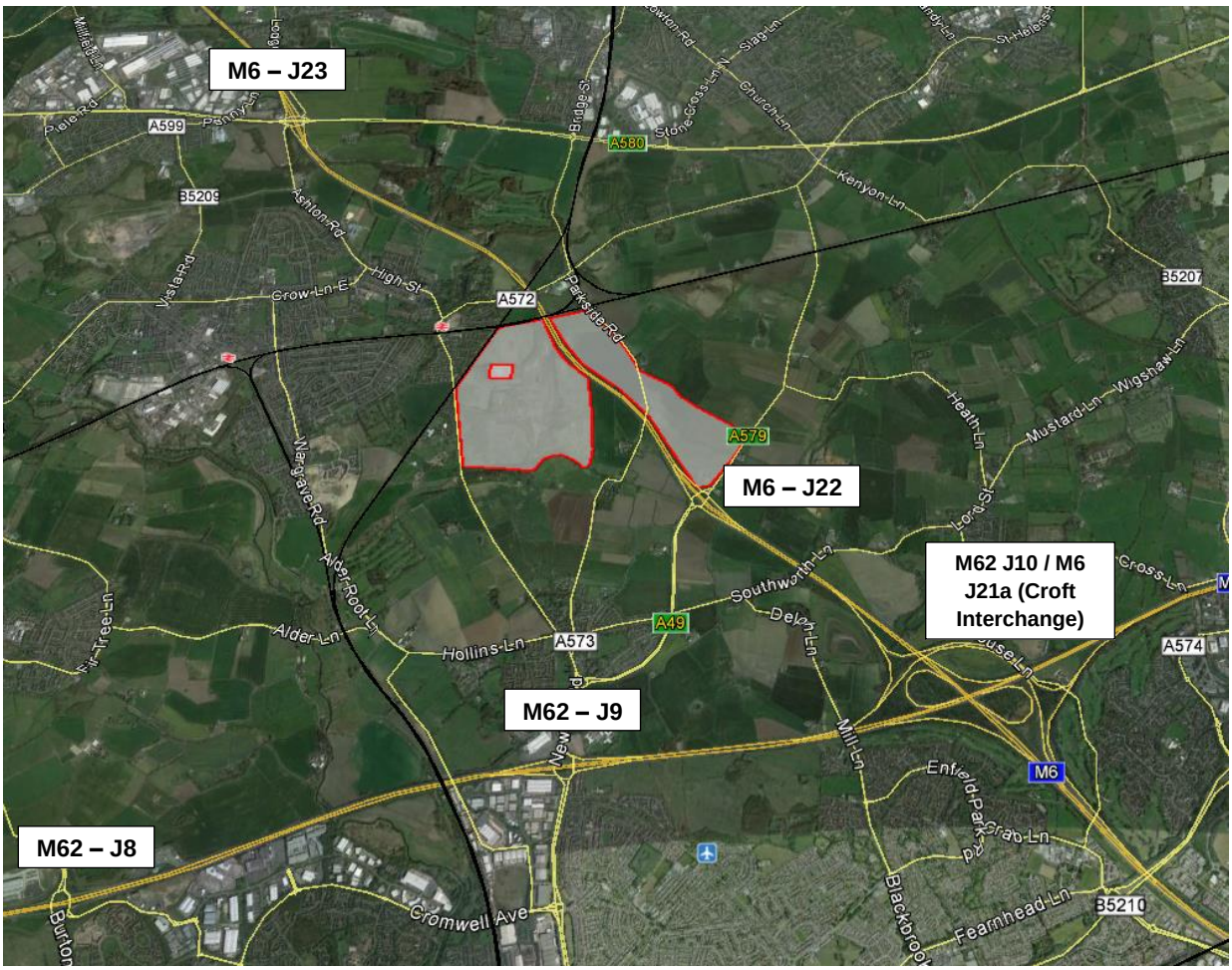


Figure 6.4 – SRN junctions

6.6 Current and Forecast HGV Traffic Flows

Existing traffic flows for the SRN in the vicinity of the Parkside site have been obtained from Highways England's Traffic Information database (TRADS). This database contains traffic count data from Automatic Traffic Count (ATC) sites at various locations on the SRN.

The most recent data available for the SRN in the vicinity of Parkside is from 2014. The annual average weekday traffic (AAWT) and volume of HGVs during that year is summarized in Table 6.2.

Table 6.2 – Current AAWT data

Location	AAWT	No. HGVs
M6 J22-23 NB	60,389	10,810
M6 J22-23 SB	58,163	10,179
M6 J21a-22 NB	59,162	11,182
M6 J21a-22 SB	58,324	12,481
M62 J9-10 WB	56,510	6,781
M62 J9-10 EB	56,934	9,053
M6 J23 SB Exit	8,184	777
M6 J22 SB Exit	7,046	726
M62 J9 WB Exit	9,198	631

An initial estimate for the potential volume of HGV traffic that might be generated by a SRFI site at Parkside has been calculated using the industry standard TRICS database v7.3.1. The trip rates have been determined based on the following criteria:

- Vehicular trip rates for Commercial Warehousing sites;
- Sites in London, Republic of Ireland and Northern Ireland have been excluded;
- Sites smaller than 2,500 sqm Gross Floor Area have been excluded;
- Sites in Town Centre locations have been excluded; and
- Only weekday surveys have been used.

This selection resulted in average daily HGV trip rates as follows:

- Arrivals: 0.261 HGVs per 100 sqm
- Departures: 0.485 HGVs per 100 sqm

The resultant average daily HGV trip generation for a 100% road-based commercial warehousing site of various sizes, based on these trip rates, is set out in Table 6.2 below.

However, it should be noted that the daily trip rates taken from TRICS could potentially under-estimate the actual trip generation that might be expected at Parkside. This is because the TRICS sample is limited to vehicle counts undertaken between 05:00-21:00. In contrast Parkside is likely to be operated 24 hours a day. Therefore to generate a more robust estimate of the likely trip generation, the higher of the two TRICS figures (departures) has been doubled (representing the fact that all vehicles departing during a 24-hour period must have also arrived and vice versa). This assumption has been used to calculate an estimate of the total number of daily HGV trips (see Table 6.2).

However an assumption has been made in order for a more cautious HGV trip estimate to be made. This is because the TRICS sample is limited to vehicle counts between 05:00-21:00 for some locations. Parkside is likely to be operated 24 hours a day so the assumption taken is that the higher of the two TRICS figures (arrival / departures) is doubled (all vehicles departing must have also arrived and vice versa). This figure has been used as the estimate for total daily HGV trips (see Table 6.3).

Once the total daily trips for each site size had been calculated the trips were allocated between primary and secondary using an assumption of 40/60 split. A trip length assumption of 160km for primary movements and 20km for secondary movements has also been applied and used to calculate the CO^2 implications for each option.

Table 6.3 – Estimated average daily HGV trip rates and trip generation for a 100% road-based commercial warehousing site

Site Size (sq. ft.)	Daily HGV Trips			Total (incl. assumption)*	Primary	Secondary
	Arrivals	Departures	TRICS Total			
750,000	182	338	520	**676**	270	406
1,000,000	242	451	693	**902**	360	541
1,250,000	303	563	866	**1126**	451	676
1,500,000	364	676	1040	**1352**	541	811
1,750,000	424	789	1213	**1577**	631	946
2,000,000	485	901	1386	**1802**	721	1,081
2,250,000	546	1014	1559	**2028**	811	1217
2,500,000	606	1126	1733	**2253**	901	1352
2,750,000	667	1239	1906	**2478**	991	1487
3,000,000	727	1352	2079	**2703**	1081	1622
3,250,000	788	1464	2252	**2929**	1171	1757
3,500,000	849	1577	2426	**3154**	1262	1892
3,750,000	909	1690	2599	**3379**	1352	2028
4,000,000	970	1802	2772	**3605**	1442	2163
4,250,000	1031	1915	2946	**3830**	1532	2298
4,500,000	1091	2028	3119	**4055**	1622	2433

6.6.1 Impact of Rail Movements on HGV Traffic Flows

Once the total traffic movements for a road based site were finalised the impact of including rail movements into the site was assessed.

Our assumption is that one freight train saves 40 HGV primary "trunk" haul movements[20]. However none of the secondary movements, i.e. Regional Distribution Centre to other local warehouses or direct to stores would be achieved by rail, these would still need to be done by road. There is also a need for the "last leg" road movements. We have called these "primary local" movements. This is where some of the containers are unloaded from the train and then taken an average of 20kms to National/Regional Distribution Centres off the Parkside site.

An example where this methodology has been applied is shown in Table 6.4. The example is for a 750,000 square foot site that receives three trains a day.

Table 6.4 – Broad traffic generation – Option 1

Site Size		Daily HGV Trips			
		Primary	Primary - Local	Secondary	Total (incl. assumption)
750,000 sq. ft.	**Road based**	270	0	406	676
	Road and Rail (3 trains a day)	150	113	406	668

[20] Eurotunnel, 2016

The key impact here is that compared to a road based solution, a road and rail based solution does not radically change HGV movements in the vicinity of the terminal, but does have a dramatic effect on long distance movements. The example in Table 6.3 removes 120 primary movements per day. This indicates that rail trunk haul services result in a saving of significant numbers of HGVs on the M6 and other parts of the Strategic Road Network.

The HGV movement comparisons for the road based and a road and rail based site options are presented in Chapter 8.

6.7 Summary of Highway Access Issues

The road access to the site at present is constrained by the reliance on a single access junction, which connects to a single-carriageway road, the A49, which also serves a number of residential properties. Despite the presence of the M6 immediately adjacent to the site, the driving route to access the motorway network is approximately 3 km to both the north and the south.

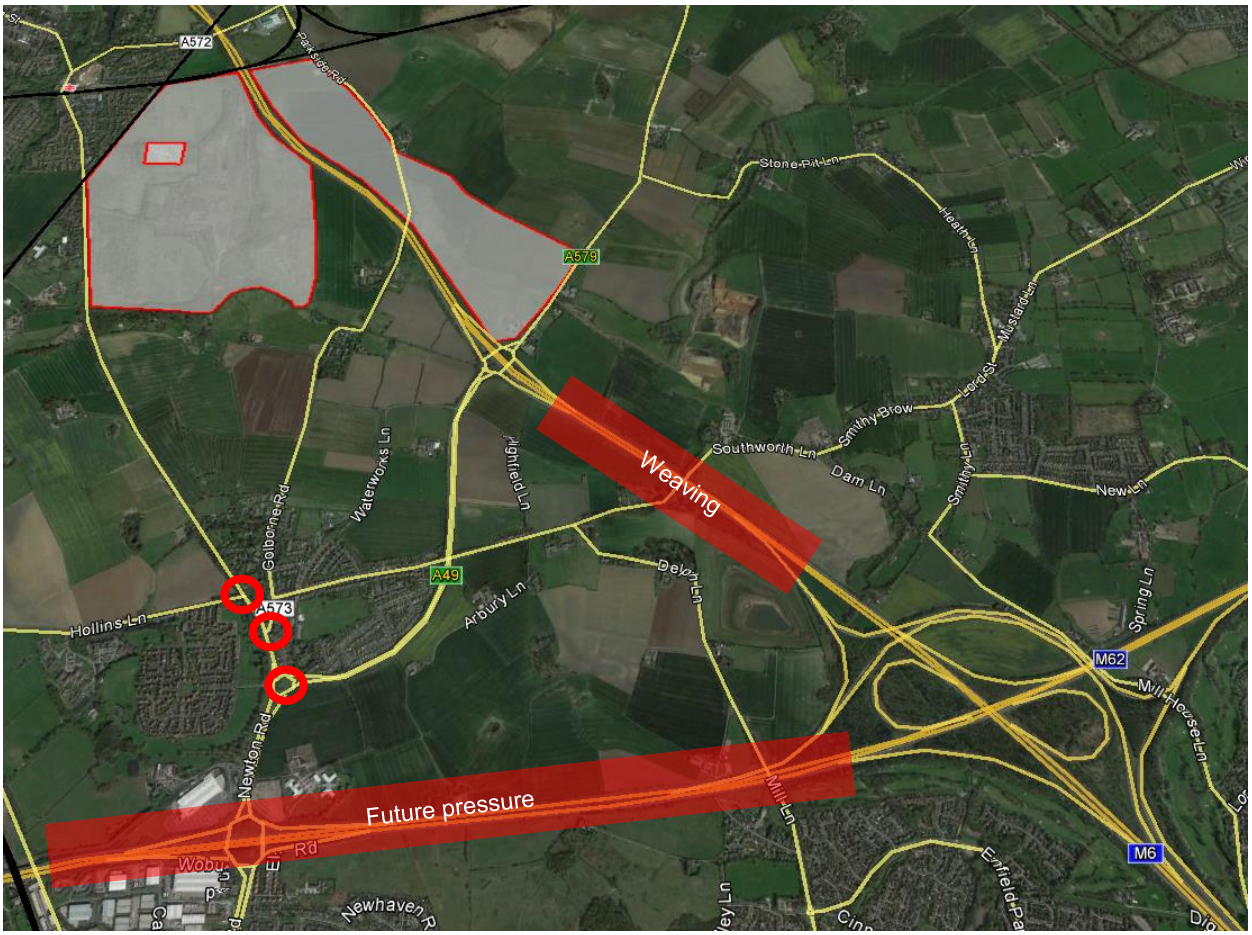


Figure 6.5 – Three junctions with capacity issues in Winwick

Although both of these junctions are scheduled to be upgraded as part of the Smart Motorway scheme, there are a number of proposed large developments adjacent to both junctions that would increase the pressure on the SRN at these locations as and when they are brought forward. Adjacent to Junction 9, M62 the Peel Hall proposed development will consist of around 1,400 new homes. Although there is potential for junction improvement works at Junction 9 to be developed as a result of this scheme, it would not necessarily create sufficient extra capacity to cater for additional HGV trips that might be generated by a 1,000,000+ sq. ft. Parkside development.

> "There may be an issue of increasing traffic on the local network – however we need to think strategically. If Parkside doesn't get built then all of this traffic will be on the road!"
>
> ***UK Rail Freight Operator***

Likewise, there is potential for future junction improvement works to come forward at M6 Junction 23, as a result of a number of proposed developments in Haydock. As with M62 Junction 9, however, any spare capacity is likely to be taken up by background growth and committed development trips.

Finally, as noted above, the proximity of Croft Interchange, M6 Junction 22, and M62 Junction 9 means that there can be issues with weaving traffic between these junctions.

An initial estimate of the likely trip distribution from Parkside would indicate that around 85% of trips would travel south along the A49, to access the SRN at M62 Junction 9. This route passes through three junctions in Winwick – A49 / Hollins Lane, A49 / Golbourne Road, and A49 / Winwick Link Road, which all presently experience congestion at peak periods.

It is likely that junction improvement works would be required at all these junctions to accommodate any additional traffic from Parkside. However, even with junction improvement works, a single access onto the A49 is unlikely to be able to support a site at the larger end of the options presented in Table 6.2 above, particularly if the access to the SRN is to be via M62 Junction 9 and M6 Junction 23. A reliance on these junctions to provide access to the SRN is likely to be a sub-optimal solution, not only due to the wider issues summarised above, but also because the volume of HGV traffic that would pass through the residential areas of Winwick and Newton-le-Willows in that scenario is likely to result in local objections.

Public Transport and Active Travel

07

7. Public Transport and Active Travel

7.1 Introduction

As part of this component of Stage 2, AECOM has undertaken an assessment of existing public transport services and active travel routes in the study area. From understanding this baseline situation, any gaps or opportunities in the network can be highlighted in anticipation of demand from the Parkside development. Where new or extended public transport services and improvements to the active travel network are considered outline costs are provided. AECOM has held initial discussions with Merseytravel and St. Helens Transport Policy Team as part of the consideration of options at a Workshop.

7.2 Public Transport Services

The existing bus and rail network in the local area and associated services are outlined within the sections below.

7.2.1 Bus Network and Services

Figure 7.1 illustrates the existing bus services in operation in the vicinity of the proposed site. It can be seen that there are three key services operating within close proximity to Parkside (No. 22, No. 34 and No. 360). AECOM has reviewed the frequency of these services with Figure 1.1 illustrating thicker lines for higher frequency services. At present there are bus stops located along the A49 to the west of the site and along the A572 to the north of the site.

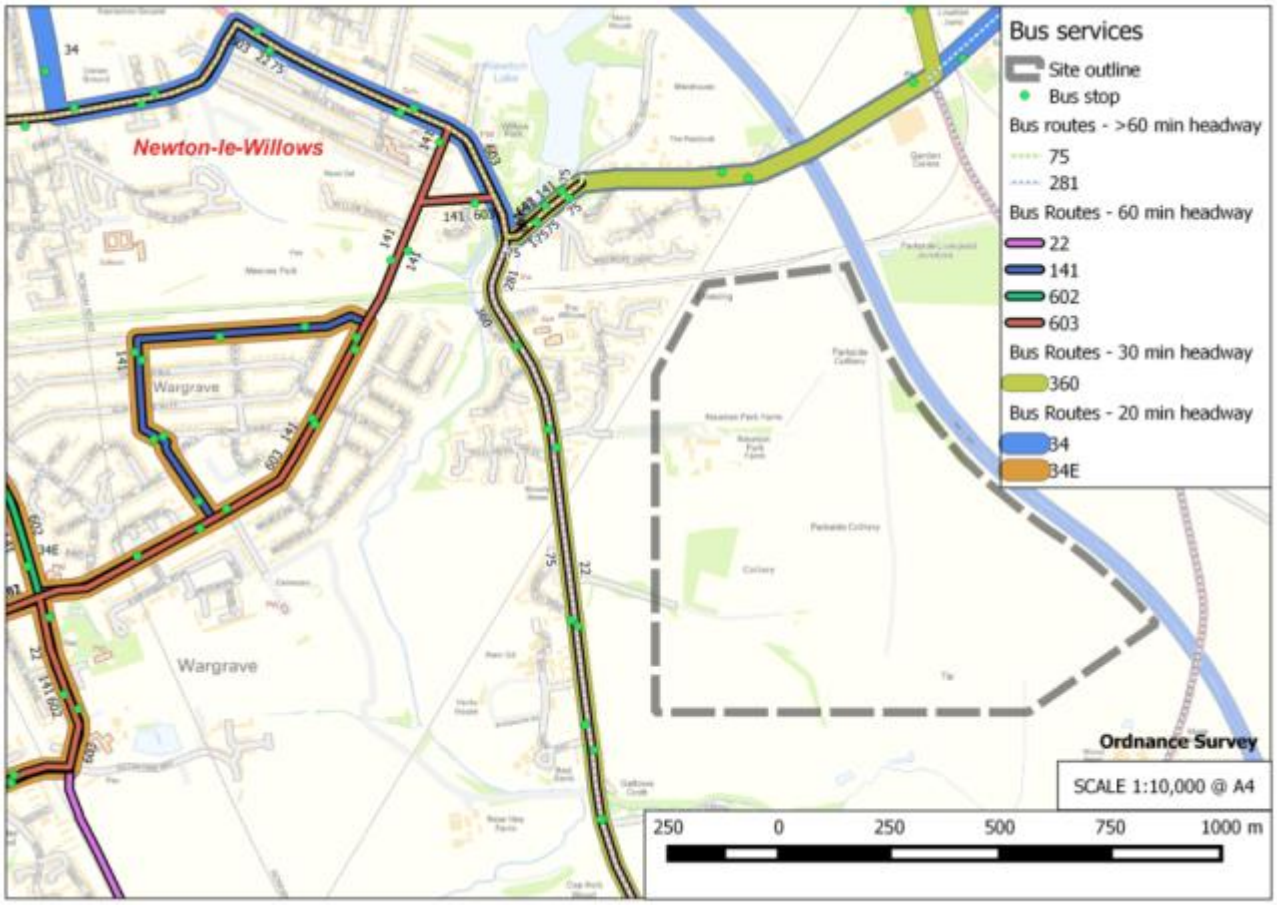


Figure 7.1 – Map of Existing Bus Network within vicinity of Parkside

Table 7.1 below provides further detail on the operation of the bus services within close proximity to the site. It can be seen that the site is relatively well served by bus Monday-Saturday; however, there is just one hourly service available on a Sunday and this is during core hours and only between Warrington and Earlestown.

The Parkside site will be in operation 7 days a week and is likely understood to have core shift patterns of 6am-2pm, 2pm-10pm and some on a night shift 10pm-6am. It can be seen that the existing timings of bus services would not be able to accommodate employees starting at 6am and limited options are available for those staff finishing shifts at 10pm. So potentially earlier and later services could be considered.

Table 7.1 – Bus Services within close proximity to Parkside

Bus Services within close proximity to the Site				
Service No.	**Route**	**Operator**	**Frequency**	**First/Last Service**
No. 22/22E	Warrington Interchange - Vulcan, via Winwick & Newton-le-Willows (22E Warrington – Earlestown)	Network Warrington	Hourly[21] (Mon-Sun)	Departing Warrington 07:25 until 22:10 (*to Earlestown only, services to Vulcan are within core/peak hours only) (Mon-Fri) 07:43 until 23:10 (*Sat) and 08:40 until 17:20 (Sun services to Earlestown only)
No. 34	St. Helens to Leigh via Parr, Earlestown and Newton-le-Willows	Arriva Bus	Every 20 mins (Mon-Sat)	Departing St. Helens 06:25 until 23:25 (Mon-Fri) 07:05 until 23:25 (Sat)
No. 360	Warrington-Wigan via Winwick, Newton, Golborne and Platt Bridge	Arriva Bus	Every 30 mins Mon-Sat)	Departing Warrington 05:56 until 18:51 (Mon-Fri) 08:17 until 18:27 (Sat)

Bus Network and Service Issues

- Only one hourly service on Sunday's – site operation will be 7 days.

- Some services only run the full timetable during core hours.

- The existing services are not adequate to cover the anticipated shift patterns fully, i.e. services to meet 6am start times and 10pm finish times.

7.2.2 Rail Network and Services

Figure 7.2 identifies the rail network, stations and associated services within close proximity to the proposed site. It can be seen that Newton-le-Willows Station is located approximately 1 mile to the north west of the site, a reasonable walking distance for commuting. Newton-le-Willows station is situated on the northern route of the Liverpool to Manchester Line and the North Wales Coast Line and as such has both a Manchester and Liverpool services platform. The station benefits from relatively high frequency services and these can be seen highlighted on Figure 7.2. The station benefits from cycle parking, a ticket office and ticket machines accepting cards or cash, however, there are limited passenger facilities i.e. a lack of toilets, waiting rooms or refreshments/shop. Earlestown Station is also identified on Figure 7.2, the only other additional service available at this station is the Northern Rail Liverpool-Warrington service (hourly Monday-Saturday).

[21] In some cases there is more than an hour between services.

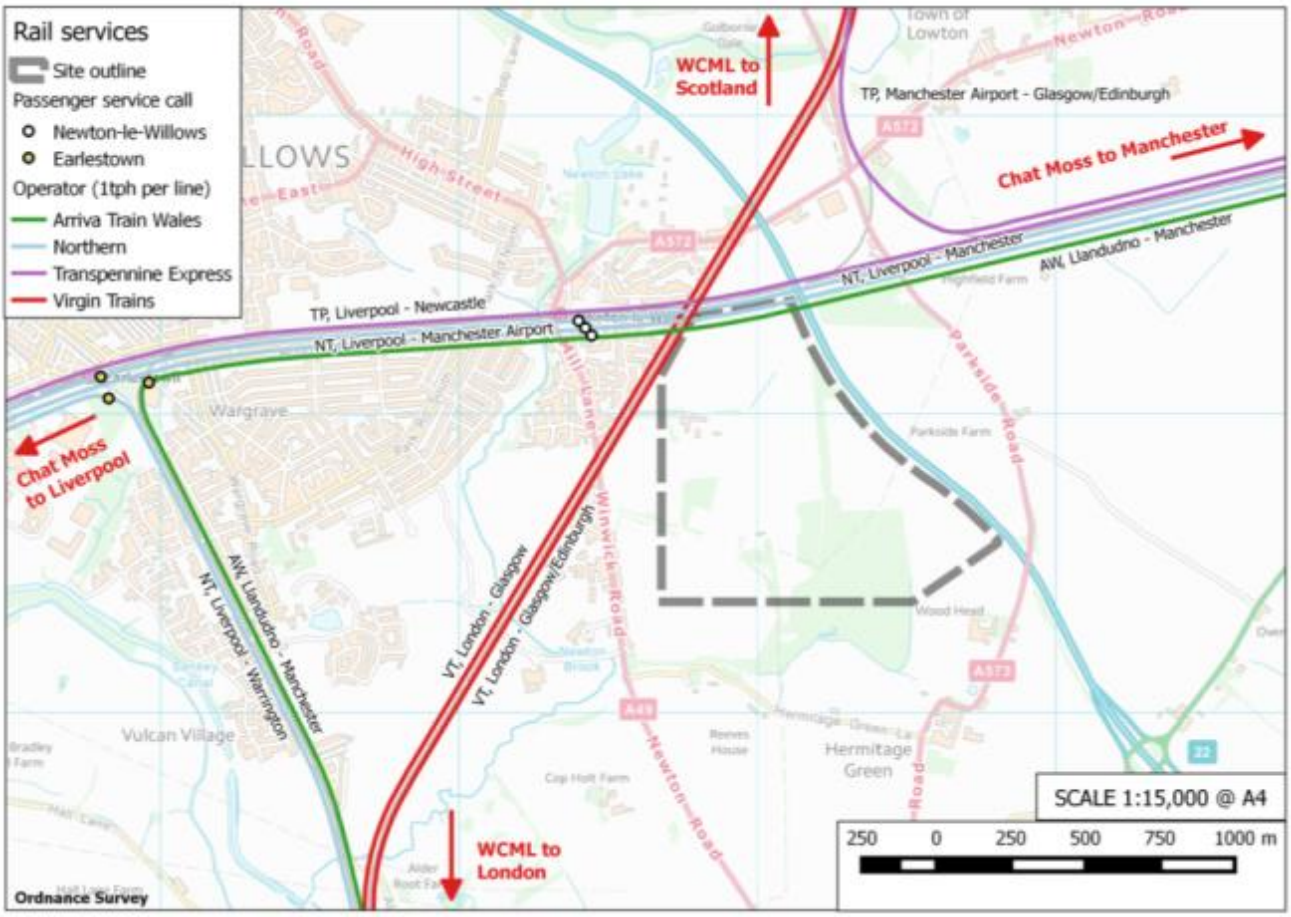


Figure 7.2 – Map of Rail Network within vicinity of Parkside

AECOM has reviewed further details of the rail services operating via Newton-le-Willows and these are shown in Table 7.2. It can be seen that there is a good frequency of direct services to Manchester and Liverpool seven days a week with slightly less frequent service to North Wales. Access to Chester is relatively good however; passengers must change here for services on a Sunday. In assessing the service options against the expected staff shift patterns whilst the journey is viable from Liverpool it is not possible to arrive at the site for a 6am start from Manchester by rail under the current timetabling. On Sundays the early shift additionally becomes an obstacle for those travelling from Liverpool to the site.

Table 7.2 – Rail services operating via Newton-le-Willows Station

Rail Services via Newton-le-Willows Station			
Route	**Operator**	**Frequency**	**First/Last Service**
Liverpool Lime St – Manchester Victoria	(Northern)	Hourly (Mon-Sun)	Departing Liverpool 05:20 until 23:19 (Mon-Sat) 09:01 until 20:12 (Sun)
Liverpool Lime St – Manchester Airport	(Northern)	Hourly (Mon-Sun)	Departing Liverpool 03:38 until 17:50 (Mon-Fri and until 20:16 Sat[22]) and 08:12 until 23:15 (Sun)
Manchester Piccadilly – Llandudno via Chester	(Arriva Trains Wales)	Hourly (Mon-Sun) Sunday services Manchester Piccadilly - Chester only, change at Chester for Llandudno	Departing Manchester 05:33 until 17:50 (last service to Llandudno) services run to Chester until 23:14 (Mon-Sat) 07:28 until 23:25 (Sun)

[22] Note that services run later to Manchester Oxford Road and Manchester Piccadilly.

Rail Network and Service Issues

- Limited facilities for passengers at Newton-le-Willows station. Inadequate for a higher level of demand forecast as part of the Parkside development.

- Current timetabling does not allow for expected shift patterns to be met, i.e. limitations on certain services to reach/depart Parkside 7 days a week at expected shift times.

7.2.3 Gap Analysis – Challenges and Opportunities

Committed improvements to existing rail services and recent electrification is expected to increase demand on the line through Newton-le-Willows Station. Additionally housing and economic growth in the Warrington area will apply additional pressure on the existing network and associated services. Key travel to work movements within the Parkside area are forecast to increase to/from Ashton-in-Makerfield, Wigan, Warrington, Manchester, Liverpool and St. Helens. The existing network in terms of provision of public transport services by bus and rail is unlikely to be adequate for this forecast increase in demand.

It is known that at the December 2017 timetable change, it is forecast that six trains per hour (off peak) will be utilising the Chat Moss line past the Parkside site. Transpennine Express is to divert the existing Liverpool Lime Street to Scarborough service to the Chat Moss route. This will result in two TPE trains per hour passing the site. Northern will operate an hourly stopper service between Liverpool Lime Street and Manchester Airport. The hourly Warrington Bank Quay – Liverpool Lime Street service will continue to operate via Earlestown. Two new hourly "Northern Connect" services will operate between Liverpool/Chester and Leeds via Manchester and the Calder Valley. The current hourly Transpennine Express service operating via the east to north Parkside-Lowton curve to the east of the site will be replaced by an hourly Northern Connect service between Manchester and Cumbria. Arriva Trains Wales will continue to operate their hourly North Wales-Chester-Manchester service, with peak hour additional services.

Whilst there will also be additional rail empty coach stock and other non-passenger services, it is not foreseen that these will deviate in the main from the existing principal axis of movement (i.e. there will be no major change in the usage of the Newton le Willows-Lowton Junction chord).

These committed improvements to rail services will assist in meeting forecast demand on the line for passenger services. The existing bus network however, needs modification to provide a viable option for travel to/from Parkside for commuters.

7.2.4 Identification of Options

Newton Interchange

One option for consideration to improve bus service provision would be an improved interchange facility at Newton-le-Willows station. Newton-le-Willows station is well placed and relatively well served by rail, however, the connecting bus services are poor. Rail services will be improved (journey times reduced) through the electrification programme of the Liverpool-Manchester lines and the committed increases in service provision outlined above, however, the 'last mile' leg of the journey could be currently off putting to many employers/employees.

As part of plans to improve Newton le Willows Station a new Interchange and Park & Ride facility is to be developed. A Park & Ride facility at Newton-le-Willows station would allow employees arriving by rail and road to interchange to bus for a short journey to the site itself. The service would act as a shuttle service, i.e. not stopping en-route and, with a timetable designed around shift patterns, this would be attractive and efficient for employers and employees.

Timetabling between bus and rail should be reviewed to ensure that interchange opportunities are available and are as efficient for the passenger as possible.

Station facilities e.g. new/improved ticket office and waiting areas with better access facilities and the introduction of step free access to and between platforms should be considered. These improvements will make the station environment more attractive to passengers and better cater for the forecast significant increase in demand using the station facilities.

Enhanced cycle parking provision and a pick-up and drop-off point for taxis at the station would make the interchange more appealing for passenger use.

St. Helens will need to explore funding opportunities for these investments. There may be the potential to utilise developer funding for this infrastructure. However there is already local support for these recommendations shown in the Newton-le-Willows Interchange Full Business Case (2014)[23] developed by Merseytravel. In summary, the scheme provides for:

- A new subway
- Lifts and staircases to subway and platform level, to provide a Disability Discrimination Act (DDA)-compliant access throughout;
- A new ticket office provided on the south side of the railway line;
- A new bus interchange adjacent to the new ticket office;
- An expanded car park with space for up to 440 vehicles, with appropriate provision for blue badge holders;
- Enhanced cycle parking provision;
- Pick-up / drop-off point and facility for taxis within the car park area; and
- Enhanced waiting facilities on both platforms.

Bus Timetabling and Routing amendments

Other options which could be considered relatively inexpensively are re-routing of existing bus services and extending the service timetables to meet forecast shift patterns. There could be consideration of existing bus services entering the site to provide an enhanced door-to-door service for employees. AECOM recommends discussion with the bus operators and consultation with the Public Transport Team to assess the appetite and test the market for these options.

7.3 Active Travel Routes

AECOM has reviewed the network of cycle routes and 'walkable routes' within the vicinity of the proposed site.

7.3.1 Cycle Network

St. Helens Council has provided AECOM with a shapefile identifying the existing cycle network and committed new routes within the area; these can be seen illustrated on Figure 7.3. It can be seen that whilst there is one continuous long distance route (the Sankey Valley Trail) within the vicinity of the local area there is little opportunity to access the site via this route due to severance caused by the West Coast Mainline. There are just two points to access the immediate area to the site via the Sankey Trail through Alder Lane or Old Alder Lane. There are a few other local routes within relative proximity to the site which are traffic free; however these are not part of the National Cycle Network and are fragmented, i.e. there is a lack of an integrated network of routes.

7.3.2 Walkable Routes

Routes which lend themselves to walking have also been plotted with the cycle network to establish the existing active travel route offer in the study area, see Figure 7.3. The identified walkable routes consist of public rights of way (PRoW), shared-use paths, green spaces, parks and waterways. Minor roads have also been highlighted as these tend to be quieter routes which increase propensity to walking. AECOM has additionally plotted two areas where it is known that 20mph zones are to be implemented in St Helen's, broadly consisting of the Trees Estate Area and the Whites Estate Area. In limiting traffic speeds there is greater potential to encourage and support the uptake of walking and cycling in these areas.

[23] Merseytravel, Newton-le-Willows Interchange Full Business Case, 2014 - https://www.sthelens.gov.uk/media/3602/cpo_newton_fullbusinesscase.pdf

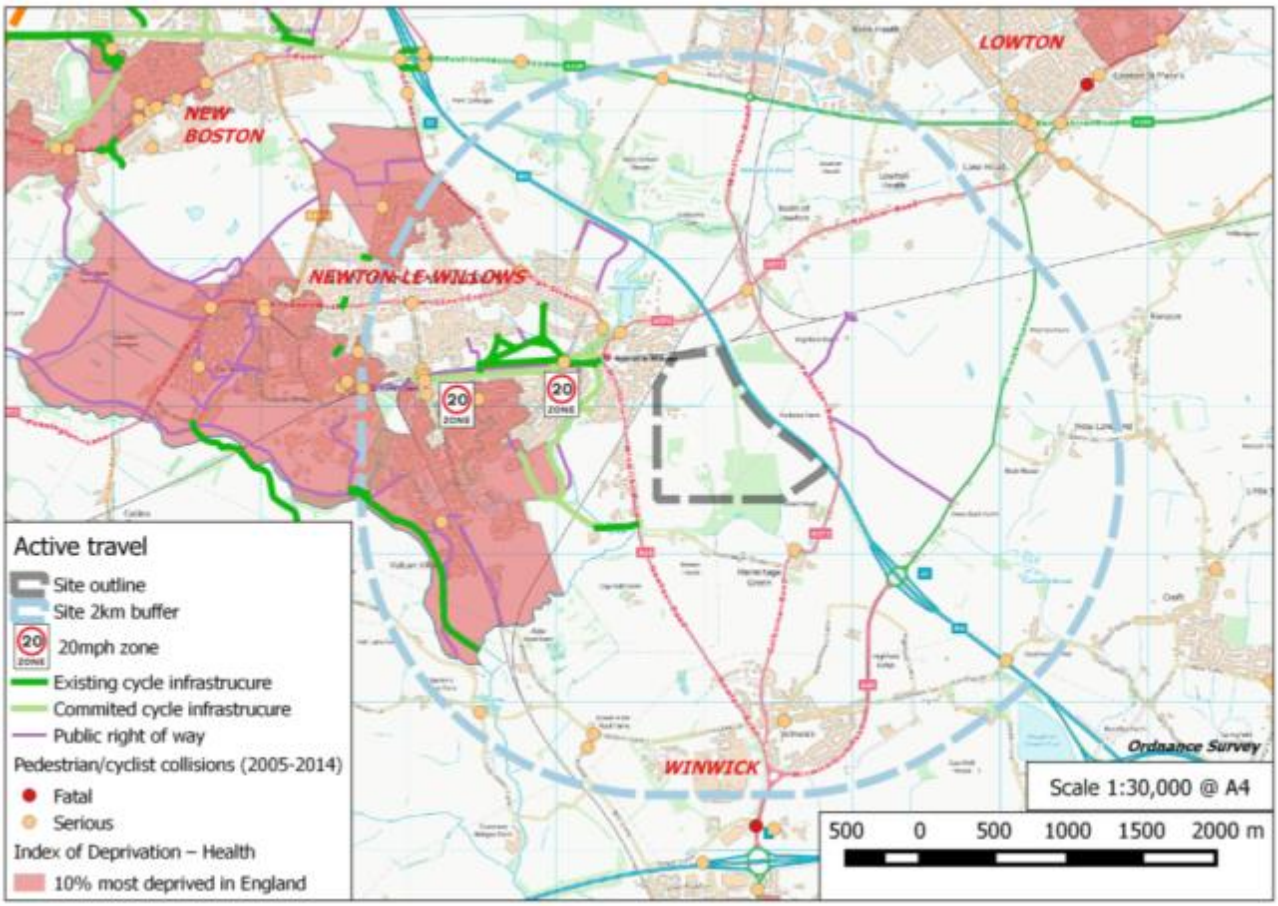


Figure 7.3 – Active Travel Network within vicinity of Parkside

Serious or fatal collisions involving a pedestrian or cyclist have also been plotted on Figure 7.3. It can be seen that over the 9 year period analysed there have been relatively few collisions around the proposed site. The vast majority of collisions have been serious in their severity and have occurred at major junctions. Whilst there is a cluster of collisions in the Earlestown station area, the introduction of 20mph zones should assist in mitigating collision risk. A 2km buffer has been plotted around the proposed site as this represents a reasonable walking distance for commuting. It can be seen that this catchment incorporates the residential areas of Newton-le-Willows, Wargrave and Vulcan Village to the west of the site and Winwick to the south, however, residential developments are relatively sparse to the north and east of the site with the M6 providing severance.

Active Travel Issues

- Fragmented cycle network within vicinity of the proposed site.
- Some severance for walking and cycling caused by the West Coast Mainline and the M6.
- Limited residential areas within a reasonable walking distance to the site for commuting.

7.3.3 Gap Analysis – Challenges and Opportunities

In plotting indices of multiple deprivation for health across the study area it can be seen that there are some areas within close proximity to the proposed site which fall within the top 10% most deprived in England. Providing an integrated active travel network across these areas could assist in improving the health of the local population. The provision of 20mph zones should assist in encouraging walking and cycling through reducing traffic speeds. An increase in the movement of HGVs in the area would be detrimental to encouraging walking and cycling, however, if certain routes are selected for these movements which utilise the main routes to the north and east of the site, this would avoid the residential areas to the west. However it is recognised that this is unlikely for other reasons.

7.3.4 Identification of Options

Potential funding pots for improvements to the active travel network include developer funding captured through Section 106 agreements, the Community Infrastructure Levy and DfT funding such as the upcoming Access Fund.

AECOM recommends discussion with teams within St Helens Council such as the Public Health Team, Road Safety Team and Development Control to explore potential funding pots for improvements to the active travel network.

7.4 Travel Times

AECOM has reviewed typical journey times from key population centres to/from Parkside. Table 7.3 illustrates that at present public transport journey times are largely unfavourable when compared to travel to Parkside by car. Whilst cycling presents a viable option for some it may not be suitable for significant numbers of employees due to the typical journey times and challenging nature of the existing network. Table 7.3 demonstrates that at present the site does not provide a reasonable choice of accessibility for those without access to a private car. Indeed should the site wish to encourage the use of a range of transport options to access the site due to parking availability restrictions or the aim to prevent local congestion at peak times/shift handovers the complete transport offer will need to be addressed.

Table 7.3 – Typical Journey Times by Mode

Typical Travel Times To/From Parkside* to Key Destinations			
To/From	**Car**	**Public Transport**	**Cycle**
Liverpool	30 mins	38 mins (train)	1 hr 39 mins
Manchester	29 mins	36 mins (train)	1 hr 32 mins
St. Helens	15 mins	23 mins (train)	34 mins
Warrington	13 mins	22 mins (1/2 buses)	26 mins
Wigan	18 mins	43 mins (1/2 buses)	42 mins

* 53°26'48.3"N 2°36'28.1"W

Note: Times taken from Google journey planner on 04/05/2016. Note that the car journey times are based on no congestion, public transport includes bus/rail and walking legs and the cycle time is based on the quickest, most direct route.

7.5 Summary

AECOM has reviewed the existing public transport and active travel network in the Parkside study area. There are issues and opportunities presented by the proposed Parkside development on the local network of services and routes. It is clear that there does need to be investment made in local transport provision to enable employees to access the site at the forecast time periods to allow the Parkside development to function. Improvements made to the local network would also benefit the local community in the vicinity of the proposed site in terms of reducing severance, improving accessibility and providing a network more conducive to active travel. The Meresytravel Bus Alliance and St Helens Bus Review process will during its regular review, provide an opportunity to enable bus improvements and better access to Parkside to be achieved.

Options Development

08

8. Options Development

8.1 Introduction

This section outlines options for small (1-3 trains per day), medium (4-8 trains per day) and large (9+ trains per day) logistics and rail freight interchanges. In total 5 options have been developed:

- 1 x Small
- 1 x Medium
- 2 x Large

Initially the methodology used for the economic modelling, CO^2 emissions assessment and the modal shift benefit assessment that feeds into the options appraisal will be explained. Then each option is outlined and assessed individually. Finally a separate assessment of policy compliance relevant to each of the options is outlined.

8.1.1 Economic Modelling

At this time only initial, indicative modelling has been undertaken in order to assess which options are economically viable. As such it should be noted that these figures will require refinement as the selected option is taken forward. In all cases the revenue and costs of the terminal to 2050 were assessed using 2014 prices. It is important to note further that all costs relating to the financing of the whole site's capital and operating costs were not assessed at this stage.

Only the income and cost of the intermodal terminal itself was assessed as part of this process. Any additional income from warehouse rent or additional services was not included.

Capital Cost Generation

Using industry standard prices for infrastructure, an approximate price range for each option was developed. This included the creation of low and high estimates for trackwork, as accurate pricing would require (for example) better topographical studies to understand the nature of the earthworks required. Similarly, the nature of the site (being a former colliery) means that there is a need for extensive geotechnical work to ascertain the risks to any new built infrastructure on the site and how these, if necessary, can be mitigated. An average cost between the high and low prices was taken as the total capital cost of the terminal, and depreciation was then applied to this value over the lifetime of assets and the terminal.

Operating Cost Generation

Utilising costs from similar terminals across Europe, it is possible to develop an operational cost model for the terminal, covering:

- Labour (including administration, gate staff and equipment operators)
- Equipment Maintenance
- Utilities & Fuel Use by the Terminal (such as road tractors and shunting locomotives)
- IT Costs

When combined with the depreciation costs of individual assets (such as the Rail Mounted Gantry Cranes) and the terminal's civil infrastructure (hardstanding etc.) this produces an indicative assessment of the costs of the terminal over the modelled period.

Income Generation

The income of the terminal was derived from a standard charge of £25 per container lifted, in line with industry norms. A "ramp up" period was built into the modelling process, wherein during the 1st year of operation (assumed to be 2022), only 25% of the expected traffic was delivered, rising to 50% in the 2nd year, 75% in the 3rd year and then reaching 100% of forecast traffic. Conservative assumptions were placed on train utilisation; 60 TEUs were received per train (which were converted into the number of containers for moving in

line with the industry distribution of 20' and 40' containers). In order to add further downward pressure on income to ensure robust conclusions, no increase in TEU numbers were forecast throughout the modelled period after the initial ramp up period. In reality, continued growth in line with population and GDP increases would be expected. As earlier stated, no rental income or additional value from terminal services (such as container storage) were considered at this initial modelling stage.

This means that the figures quoted in this section are erring on the cautious side, however this is prudent given the early stage of the project.

8.1.2 CO_2e Emissions Assessment

To calculate the CO_2e emissions for each option the following methodology has been used. Firstly the km saved for each option when rail movements are used has been calculated. This saving is based on the primary movements that are removed from the Strategic Road Network. A 160km journey length has been assumed for these primary movements. Once the saving has been calculated, a conversion factor of 0.91484kg (DEFRA, 2016) for every km travelled has been applied.

Once the road savings have been calculated the CO_2e emissions associated with the rail movements were calculated using conversion factors (DEFRA, 2016) and netted off the road savings. This provides the CO_2e emissions savings associated with each option.

The notation of CO_2e is used becasuse locomotives and trucks (along with many other emitters) produce a number of green house gasses in addition to carbon dioxide. Each of these gases has a different ability to heat the atmosphere, known as its global warming potential, which assesses this ability in relation to CO_2. For example, methane has a global warming potential of 4, meaning that its four times more powerful than CO_2 in causing global warming. Therefore emitting 1kg of methane is, in global warming terms, is the same as emitting 4kg of CO_2. As such, standard practice in assessing greenhouse gas emissions is to convert all GHG emissions into their CO_2 equivalent and therefore allowing studies to present a standard value that accounts for the true impact of those emissions, rather than listing each gas separately.

8.1.3 Mode Shift Benefit Assessment (Sensitive Lorry Miles)

To assess the benefits of a rail-linked logistics interchange over a road based logistics interchange at Parkside, mode shift benefit values have been used. This assessment uses a methodology developed by the Department for Transport that allows estimates of the benefit of removing a lorry mile from the road network in Great Britain to be calculated. This estimate provides a monetised value of the externalities associated with truck movements. The values cover the following externalities:

- Congestion
- Accidents
- Noise
- Pollution
- Greenhouse Gases
- Infrastructure
- Other (roads)
- Taxation
- Rail

In order to do this, it has been necessary to apply assumptions and established methodologies. These are laid out below as part of the calculation process.

Values

All calculations are conducted in line with the methodology of the Department for Transport Modal Shift Benefit Guide, as first determined in 2009[24] and updated for 2015 – 2020 in 2014.[25] What this means in practice is that all calculations are using 2015 prices to measure the estimated values of externalities in 2020. As the business case progresses, these will be updated as necessary.

[24] DfT, *Freight Mode Shift Benefits Values Technical Report*, (London, 2009) and DfT, *Freight Mode Shift Benefits Values User Guide*, (London, 2009)

[25] DfT, *Freight Mode Shift Benefit Values Technical Report: An Update*, (London, 2014).

Absolute Vehicle Numbers

Vehicle numbers for this analysis are based on the estimated primary, primary-local and secondary truck movements associated with each of the respective options (see Chapter 8). Primary local trips are the extra primary movements (assumed to be 20km in length) that are generated to transport containers on trunk movements to Parkside to a final destination not located on the Parkside site itself (e.g. Omega or Haydock).

Distance / Routing

The following distance and routing assumptions have been made for primary and primary – local movements:

Table 8.1 – Distance and routing for mode shift benefit assessment

Movement	Average Journey Distance (km)	Average Routing			
		Highway (high congestion)	Highway (low congestion)	A Road	Other
Primary	160[26]	120	40	-	-
Primary – Local	20	-	-	10	10

For primary movements an average journey of 160km has been assumed. This is the equivalent of a journey from a National Distribution Centre in the Midlands to Parkside where we expect some North West Regional Distribution Centres to be located. This is based on findings for double deck trailer average trip lengths from the Continuous Survey of Road Goods Transport (CSRGT) used as part of a cost-benefit model developed by the Logistics Research Centre at Heriot-Watt University[27].

These routing has been broken down into component segments as per the methodology laid out in the Modal Shift Benefit Technical Note, and their consequent values determined, before being multiplied by the number of vehicles movements to calculate the total externalities associated with each option.

[26] Double-Deck Trailers: A Cost-Benefit Model Estimating Environmental And Financial Savings - Logistics Research Centre, Heriot-Watt University

[27] Double-Deck Trailers: A Cost-Benefit Model Estimating Environmental And Financial Savings - Logistics Research Centre, Heriot-Watt University

8.2 Option 1

8.2.1 Indicative layout

Figure 8.1 below shows the indicative layout for the small terminal that is capable of handling 3 trains per day. The indicative floor space (square foot) of each warehouse is shown in Table 8.2.

Table 8.2 – Indicative floor space of each warehouse

Warehouse	Square foot (to the nearest 50,000 sq. ft.)
1	200,000
2	200,000
3	200,000
4	150,000
Total	**750,000**

Figure 8.1 – Indicative Layout – Option 1 (3 trains per day)

8.2.2 Rail access

Access to the site from the rail network is achieved off the Chat Moss line. In order to keep infrastructure costs down only a one directional spur into the site is built, so under this layout trains can only be received entering the site from the west. This enables movements on routes from the west (i.e. Liverpool) to enter the site directly off the Chat Moss line and movements from the South (i.e. Felixstowe, Southampton, London etc.) to enter the site from the West Coast Mainline via the Earlestown Junction. This single directional entrance is likely to cater for the majority of traffic but limits the site's flexibility.

8.2.3 Broad traffic generation

The total floorspace for this option (as outlined in Table 8.1) is 750,000 square foot. The broad traffic generation associated with this size of development is shown in Table 8.3.

Table 8.3 – Broad traffic generation – Option 1

Site Size	Operation	Daily HGV Trips			
		Primary	Primary - Local	Secondary	Total (incl. assumption)
750,000 sq. ft.	Road based	270	0	406	676
	Road and Rail (3 trains a day)	150	113	406	668

Overall it can be seen that there is a reduction in total daily trips of 8. While the overall decrease is small there is a reduction of 120 primary trips per day. This saving comes from our assumption, as outlined in section 6.6.1, that one freight train saves 40 HGV primary "trunk" haul movements. However it is also assumed that none of the secondary movements, i.e. Regional Distribution Centre to other local warehouses or direct to stores would be achieved by rail, these would therefore still need to be achieved by road. This indicates that rail trunk haul services result in a saving of significant numbers of HGVs on the M6 and other parts of the Strategic Road Network.

As well as still having around 150 road based trunk hauls movements there is also a need for the "last leg" road movements called "primary - local". This is where the containers are unloaded from the train and then taken an average of around 20kms to local businesses off of the Parkside site. This could be to industrial parks such as Omega North and South which are situated only 4km from the Parkside site. Omega North provides 3.1 million sq. ft. of mixed offices and distribution. With Omega South providing a further 2.7 million sq. ft. of floorspace for logistics and manufacturing uses[28].

8.2.4 Road access

Under this option, it is felt that the A49 may be able to cope with the traffic generated by the site provided some minor junction improvements are done towards the M62. Therefore the previous main entrance to the Colliery would be reinstated. If the floorspace of the site was to be expanded, it is felt that the site access via the A49 entrance would not be feasible.

Indicative costs associated with design and construction of this road layout (not including the cost of land) are outlined in Table 8.4.

Table 8.4 - Indicative costs of road layout – Option 1

	Indicative cost (£)
Preliminaries & Design	£ 353,500
Highway Construction	£ 1,732,500
Temporary Traffic Management	£ 35,000
Box Structure (Tunnel)	£ 0
TOTAL	**£ 2,121,000**

[28] Miller Developments - http://www.millerdevelopments.co.uk/omega-north.aspx

8.2.5 CO_2e Savings and Mode Shift Benefit

Please see Section 8.6 for a full high level environmental assessment for each of the four development options.

The CO_2e saved by this development due to the introduction of 3 train movements is outlined in Table 8.5.

Table 8.5 – CO_2e saving – Option 1

	CO_2e saved (tonnes)
Daily	22
Annually	6,458

The Modal Shift Benefit (£) associated with the reduction of 120 primary movement per day in the rail and road option in comparison to the road based option is outlined in Table 8.6.

Table 8.6 - Modal Shift Benefit (£) associated with the reduction in primary movement

	Modal Shift Benefit (£)
Daily	£ 8,370
Annually	£ 2,511,000

If the 113 additional 'Primary – Local' trips are included then the Modal Shift Benefit (£) is reduced. Table 8.7 outlines these reduced values. However in reality a proportion of these 'primary – local' trips would be to companies based on the Parkside site, therefore these movements would not affect the local road network.

Table 8.7 - Modal Shift Benefit (£) associated with the reduction in primary movement

	Modal Shift Benefit (£)
Daily	£ 6,230
Annually	£ 1,869,075

8.2.6 Economic viability assessment

Option 1 does not offer promising economic viability. 3 trains per day does not provide enough container throughput to cover the operating costs of a rail mounted gantry crane-based terminal. As such, this option is unlikely to recoup its initial capital expense and would require an ongoing subsidy to ensure continued operation. However cheaper build costs could be considered by using refurbished sections of track etc.

While the operation of a reachstacker instead of a rail mounted gantry crane is advantageous in terms of initial capital cost, the operational costs are slightly higher than for a rail mounted gantry crane. Therefore the operation of a reachstacker does not help to make option 1 more economically viable. Table 8.8 outlines the costs associated with the option for both a rail mounted gantry crane and a reachstacker.

Table 8.8 – Summary economic viability – Option 1 (RMG and reachstacker)

Handling Equipment	Initial Capital Cost	Annual Operating Costs	Annual Income (3 trains per day)
Rail mounted gantry crane	£15,101,036	£2,119,633	£1,665,000
Reachstacker	£12,162,636	£2,187,354	£1,665,000

The high capital costs of the large amount of trackwork required (it composes the majority of the trackwork required for option 2) help to make this option economically unviable, and as such it is not developed further in this study. Selected snapshots of the terminal's modelled cashflow when using an RMG for handling equipment are shown in Table 8.9.

Table 8.9 – Summary cashflow – Option 1 (RMG)

SMALL TERMINAL	*25%*	*50%*	*75%*	*100%*	*100%*	*100%*	*100%*	*100%*
2021	**2022**	**2023**	**2024**	**2025**	**2030**	**2035**	**2040**	**2045**
Revenue	£ 416,250	£ 832,500	£ 1,248,750	£ 1,665,000	£ 1,665,000	£ 1,665,000	£ 1,665,000	£ 1,665,000
Cost **-£15,101,036**	-£ 1,299,530	-£ 1,584,824	-£ 1,890,490	-£ 2,119,633	-£ 2,119,633	-£ 2,119,633	-£ 2,119,633	-£ 2,119,633
Net	-£ 883,280	-£ 752,324	-£ 641,740	-£ 454,633	-£ 454,633	-£ 454,633	-£ 454,633	-£ 454,633
Cumulative: **-£ 15,101,036**	**-£ 15,984,315**	**-£ 16,736,639**	**-£ 17,378,379**	**-£ 17,833,012**	**-£ 20,106,180**	**-£ 22,379,347**	**-£ 24,652,515**	**-£ 26,925,682**

(Percentage figures apply to the ramp up of the use of the terminal as outlined under 'Income Generation')

8.3 Option 2

8.3.1 Indicative layout

Figure 8.2 below shows the indicative layout for a medium terminal that is capable of handling 8 trains per day. The indicative floor space (square foot) of each warehouse is shown in Table 8.10.

Table 8.10 – Indicative floor space of each warehouse – Option 2

Warehouse	Square foot (to the nearest 50,000 sq. ft.)
1	250,000
2	200,000
3	300,000
4	100,000
5	150,000
Total	**1,000,000**

Figure 8.2 – Indicative Layout – Option 2 (8 trains per day)

8.3.2 Rail access

Rail access is provided from the Chat Moss line and in this option rail access is available from both west and east facing junctions which effectively offers a four-directional approach network. This maximizes the flexibility of the site. There are two handling tracks and one runaround loop in the core intermodal terminal providing sufficient capacity to handle 8 trains per day.

8.3.3 Broad traffic generation

The total floor space for this option (as outlined in Table 8.10) is 1,000,000 square foot. The broad traffic generation for a road based and road and rail based solution associated with this size of development is shown in Table 8.11.

Table 8.11 – Broad traffic generation – Option 2

Site Size	Operation	Daily HGV Trips			
		Primary	Primary - Local	Secondary	Total (incl. assumption)
1,000,000 sq ft.	Road based	361	0	541	902
	Road and Rail (8 trains a day)	40	300	541	881

Overall it can be seen that there is a decrease of 21 trips in total. In this option 320 primary movements are saved as a result of the 8 trains per day. An additional 300 'primary – local' movements are required to serve the 8 trains per day.

8.3.4 Road access

Due to the floorspace of the development, access via the A49 is not feasible for HGV's. This access will however still be reinstated for private car, public transport and active travel. Access for HGV's will be achieved from the A573 via a new access road under the M6.

Indicative costs associated with design and construction of this road layout are outlined in Table 8.12.

Table 8.12 - Indicative costs of road layout – Option 2

	Indicative cost (£)
Preliminaries & Design	£ 1,778,000
Highway Construction	£ 5,118,324
Temporary Traffic Management	£ 105,000
Box Structure (Tunnel)	£ 2,500,000
TOTAL	**£ 9,501,324**

8.3.5 CO_2e Savings and Mode Shift Benefit

The CO_2e saved by this development due to the introduction of 8 train movements is outlined in Table 8.13. Please see Section 8.6 for a full high level environmental assessment for each of the four options.

Table 8.13 – CO_2e saving – Option 2

	CO_2e saved (tonnes)
Daily	42
Annually*	12,515

The Modal Shift Benefit (£) associated with the reduction of 320 primary movement per day in the rail and road option in comparison to the road based option is outlined in Table 8.14.

Table 8.14 - Modal Shift Benefit (£) associated with the reduction in primary movement

	Modal Shift Benefit (£)
Daily	£ 22,320
Annually*	£ 6,696,000

If the 300 additional 'Primary – Local' trips are included then the Modal Shift Benefit (£) is reduced. Table 8.15 outlines these reduced values. However in reality a proportion of these 'primary – local' trips would be to companies based on the Parkside site, therefore these movements would not affect the local road network.

Table 8.15 - Modal Shift Benefit (£) with ''Primary – Local' movements included

	Modal Shift Benefit (£)
Daily	£ 16,614
Annually	£ 4,984,200

8.3.6 Economic viability assessment

The medium terminal has only got marginally increased infrastructure costs over the small and as can be seen, its annual income with 8 trains per day exceeds the annual operating costs of the terminal, ensuring long-term viability.

Table 8.16 – Summary economic viability of rail terminal– Option 2

Initial Capital Cost	Annual Operating Costs	Annual Income (8 trains per day)
24,994,084	£3,323,799	£4,440,000

However, the high capital costs still mean that the terminal is cumulatively in the red for a number of years, although this is finally cleared by 2046. It is worth re-iterating however that this estimate is based upon a high estimate of initial capital outlay and a conservative income stream, and that this date may well be brought further forward in future assessments due to more detailed work being undertaken or in reality through growth in container throughput and increased utilisation of intermodal rail services. Selected snapshots of the modelled cashflow are shown in Table 8.17.

Table 8.17 – Summary cashflow – Option 2

Option 2	*25%*	*50%*	*75%*	*100%*	*100%*	*100%*	*100%*	*100%*
2021	**2022**	**2023**	**2024**	**2025**	**2030**	**2035**	**2040**	**2045**
Revenue	£1,110,000	£2,220,000	£3,330,000	£4,440,000	£4,440,000	£4,440,000	£4,440,000	£4,440,000
Cost	-£24,994,084	-£1,446,905	-£1,839,661	-£2,824,436	-£3,323,799	-£3,323,799	-£3,323,799	-£3,323,799	-£3,323,799
Net	-£336,905	£380,339	£505,564	£1,116,201	£1,116,201	£1,116,201	£1,116,201	1,116,201
Cumulative:	**-£ 24,994,084**	**-£ 25,330,989**	**-£ 24,950,650**	**-£ 24,445,086**	**-£ 23,328,885**	**-£ 17,747,881**	**-£ 12,166,876**	**-£ 6,585,871**	**-£ 1,004,867**

(Percentage figures apply to the ramp up of the use of the terminal as outlined under 'Income Generation')

Given the assumptions used in generating this data, this is likely to be a conservative estimate which underplays the terminal's plausible cashflow. It is therefore recommended for further, more detailed study.

8.4 Option 3

8.4.1 Indicative layout

Figure 8.2 shows the indicative layout for a large terminal that is capable of handling 10 trains per day. The indicative floor space (square foot) of each warehouse is shown in Table 8.18.

Table 8.18 – Indicative floor space of each warehouse – Option 3

Warehouse	Square foot (to the nearest 50,000 sq. ft.)
1	250,000
2	200,000
3	300,000
4	250,000
5	250,000
Total	**1,250,000**

Figure 8.3 – Indicative Layout – Option 3 (10 trains per day)

8.4.2 Rail access

Rail access is provided from the Chat Moss line and in this option rail access is available from both west and east facing junctions which effectively offers a four-directional approach network. This maximizes the flexibility of the site. Three handling tracks and run around loop are available in the core intermodal terminal to allow for the extra capacity required. An additional 500m handling track siding is also provided to the east of the M6. It is felt that an alternative sector such as the automotive industry may suit this handling area.

8.4.3 Broad traffic generation

The total floor space for this option (as outlined in Table 8.18) is 1,250,000 square foot. The broad traffic generation for a road based and road and rail based solution associated with this size of development is shown in Table 8.19.

Table 8.19 – Broad traffic generation – Option 3

Site Size	Operation	Daily HGV Trips			
		Primary	Local	Secondary	Total (incl. assumption)
1,250,000 sq. ft.	**Road based**	450	0	676	1,126
	Road and Rail (10 trains a day)	51	375	676	1,101

Overall it can be seen that there is a decrease in total daily trips of 25. Due to the operation of 10 trains per day there is a large saving of 400 primary movements which will be removed predominately from the M6. However there are 375 additional 'primary – local' movements that will affect the local network.

8.4.4 Road access

Due to the floorspace of the development access via the A49 is not feasible for HGV's. This access will however still be reinstated for private car, public transport and active travel. Access for HGV's will be achieved from the A573 via the new access road under the M6.

Indicative costs associated with design and construction of this road layout are outlined in Table 8.20.

Table 8.20 - Indicative costs of road layout – Option 3

	Indicative cost (£)
Preliminaries & Design	£ 1,655,000
Highway Construction	£ 5,670,000
Temporary Traffic Management	£ 105,000
Box Structure (Tunnel)	£ 2,500,000
TOTAL	**£ 9,930,000**

8.4.5 CO_2e Savings and Mode Shift Benefit

The CO_2e saved by this development due to the introduction of 10 train movements is outlined in Table 8.21. Please see Section 8.6 for a full high level environmental assessment for each of the four development options.

Table 8.21 – CO_2e saving – Option 3

	CO_2e saved (tonnes)
Daily	49
Annually*	14,820

The Modal Shift Benefit (£) associated with the reduction of 400 primary movement per day in the rail and road option in comparison to the road based option is outlined in Table 8.22.

Table 8.22 - Modal Shift Benefit (£) associated with the reduction in primary movement

	Modal Shift Benefit (£)
Daily	£ 27,900
Annually*	£ 8,370,000

If the 375 additional 'Primary – Local' trips are included then the Modal Shift Benefit (£) is reduced. Table 8.23 outlines these reduced values. However in reality a proportion of these 'primary – local' trips would be to companies based on the Parkside site, therefore these movements would not affect the local road network.

Table 8.23 - Modal Shift Benefit (£) with 'Primary – Local' movements included

	Modal Shift Benefit (£)
Daily	£ 20,768
Annually	£ 6,230,250

8.4.6 Economic viability assessment

The large terminal is economically sound in terms of its operation however with the considerably higher initial capital costs it takes a long time to pay off. As such the terminal will not have paid off its capital costs entirely until 2057. This is 11 years later than option 2.

Table 8.24 – Summary economic viabilityof rail terminal– Option 3

Initial Capital Cost	Annual Operating Costs	Annual Income (10 trains per day)
£35,642,306	£4,450,752	£5,550,000

However, this is built upon the assumption of revenue only being achieved through the movement of containers on and off a train. In reality other services can be offered to gain additional revenue allowing the initial capital cost to be recouped sooner. Selected snapshots of the terminal's modelled cashflow are in Table 8.25.

Table 8.25 – Summary cashflow – Option 3

Option 3		*25%*	*50%*	*75%*	*100%*	*100%*	*100%*	*100%*	*100%*
	2021	**2022**	**2023**	**2024**	**2025**	**2030**	**2035**	**2040**	**2045**
Revenue		£ 1,387,500	£ 2,775,000	£ 4,162,500	£ 5,550,000	£ 5,550,000	£ 5,550,000	£ 5,550,000	£ 5,550,000
Cost	**-£ 35,642,306**	-£ 1,584,378	-£ 2,514,173	-£ 3,773,926	-£ 4,450,752	-£ 4,450,752	-£ 4,450,752	-£ 4,450,752	-£4,450,753
Net		-£ 196,878	£ 260,827	£ 388,574	£ 1,099,248	£ 1,099,248	£ 1,099,248	£ 1,099,248	£ 1,099,247
Cumulative:	**-£ 35,642,306**	**-£ 35,839,184**	**-£ 35,578,357**	**-£ 35,189,782**	**-£ 34,090,535**	**-£ 28,594,297**	**-£ 23,098,060**	**-£ 17,601,822**	**-£12,105,585**

(Percentage figures apply to the ramp up of the use of the terminal as outlined under 'Income Generation')

As such this option is suitable for further study, should factors aside from economic viability support its implementation.

8.5 Option 4

8.5.1 Indicative layout

Figure 8.4 shows the indicative layout for a large terminal that is capable of handling 12 trains per day. The indicative floor space (square foot) of each warehouse is shown in Table 8.26. For this option it has been assumed that the land to the east of the M6 is constrained only by the Wigan boundary and the A579.

Table 8.26 – Indicative floor space of each warehouse –Option 4

Warehouse	Square foot (to the nearest 50,000 sq. ft.)
1	350,000
2	200,000
3	300,000
4	350,000
5	300,000
6	200,000
7	250,000
8	350,000
9	500,000
10	300,000
11	200,000
12	200,000
13	150,000
14	300,000
15	500,000
16	300,000
Total	**4,500,000**

Figure 8.4 - Indicative Layout – Option 4 (12 trains per day)

8.5.2 Rail access

Rail access is provided from the Chat Moss line and in this option rail access is available from both west and east facing junctions which effectively offers a four-directional approach network. This maximizes the flexibility of the site. In this option the two receptions sidings directly before the core intermodal terminal (east of the M6) will be used to accept trains approaching from the south and west. These reception sidings are capable of holding a 775m train clear of the points accessing the site. The two reception siding to the west of the M6 will be used to accept trains approaching from the north and south and can also hold a 775m train clear of the points. However trains approaching from these directions will need to be manoeuvred into the core handling area by either running the locomotive around and pulling the train in, or reversing it.

This means that at no point is access to the site blocked enabling trains to arrive from the north and east while a train that has arrived from the south or the west is waiting to be accepted into the handling tracks (or vice versa).

In this option the core handling area is able to serve four full length 775m trains at one time with one of the handling tracks left clear to allow locomotives to run around where required. This provides an operational benefit and saves time as trains do not need to be split for handling.

8.5.3 Broad traffic generation

The total floor space for this option (as outlined in Table 8.26) is 4,500,000 square foot. The broad traffic generation for a road based and road and rail based solution associated with this size of development is shown in Table 8.27.

Table 8.27 – Broad traffic generation – Option 4

Site Size	Operation	Daily HGV Trips			
		Primary	Local	Secondary	Total (incl. assumption)
4,500,000 sq. ft.	**Road based**	1,622	-	2,433	4,055
	Road and Rail (12 trains a day)	1,142	450	2,433	4,025

Overall it can be seen that there is a reduction in total daily trips of 30. Due to the operation of 12 trains per day there is a large saving of 480 primary movements which will be removed predominately from the M6. However there are 450 additional ‘primary – local’ movements that will affect the local network.

8.5.4 Road access

Due to the floorspace of the development (4,500,000 sq. ft.) access for HGVs via the A49 is not suitable due to the traffic volumes. However this access will still be reinstated for private car, public transport and active travel.

The main site entrance for HGVs will be off the A579 between warehouse 15 and 16 (Figure 8.4). A new demand responsive signalised junction will be required due to the high traffic numbers, however further work will be required to understand the exact specification of the junction. Access will also be provided from the north off the newly aligned A573. However like the access from the A49 this will be reserved for private car, public transport and active travel. Another new junction is also required to link the newly aligned A573 to the A579. However due to lower traffic volumes a roundabout may be more suitable. However further work will be required to understand the exact specification of the junction.

A tunnel under the M6 is required to link the site to the east and west of the M6 (Figure 8.4). This tunnel has been positioned away from the Chat Moss railway line to reduce the challenges and conflicts

Indicative costs associated with design and construction of this road access are outlined in Table 8.28.

Table 8.28 - Indicative costs of road layout – Option 4

	Indicative cost (£)
Preliminaries & Design	£4,929,854
Highway Construction	£9,044,269
Temporary Traffic Management	£105,000
Box Structure (Tunnel)	£2,500,000
Roundabout (Linking A573 and A579)	£3,000,000
Demand responsive signalised junction (A579 and Parkside site)	£5,000,000
Duelling of A579 to M6 J22	£5,000,000
TOTAL	**£29,579,122**

8.5.5 CO_2e Savings and Mode Shift Benefit

The CO_2e saved by this development due to the introduction of 12 train movements is outlined in Table 8.29.

Table 8.29 – CO_2e saving – Option 4

	CO_2e saved (tonnes)
Daily	54
Annually*	16,200

The Modal Shift Benefit (£) associated with the reduction of 480 primary movement per day in the rail and road option in comparison to the road based option is outlined in Table 8.30.

Table 8.30 - Modal Shift Benefit (£) associated with the reduction in primary movement

	Modal Shift Benefit (£)
Daily	£ 33,480
Annually*	£ 10,044,000

If the 450 additional 'Primary – Local' trips are included then the Modal Shift Benefit (£) is reduced. Table 8.31 outlines these reduced values. However in reality a proportion of these 'primary – local' trips would be to companies based on the Parkside site, therefore these movements would not affect the local road network.

Table 8.31 - Modal Shift Benefit (£) with ''Primary – Local' movements included

	Modal Shift Benefit (£)
Daily	£ 24,921
Annually	£ 7,476,300

8.5.6 Economic viability assessment

The large terminal is economically sound, with the higher throughput making better use of the terminal equipment. As such the terminal will have paid off its capital costs entirely by 2044, 2 years earlier than the option 2.

Table 8.32 – Summary economic viability of rail terminal– Option 4

Initial Capital Cost	Annual Operating Costs	Annual Income (12 trains per day)
£38,899,641	£ 4,766,869	£6,660,000

However, this is built upon the high assumption of 12 trains per day all offering 60 TEU consistently throughout the terminal's lifespan, and this assumption would need to be better tested to ensure a robust context for the operational costs to be calculated from. Selected snapshots of the terminal's modelled cashflow are in Table 8.33.

Table 8.33 – Summary cashflow – Option 4

Option 4	*25%*	*50%*	*75%*	*100%*	*100%*	*100%*	*100%*	*100%*	*100%*
	2021	**2022**	**2023**	**2024**	**2025**	**2030**	**2035**	**2040**	**2045**
Revenue		£ 1,665,000	£ 3,330,000	£ 4,995,000	£ 6,660,000	£ 6,660,000	£ 6,660,000	£ 6,660,000	£ 6,660,000
Cost	**-£ 39,118,444**	-£ 1,697,394	-£ 2,706,219	-£ 4,045,001	-£ 4,766,869	-£ 4,766,869	-£ 4,766,869	-£ 4,766,869	-£ 4,766,869
Net		-£ 32,394	£ 623,781	£ 949,999	£ 1,893,131	£ 1,893,131	£ 1,893,131	£ 1,893,131	£ 1,893,131
Cumulative:	**-£ 39,118,444**	**-£ 39,150,838**	**-£ 38,527,057**	**-£ 37,577,058**	**-£ 35,683,927**	**-£ 26,218,273**	**-£ 16,752,618**	**-£ 7,286,964**	**£ 2,178,690**

(Percentage figures apply to the ramp up of the use of the terminal as outlined under 'Income Generation')

As such, this option is suitable for further study, should factors aside from economic viability support its implementation.

8.6 Potential Environmental Impact

This section of the report identifies the broad environmental constraints and opportunities associated with interchange development at the Parkside location. The potential impacts identified are purposefully 'high level', and do not relate to any specific development scenario. However, we have made some assumptions about the potential impacts at different scales of growth when this could be an important factor in the generation of effects..

The following environmental factors are considered in the assessment with a summary of potential impacts outlined in Table 8.34:

- Heritage
- Agricultural land
- Flood risk and water
- Landscape
- Biodiversity
- Air quality and transport
- Amenities
- Climate change

Table 8.34 - Potential environmental impacts

Factor	Potential impacts including mitigation
Heritage	There are several listed heritage assets within or adjacent to the site. This includes the following: St. Oswalds Well Scheduled Ancient Monument, Woodhouse Farmhouse (Grade II), Woodhouse Barn (Grade II) and Huskisson Memorial (Grade II). The extent of impacts upon these assets and their setting would be dependant upon the scale, location and design of development. Potential impacts on the setting of these assets are unlikely to be avoidable, but mitigation ought to ensure that the impacts are managed. Vegetation screening, for example, may safeguard the heritage assets by reducing visual permeability to the warehousing and the rail line. Expansion of development to the east of the M6 could potentially have a direct effect on the setting of Huckissons Memorial. This may be more difficult to mitigate.
Agricultural land	According to the St. Helens Local Plan Scoping Report the whole site is classified as Grade 3 agricultural land. However, this map is high level. More precise information was gathered in the Environmental Statement 2006 (Table 9.1, page 252) which suggests that of the land classified as having agricultural potential, 19% is categorised as ALC Grade2, 29% as ALC Grade 3a, and 15% as ALC Grade 3b. However, 24% of the whole site is non-agricultural land[29], and as such development on this area is unlikely to have negative effect. The majority of the north-west corner of the site, and a section of the south-west corner, fall within ALC Grade 2. There is ALC Grade 3a in the west and north and ALC Grade 3b along the eastern edge. Expansion of warehousing units to the east of the M6 would also lead to permanent loss of agricultural land associated with three operational farms (Parkside Farm, Rough Farm and Highfield Farm). The only way to minimise impacts would be to avoid higher quality agricultural land, and / or compensate for loss by contributing to agriclultural improvements elsewhere in the borough or supporting allotment creation.
Flood risk/ Water	The whole western part (of the M6) of the site area is located within Flood Zone 1[30] apart from the southern edge which borders a drainage ditch. This border is located within Flood Zone 2. The increase in impermeable surfaces associated with development is likely to increase surface run off, however mitigation is likely to be effective in managing flood risk. Flood risk is unlikely to be a major issue. SUDs could help to reduce surface water run-off. Fluvial flood rist to the east of the M6 is negligible. However, there are tracts of land at risk of surface water flooding to the east of the A579. Land to the east of the M6 is located within a Nitrate Vulnerable Zone. Change of land use from agricultural could therefore have positive effects in terms of reducing the likelihood of nitrates leaching into groundwater or surface water run off (provided that construction did not disturb nitrates already gathered in the soils). Though warehousing could generate pollution incidents, it is typically easier to remedy a point-specific source since its point of origin can be relatively easily identified.
Landscape	The site (to the west of the M6) comprises of grass, shrubbery and woodland of various typologies and densities[31]. There is a section of previously developed, brownfield land, and agricultural land which is currently being used in the north-east section of the site. The site can be considered as urban fringe. The whole site is located within Green Belt land. Effects on the landscape are probable, but coalescence unlikely to be a major issue with structural landscaping. Effects upon landscape character would depend upon the precise scale, location and design of development, with larger buildings more likely to intrude. The effects of development on coalescence are more likely as the scale of development increases, particularly if development included the east of the M6 (where effects on the rural character of the Town of Lowton and Lowton Heath would be more prominent).

[29] Parkside Strategic Rail Freight Interchange, Volume 2 Environment Statement 2006, Table 9.1, Page 252.
[30] Envrionment Agency- Whats in Your Backyard?, Available: http://apps.environment-agency.gov.uk/wiyby/ , Accessed: 17/06/16
[31] Magic Map Application, Available: http://magic.defra.gov.uk/MagicMap.aspx, Accessed: 17/06/16,

Factor	Potential impacts including mitigation
Biodiversity	A significant number of protected species have been recorded on the site, with the potential for more to be expected[32]. Various habitat have also been recorded. Development is likely to result in the loss of open ground, including some bare areas, grasslands and farmland. These impacts will be experienced at the construction phase of the development, and will be permanent impacts. Mitigation such as structural woodland, the creation of drainage swales, and grassland improvement are likely to be effective. There is an SSSI (Highfield Moss)[33] in the area. Development to the west of the M6 would not be anticipated to have a major impact upon the SSSI either during the construction or operational phase of development. It is likely that habitat enhancement and buffers could be applied to ensure potentially negative effects are minimal. Development to the east of the M6 would involve the loss of farmland (which is under stewardship and may therefore have some benefits for local species such as birds) adjacent to the Highfield Moss SSSI. A number of farmland birds and migrating birds have been recorded on the SSSI – disturbance to surrounding areas could have a knock on effect on birds feeding. The main threats to the moss are eutrophication, burning and drying out. Changing the land use from agricultural use could reduce the threat of eutrophication, but conversely, may create its own issues with regards to drainage and disturbance (e.g. noise during construction and operation of both warehouses and a rail line). There would certainly be a need to engage with Natural England if development was to involve these areas.
Air quality / transport	Under any scenario, construction of the interchange and warehousing is likely to temporarily increase dust emissions. Standard mitigation measures could be employed to reduce potential impacts though. The M6 AQMA[34] intersects the site. Development could be located so as to ensure that site occupiers are segregated from the AQMA and buildings would need to be designed appropriately (therby reducing the possibility for exposure to poor air quality). Under the Parkside Strategic Rail Freight Interchange Environmental Statement Vol 2[35] the predicted concentrations of nitrogen dioxide, PM10 particulates and sulphur dioxide for a worse case, 'with development' scenario result in only a slight increase of air pollutants which is not thought to require mitigation. In the wider area, southbound traffic could potentially use the A49 to access the site, which would generate increased traffic thorugh Newton-le-Willows. This could have negative effects on air quality in this area, part of which (high street) is designated as an AQMA. These effects would be dependant upon access to the site. New points of access could help to reduce impacts on air quality further afield if routes through town and district centres are reduced (for example, a link road connecting the A579 with the site would give direct access to the site from Junction 22 both northbound and southbound. This could offset the amount of traffic using local roads).
Amenity	According to the Parkside Strategic Rail Freight Interchange Environmental Statement Vol 2, development on the site would result in noise levels exceeding the Noise Insulation Regulations (1975) by 2030 at the majority of receptors on the site[36]. There is potential for effects upon the amenity of existing residents. As well as direct effects from warehousing itself, an increase in traffic movements on the A49 and the A573 and additional rail links through the site are also likely to present the potential for adverse effects upon amenity. The precise effects of any development wil ultimately depend upon the scale, design and operation of the site. Noise pollution is likely during construction and operations, but mitigation measures could be secured. For example, resitrctions to the time of construction activities, limits on the use of lights and operations at certain times, the planting of noise screens such as woodland.

[32] Parkside Strategic Rail Freight Interchange, Volume 2 Environment Statement 2006, Page 150.
[33] Magic Map Application, Available: http://magic.defra.gov.uk/MagicMap.aspx, Accessed: 17/06/16
[34] St Helens Council, Air Quality Management Areas, Available: https://www.sthelens.gov.uk/media/2843/air_quality_management_areas_-_booklet.pdf Accessed: 17/06/16
[35] [35] Parkside Strategic Rail Freight Interchange, Volume 2 Environment Statement 2006, Page 261.
[36] Parkside Strategic Rail Freight Interchange, Volume 2 Environment Statement 2006, Page 311.

Factor	Potential impacts including mitigation
Climate change	The development of a railway interchange and warehousing space is likely to contribute to an increase in carbon emissions. In general, the larger the scale of development, the greater the increase in carbon emissions. However, emissions are likely to be offset by the use of rail instead of road transport of freight. The amount of carbon savings would correspond to the capacity and efficiency of the rail interchange, so it is not necessarily the case that a larger development would lead to the greatest net change in carbon emissions.

8.7 Policy compliance

Although UK Government policy now assigns a priority to SRFIs – there remains a shortage of terminal capacity, especially for intermodal traffic across key areas of the country. The recent Transport for the North Freight and Logistics Strategy (2016) referred to the recommendation to develop 50ha of rail and / or water connected Multimodal Distribution Parks (MDPs) per year in the North of England.

With respect to option 2-4, these configurations do qualify for inclusion as a SRFI Terminal as set out in section 2.3.1 of this report and as such would be subject to the planning process as set out for National Significant Infrastructure Projects.

Due to the capacity of option 1 in terms of the number of trains received (3 per day) it does not classify as a SRFI. However this does not mean to say that this does not comply with policy. There is a clear justification for increasing rail freight terminal capacity founded in policy at both a national and regional policy level.

8.8 Pros and Cons of the Rail Terminal being on the West or East of the M6

As shown in options 1 – 4 it is technically feasible to develop the site on both the west and east of the M6. This section compares the pros and cons of locating the core rail freight terminal on the west or east of the M6. The comparison is outlined in Table 8.35.

Table 8.35 – Comparison of the pros and cons of locating the core rail freight terminal on the west or east of the M6

	WEST (Pro)	WEST (Con)	EAST (Pro)	EAST (Con)
Rail Access	Can handle traffic from all four directions via use of west side reception siding loop.	Requires reception sidings in terminal to accommodate trains from west / south access approach track is of insufficient length to accommodate a reception siding prior to terminal without blocking west reception loop siding.	Can handle traffic from all four directions via use of west side reception loop. Approach track from west / south & western Loop – can double up as reception siding – so terminal footprint on east side can be smaller than west side. Reception sidings for north / east approach traffic for terminal on east side can be eliminated as West side reception sidings can fulfil this role and for south / east traffic approach track can act as reception siding and still allow west side reception sidings to function while train is paused prior to entry to terminal.	No direct north connection without use of western side reception loop, SSI prevents possible connection alignment.
Broad Traffic Generation –	N/A – **Not related to spatial location of terminal.**			
Road Access (Dependent on Development Phasing)	Allows for A49 to be used at start up – but requires a box tunnel to be constructed for subsequent stages for site to reach volumes required for financial viability.	Requires box tunnel to connect east side and west side to achieve viable levels of development and to mitigate traffic impact on local highway network.	Allow for re-alignment of A573 and stopping up of A573 and avoidance of use of A49 for initial stage of development.	Requires box tunnel to connect to west side to achieve viable levels of development.
Environment	Lower requirement for amount of Green Belt release.		Allows for the majority of the rail activities to be away from residential areas and for all HGV road access to be via A579 (M6 J22) from start up.	Higher requirement for amount of Green Belt release.

Warehouse Development Space		Smaller amount of development space as requirement for terminal site needs to be accommodated within site footprint.	Allows higher amount of development space as site foot print on east side is larger.	
Economic Viability Assessment	A financially viable terminal can be established on the west side with the medium option and large option. However this does not include the potential cost of rerouting overhead power cables.		Site size and location allows for a larger amount of on-site development space.	Infrastructure costs higher than for west side terminal and warehousing site and higher in early stages of development. (Diversion and stopping up of A573).

8.9 What has Changed Since the Last Planning Application?

Since the withdrawal of the Prologis / Astral proposal in July 2010, which was in the main due to the onset of the financial crisis and the additional risk and uncertainty that this caused, there have been a number of significant developments which have occurred which are relevant to the deliverability of a SRFI at Parkside:

- **Policy guidance** – Guidance has been developed including the National Networks National Policy Statement (2015), associated Development Consent Order process and the Strategic Rail Freight Interchange Guidance (2011) which support the development of such sites.

- **Liverpool City Region** – The Liverpool City Region Growth Deal was announced on July 7th 2014 and allocated over £232m of resources to the area. The Growth Deal focuses on transport and skills projects which will support the city region's ambitions to create a freight and logistics hub serving an expanded Port of Liverpool. A Transport Plan for Growth was developed by the Liverpool City Region Combined Authority and was released in 2015 which outlines five strategic projects. One of the five strategic projects at the heart of the Transport Plan for Growth is to create a freight and logistics hub.

- **Transport for the North (TfN)** - The Sub Regional Transport Body Transport for the North (TfN) has been established and the TfN Freight and Logistics Strategy published. The strategy recommends that 50ha of Multimodal Distribution Parks are required and innovative financing methods should be introduced to assist the market in bringing forward rail connected logistics sites.

- **Network Rail** – A new 'virtual route' for freight and national passenger operators will be introduced as Network Rail's ninth operational route. The route is designed to help Network Rail implement the Shaw Report recommendations that it become more customer-focused and route-led.

- **Rail freight forecasts** - Intermodal rail freight is forecasted to increase by 570% from 6.4 billion tonne/kms in 2011 to 42.9 billion tonne/kms in 2043. The establishment of Parkside as a rail freight interchange will help to support this forecast with some of the required capacity.

- **Corporate Social Responsibility (CSR)** - has continued to increase especially among larger firms. This increases the attractiveness of the Parkside site with regards to its sustainable rail freight offer.

- **Infrastructure improvements** - There have been associated improvements in area such as the investment in Newton – Le – Willows Station Interchange. Also the Chat Moss Line has been completely electrified.

However the main barrier to overcome in delivering a SRFI remains the substantial cost of the rail infrastructure and connection costs. In the case of the Parkside site the delivery of the required sustainable road access to support a sufficiently sized development site to provide a viable business case is also likely to be a significant cost. Deliverability is likely to remain challenging, as will be the requirement for innovative financing to bridge the financial gap between a road based development and a rail based development in the absence of a 'rail premium' which the market is prepared to pay.

It is recommended that as part of the development of the business case for the site that discussions are opened with Transport for the North and the Department for Transport for the Parkside site to act as a pilot project, in which to bring forward an innovative rail connection funding package, to reduce the risk to the developer and to flatten the required financial profile for this scheme. In so doing, it is this approach which will make the difference in improving the likelihood of this site being developed with the optimum rail / road connections that this strategic site offers for the support and development of the Liverpool City Region and North of England logistics sector.

Conclusions and Recommendations

09

9. Conclusions and Recommendations

9.1 Transport and Planning Policy Assessment

There is clear policy justification for the development of Parkside into a Logistics and Rail Freight Interchange as part of a network of international intermodal terminals. On a European level the *EU Road Map to a Single European Transport Area (2011)* sets out the vision for transport in Europe over the next 40 years. The overall goal is to achieve a 60% reduction of transport emissions by 2050. The Commission sets out some key goals to be achieved in relation to emissions reduction in the freight and logistics sector:

- Achieve essentially CO^2-free city logistics in major urban centres by 2030.
- 30% of road freight over 300 km should shift to other modes such as rail or waterborne transport by 2030, increasing to more than 50% by 2050. This should be facilitated by efficient and green freight corridors and appropriate infrastructure developments.
- Ensure that all core seaports are sufficiently connected to rail freight.

In order to achieve this it is necessary to have a network of efficiently and effectively designed inland terminals. During the development of this report the referendum was held with the decision to leave the EU. It is much too early to factor in any possible changes in policy as a result of this vote. But it is likely that any UK Government will continue to work towards more sustainable transport, so the sentiment of this White Paper is still relevant. Likewise, it is considered that there is still going to be strong transport and economic links to Europe even if the UK is no longer an EU member.

As far as national and local policy is concerned, the Parkside site itself is named specifically in the Transport for the North Freight Strategy and Liverpool SUPERPORT as a site suitable for consideration as a rail freight interchange. In addition since the previous developer interest, major policy developments such as the NPSNN (2015) and Liverpool City Region Freight and Logistics Hub have all strengthened the policy justification for the development.

It is recommended that St. Helens, Wigan and Warrington Councils discuss their ideas for meeting the range of sustainable freight policy requirements. There is currently no rail freight terminal in any of the three areas capable of serving the needs of the local population and industry. It is believed that one “purpose-built” rail terminal could serve the three councils and the wider city regions, and help to reduce the long distance road trunking movements on busy routes such as the M6 and M62. As well as reducing congestion and improving journey time reliability it would result in reductions in carbon dioxide and other pollutants as rail freight is 76% less polluting than road freight. Through cross border collaboration between the local authorities, the development of the required case for an area wide mitigation package of infrastructure improvements could be brought forward in conjunction with Highways England to support the development of Parkside and the wider development aspirations of Wigan and Warrington Councils.

There is a population of over 1 million people within a 20 kilometre radius of the Parkside catchment area with no other intermodal terminal competing for this potential customer base. Although Port Salford will eventually have some overlap with the Parkside catchment area, the planned growth in jobs and population of parts of Greater Manchester and Warrington will more than compensate for this.

9.2 Market Demand and Supply Assessment

From industry consultation it is clear that there is more than enough demand to support a SRFI in the North West, with Parkside regarded as the best placed site to satisfy this need. This narrative is evidenced through the positive findings from the workshop, online survey and one-to-one discussions presented throughout this report.

Indeed we have consulted with at least two companies who would be seriously interested in running the intermodal terminal at this site.

9.3 Rail Access

The opportunities for rail access from the site are second to none in the North West and also nationally with access to the West Coast Mainline and Chat Moss line easily achievable. This allows train movements to/from the north, south, east and west to be catered for at the site provided the required internal rail layout is implemented.

Despite the proximity of access to these lines there are potentially restrictions on the train paths available for freight. The West Coast Mainline is the premier rail freight artery in the country running from London to Glasgow and hence there is always strong demand for train paths on this route. The need for capacity should be investigated further once the implications of HS2 are clear as potentially extra capacity for freight should be available once many passenger trains are transferred to the new railway.

Nevertheless based on current evidence it is likely that 8 trains can be feasibly serviced by Parkside in the medium term. We would also recommend early formal engagement with Network Rail and Rail North to establish the viability of paths to the forecast destinations in a pre and post HS2 environment within the current and future passenger franchises. The opportunity for early engagement with Rail North and Network Rail provides the potential for better planning and delivery of the required capacity for freight in the North of England.

Key recommendations:

- Based on current evidence it is likely that 8 trains can be feasibly serviced by Parkside in the medium term.
- Early formal engagement with Network Rail and Rail North is required to establish the viability of paths to the forecast destinations in a pre and post HS2 environment within the current and future passenger franchises.

9.4 Road Access

Our transport analysis has confirmed that road access is potentially good with the site in relatively close proximity to the M6 (J22) and M62 (J9) allowing access to the Strategic Road Network at around 2 miles from Parkside. However there are junction capacity issues to be overcome at three junctions on the A49 at Winwick leading to J9 of the M62. From our engagement with Highways England, the development of the site to accommodate a development of up to 1 million square feet, 8 trains per day (Medium Option) could be accommodated within the existing motorway network taking into account proposed infrastructure developments as part of RIS 1.

It has been concluded that the western part of the Parkside site is capable of supporting a small development on its own but there is a significant rider to this as outlined below.

To assist in the build-out and viability of the development, up to 750,000 sq. ft. could be supported (subject to detailed analysis) with access via the A49, providing three main sets of mitigation measures are made on the A49, land is safeguarded for rail and a road access is provided under the M6 to the eastern side and through to the A579. This development should only take place in the context of an agreement to safeguard land for the necessary rail and road infrastructure on the western and potentially eastern sides, to ensure that the build-out does not stymie future development and especially should consider the need for sustainable transport. Any future masterplan for the site would have to allow for the land safeguarded for the rail and road infrastructure. This masterplan should consider Highways and Traffic Management implications including a Traffic Management Plan and wider environmental issues which have not been covered in this brief.

The site could support a larger scale development (12 trains a day) by utilisation of the eastern side of the site. The eastern side could be used for the core rail freight terminal or additional intermodal sidings. It could also be used for other traffics such as automotive or express parcels. In addition to mitigation work on the A49, once traffic levels reach an agreed level, HGV access for land both west and east of the M6 must only be permitted via the east and a new link road to the M6 J22 via a new junction on the A579.

With the commencement of RIS 2 planning process for the period 2020-2025, it is recommended that early engagement with Highways England is made concerning accommodating further growth including utilising the land to the east of the M6. However given capacity constraints along the A49, and as a result of other

developments likely to come forward in the vicinity of M62 J9 and M6 J23, a development of a greater size than the small option would require a direct access to the M6 at J22. In this event based on discussions with Wigan and Warrington Councils, it is likely that a weight restriction would be required on the A579 north of J22 in order to prevent HGV movements northbound to the A580 through Lowton Village.

Key recommendations:

- The development of the site to accommodate a development of up to 1 million square feet, 8 trains per day Medium Option could be accommodated within the existing motorway network taking into account proposed infrastructure developments as part of RIS 1, notwithstanding highways and environmental constraints related to a sole vehicular access via the A49.
- To assist in the build-out and viability of the development, up to 750,000 sq. ft. could be supported (subject to detailed analysis) with access solely via the A49 providing:
    - Three main sets of mitigation measures are made on the A49.
    - Land is safeguarded for rail to ensure that later phases are not stymied.
    - Road access is provided under the M6 to the Eastern Side and through to the A579 to service all development following the first phase, and at second phase and beyond, to re-route HGV traffic via the eastern part of the site. Domestic (cars) traffic serving the west side would continue to access via the A49.
    - Environmental and heritage concerns are addressed and appropriate mitigation measures are introduced to ameliorate any adverse impacts on the site and neighbouring communities.
    - Masterplanning proves deliverability of the whole site (east – west combined development).

9.5 Green Belt Implications

With regards to putting forward evidence for the release of Green Belt land under exceptional circumstances, it is fundamentally crucial for the delivery of a viable SRFI, that land on the west and east sides of the M6 is included for future development, including the associated road access to the A579. Without the required release, the market attractiveness, operational efficiency and financial viability of a SRFI will be adversely affected.

We would also recommend that as part of the SRFI development, an initial rail connection to provide for access from the west (and ideally also to the east) is installed on the alignment for the intermodal rail terminal. This would provide a basic facility allowing construction materials to be transported to the site by rail thereby making a substantial mitigation in the number of HGV's requiring access to the site during the construction phase of the initial and subsequent phases of the development. This would have environmental benefits and cost savings through the more efficient movement of bulk materials to the site and a legacy benefit in the provision of the live connections to support the future phases of the development including the construction and commissioning of the intermodal freight terminal.

Key Recommendations:

- It is fundamentally crucial that land on the west side of the M6 and to the east is included for future development including the associated road access to the A579.
- As part of the development, an initial rail connection allowing access from the west (and ideally also to the east) should be provided on the alignment for the intermodal rail terminal.

9.6 Core Strategy Policy CAS 3.2 Amendments

To support our conclusions we would suggest that the consideration is given to the modification of Core Strategy CAS 3.2 to align with the conclusions of this report, in order to provide a more flexible policy position to support a viable and deliverable SRFI scheme to come forward for this site. To achieve a medium or large facility which have both been found to be potentially viable and deliverable in this Study both sides of the M6 will be needed.

However as part of this, the required land would need to be allocated for the intermodal terminal along with land required for the associated rail infrastructure. The provision of road access arrangements under the M6

to link the west side to the east side and access to the M6 is absolutely fundamental to the development of this site (with the closure or severe restriction on the A49 entrance to LGVs and HGVs as traffic levels grow with the build-out).

From a planning policy perspective the increased support for rail-linked development at both the national and sub-regional level since the Core Strategy was adopted, assist in the justification of a potential rail-linked logistics allocation in the emerging Local Plan and help support the exceptional circumstances case required to meet the national Green Belt planning policy tests.

In large part it is appropriate to roll forward Core Strategy Policy CAS 3.2 and the related Green Belt justification to provide the policy framework within the emerging Local Plan. The most significant proposed change is the extension of Green Belt removal, to reflect the connectivity between early phases to the west of the M6, and later phases to the east.Policy development should acknowledge the following principles:

- Development in the west can be accessed by a proportion of HGVs via the A49 to a capacity of c.750,000 sq. ft. This should address Warrington Borough Council's (WBC) concern that it would not support the development if it created a net increase in traffic on their road network. As this development is likely to generate up to 600 HGVs per day to reduce the impact there needs to be three sets of mitigation:
    - The first is prior to the development of the site works on the A49 in conjunction with Warrington Borough Council (WBC) would be required. Discussions with WBC have indicated that mitigation measures would be required at the A49 junctions with Hollins Lane, Golborne Road, and the Winwick Link Road.
    - Secondly a new road and access should be brought forward via an underpass under the M6 and a new link road to the A579.
    - Thirdly land on the west of the M6 should be safeguarded for future rail tracks, for train marshalling and handling. As such it is considered that Phase 1 could be just a road served development. But this is sub optimal, as it is a less environmentally friendly solution when compared to rail and does create more traffic on the local road network.
- A rail and road based development allowing more warehouses on the west of the M6 and a rail terminal should be accompanied by site access from the east.
- Future stages of development to the east of the M6, served totally in road terms by M6 J22 should be accompanied by a rail link to the eastern side of the M6.

Unlike road only based solutions it cannot be stressed highly enough that the technical and commercial requirements of the rail access are fundamental to the attractiveness and commercial viability of the site to terminal operators and end customers in the cost and performance base of commercial supply chains. In our analysis, the development of the west side is technically and operationally feasible for rail linked logistics development but one which will trigger the planning process which is linked to the development of a SRFI (based on the criteria). Design compromises once built are either impossible or not cost effective to implement at a later stage unlike a road only based solution. The use of innovative financing methods as outlined in the TfN Freight and Logistics Strategy will be of assistance to give greater certainty that the required supporting infrastructure will be brought forward earlier than otherwise would be the case and enable the site to be developed in the optimal way for the rare set of characteristics that this site possesses. It is recommended that early engagement with Transport for the North is undertaken in this regard.

Key Recommendations:

- Consideration should be given to the modification of CAS 3.2 to provide a more flexible policy position to support a viable and deliverable SRFI scheme to come forward.
- Green Belt boundaries to the east of the M6 will be affected by these proposals, amendments to Green Belt boundaries would be justified by the arguments presented in this report. This requires a review of Green Belt policy to ensure consistency between land requirements of a SRFI development and Green Belt boundary.
- The Planning policy framework should be guided by the new Transport for the North, Freight and Logistics Strategy.
- Mitigation measures addressing the growth in local traffic should be included.
- Land should be allocated for rail access and suitable terminal facilities.
- New road access should be brought forward via an underpass under the M6 and a new link road to the A579.
- This is a unique opportunity to re-connect a formerly rail served site in an excellent geographical location into a modern SRFI that will meet the needs of modern logistics in the region.

9.7 Summary

This independent analysis has confirmed that the market attractiveness of this site for logistics activity remains as strong as and arguably stronger than in 2006 when the previous application for the site was put forward. One of the principle reasons for the site not coming forward, as mentioned on a number of occasions during the study, was the issue concerning achieving a sustainable access option to the site. The provision of the eastern access road to the A579 and the connection of the west and the east side of the development site, along with enabling rail connection work for the construction phase allows the development to take place. This could initially be with an A49 link but which commits to the development of the eastern access and implementation of the required rail connections and terminal in a later phase of development.

As the use of intermodal rail freight is growing substantially and there is insufficient capacity in other existing and planned terminals in the area, it is clear that the use of the site for rail based logistics is crucial to support the wider economy of the North West England for both the St. Helens Local Plan and Wider City Region / Northern Powerhouse objectives. There are very few sites in the North West England that come even close to the attractiveness of this site in terms of strategic location for rail and road access opportunities.

Developing Parkside as an SRFI is one of the best opportunities to offer a realistic rail based alternative to the many logistics supply chains that are currently very dependent on the M6, M56 and M62. Due to congestion, these routes do suffer from journey time variability. Railfreight is now more reliable than ever before with over 94% arriving on time. By encouraging modal switch from road to rail for primary trunking it not only reduces the number of lorries on the motorway network in Cheshire and Lancashire but it also reduces the amount of carbon dioxide emitted into the atmosphere.

The economic recovery in the economy since 2012 has further improved the potential viability of the site as set out in Chapter 3 – and subject to the required business cases companies are more likely to invest in rail. Such an investment is required to support the wider aspirations of the business community in the North of England, for example SUPERPORT Liverpool.

In conclusion, the study has established that from an operational and financial perspective a small terminal is not viable and that only a terminal that is at least a medium would be operationally and financially viable and thus ultimately deliverable as a sustainable development. It is important to note that unlike a purely road based development there are particular operational requirements for intermodal freight terminals that are crucial to include at the design stage to meet current and forecast future requirements and to minimise terminal operational costs for the operator and user.

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