Written evidence submitted by Heathrow Airport Limited

National Infrastructure Commission: call for evidence

Executive Summary

Heathrow Airport Limited congratulates the Chancellor on establishing a much needed and independent National Infrastructure Commission to provide unbiased assessments of the UK's long-term infrastructure needs. Heathrow also looks forward to the Commission's commitment to monitor the Government and industry's progress in meeting these needs, because it is critical national interests are not thwarted by local political interests.

As the European Commission noted in its recent Aviation Strategy, connectivity and infrastructure – and as Heathrow's submission will outline, strategic connectivity to airports – are critical to the UK because 'studies show that the better a city, region or country is connected by air to other destinations in Europe and other parts of the world, the more growth can be generated.' The European Commission's new Strategy also recognises aviation and airports as 'strong drivers of economic growth, jobs, trade and mobility for the European Union' and hence why improving connectivity has been listed as one of the Commission's three key priorities.

The fact that connectivity has been outlined as a priority in the European Commission's new Aviation Strategy also validates the important role connectivity and infrastructure play in the UK economy and why the independent National Infrastructure Commission's work is so important. The Commission should note that it is not just city-to-city connectivity that could address connectivity weaknesses, but also strategic city-to-airport connectivity.

For example, limited and indirect rail and air links between the North and Heathrow Airport are holding back the growth of northern city regions because 'the world's economic centre of gravity has shifted towards Asia.'[1] Heathrow offers more direct and frequent flights to Asia because it is a hub airport. As a hub, Heathrow is different to other UK airports, because it can pool international, continental, domestic and local demand for leisure and business passengers as well as air freight, making direct flights to more cities around the world, particularly emerging markets, more commercially viable for airlines. It is critical that northern cities are well connected to Asia and the most viable way to do this for the UK economy is with better connectivity to Heathrow Airport.

That said the UK's regional airports still play an important role in connecting regional city regions, but they play a different role to Heathrow. For example, this submission demonstrates how as a hub, Heathrow plays a significant and different role to other airports in the country's freight connectivity. Heathrow is the most important freight airport in the UK, moving more cargo than all other UK airports combined (CAA, UK Airport Freight Data, 1990 – 2014[2]). This confirms the importance of connectivity (rail and domestic air links) to Heathrow for exporters in the North and indeed around the country.

While the Commission is not looking at airport capacity, it is important that the Commission notes the added benefits to the UK and the freight community when prioritising infrastructure projects and the added benefits that connectivity can bring.

As mentioned previously, with the global shift to Asia, London – and the UK's – status and its continuing success as a global centre for business is critically dependent on the quality of its international connectivity, as well as its local transport infrastructure. London is expected to see major population growth, but it is in competition with other cities around the world, so investing in London's transport infrastructure and connectivity to its only hub airport is key to maintaining its competitive edge and status as a leading global city for its residents, businesses, international investors, exporters, students and tourists.

[1] The European Commission, Aviation Strategy for Europe, December 2015

[2] http://www.caa.co.uk/Data-and-analysis/UK-aviation-market/Airports/Datasets/UK-Airport-data/Airport-data-1990-onwards/

About Heathrow

Heathrow Airport Limited owns and runs Heathrow Airport – the UK's only hub airport. In 2014 73.4 million passengers and 1.50 million tonnes of freight passed through the airport – worth £101bn in value, making Heathrow the UK's biggest port by value.

Heathrow is one of the UK's largest transport hubs with the UK's only dedicated non-stop express airport rail link, free travel zone, the UK's busiest bus and coach station and the only airport served by London Underground, with four stations. Over the last 20 years passenger numbers have risen by almost 80% and yet airport related road traffic has remained broadly static. The number of passengers using public transport every year has nearly doubled from 10 million to 19 million and the proportion of our colleagues driving to work alone has fallen from 8 in 10 to just 5 in 10.

Introduction

Heathrow is submitting evidence to the National Infrastructure Commission's call for evidence because we believe there is opportunity for the Government to prioritise certain infrastructure projects, particularly rail and domestic air links to the UK's only hub airport – Heathrow – to benefit passengers, businesses, the environment and the UK's economy not only in the north, but also for the rest of the UK and Greater London.

While this call for evidence is not looking at airport capacity or air quality issues, **strategic and sustainable connectivity to airports** – particularly the UK's only hub airport, Heathrow – are areas of infrastructure that we believe the Government should prioritise to improve all of the UK's connectivity, economic growth and maintaining London's status as a leading global city.

1. Connecting northern cities

1. To what extent are weaknesses in transport connectivity holding back northern city regions (specifically in terms of jobs, enterprise creation and growth, and housing)?

Limited and indirect rail and air links between the North and Heathrow Airport are holding back the growth of northern city regions because 'the world's economic centre of gravity has shifted towards Asia.'[3] Heathrow offers more direct and frequent flights to Asia because it is a hub airport. As a hub, Heathrow is different to other UK airports, because it can pool international, continental, domestic and local demand for leisure and business passengers as well as air freight, making direct flights to more cities around the world, particularly emerging markets, more commercially viable for airlines. It is critical that northern cities are well connected to Asia and the most viable way to do this is with better connectivity to Heathrow Airport.

While the National Infrastructure Commission is not looking at airport capacity, it is important the Commission notes the GDP and job benefits (outlined below) that an expanded Heathrow could bring northern city regions and the additional benefits that links to other infrastructure projects could also bring the North, for example linking HS2 and Crossrail 2 to Heathrow for northern passengers.

The independent Airports Commission produced an assessment of the economic benefits that would arise from airport expansion in terms of jobs and GDP (in Net Present Value). It also produced a broad breakdown of where in the UK the overall GDP increase effects will arise. These are presented for three broad regions (London & South East; Rest of England; and Rest of UK) for the scenario it defines as "Assessment of Need."

Table 1: Present Value of regional real GDP impacts – Assessment of Need Scenario[4]

[3] The European Commission, Aviation Strategy for Europe, December 2015
[4] Source: Airports Commission, "Economy: Wider Impacts Assessment" Tables 18 & 36

	Heathrow
London & South East	39.83%
Rest of England	43.78%
Rest of UK	16.39%

Source: Airports Commission, "Economy: Wider Impacts Assessment" Tables 18 & 36

Heathrow then commissioned Quod to do a further breakdown of the Airports Commission's work to UK regions and converted the results to jobs based on GDP per worker. The Airports Commission estimates that the Heathrow North West Runway option would create an additional 179,800 jobs by 2050 under the Assessment of Need scenario. The estimated regional breakdown is as follows:

Table 2: Regional breakdown of jobs based on GDP per worker, controlled to AC estimates

	Heathrow	Gatwick
London	38,500	9,300
South East	33,200	8,000
London & South East	71,700	17,200
Yorkshire & Humber	11,300	3,500
North West	15,300	4,800
North East	5,100	1,600
East	12,900	4,100
East Midlands	9,800	3,100
West Midlands	12,000	3,800
South West	12,300	3,900
Rest of England	78,800	24,800
Scotland	16,100	4,100
Wales	8,400	2,200
Northern Ireland	5,000	1,300
Rest of UK	29,500	7,600
TOTAL	179,800	49,600

This table demonstrates the job benefits Heathrow expansion will bring northern cities and the significantly more jobs Heathrow expansion will bring the North compared to Gatwick. The difference in job numbers between expanding Heathrow versus Gatwick is attributed to the increase in manufacturing jobs and Heathrow is one of the UK's most significant ports, moving the most freight by value in the UK. Heathrow is also the most important freight airport in the UK, moving more cargo than all other UK airports combined. In 2014 Heathrow moved nearly 1.5 million tonnes; followed by East Midlands International at 277,413 tonnes; Stansted 204,725 tonnes; Manchester 93,466 tonnes and Gatwick moving 88,508 tonnes. In terms of other northern cities, in 2014, 5,119 tonnes moved through Birmingham; 4,450 tonnes through Newcastle and 236 tonnes at Liverpool (CAA, UK Airport Freight Data, 1990 – 2014[5], Refer to APPENDICES A & B). This demonstrates the importance of connectivity (rail and domestic flight links) to Heathrow for exporters in the North and indeed around the country.

[5] http://www.caa.co.uk/Data-and-analysis/UK-aviation-market/Airports/Datasets/UK-Airport-data/Airport-data-1990-onwards/

Again, while the Commission is not looking at airport capacity, it is important that the Commission notes the added benefits to the freight community when prioritising infrastructure projects, such as rail links to Heathrow, which generally brings significantly more benefits than any other airport.

HS2 provided a unique opportunity to deliver a properly integrated transport system with a direct connection to Heathrow. This could have been key to delivering benefits for passengers and achieving Government objectives for more sustainable travel, improving domestic and international connectivity, economic growth and carbon reduction. The Government initially supported a direct link to Heathrow on the basis that it would:

a. Significantly enhance its accessibility by rail from the Midlands and the North;
b. Provide new opportunities for growth and investment in those regions;
c. Create a multi-modal transport 'hub' at the airport;
d. Ensure that HS2 passengers would not have to change trains to access Heathrow;
e. Incentivise further surface access investment at Heathrow; and
f. Yield benefits right across the country.

However, the Government subsequently abandoned the proposals for a spur to Heathrow in early 2015, primarily on the basis that this was not considered necessary to support Heathrow's expansion. This unexpected decision represented a significant blow to regions in the Midlands and the North that could have benefited from direct rail connectivity to Heathrow, particularly where many domestic/ regional air connections have been lost. This is an example of how northern city regions will be disadvantaged through our inability to properly plan our major high speed rail network, despite some very clear strategic benefits. In the absence of a spur, a high quality interchange at Old Oak Common is essential.

Heathrow is currently the best connected airport by road in England. Based on ONS connectivity work, over 7m people have Heathrow as the airport with the shortest journey time by road. For Birmingham, London City and Manchester this figure is below 5.5m. For public transport, Heathrow is the airport with the quickest journey time for around 5.8m people. As you can see, there is a gap of more than a million people for whom Heathrow is the shortest journey by car, but not by public transport. Making public transport to Heathrow a more attractive option, with journey times competitive in comparison to those by private transport needs to be addressed so that passengers from all over the UK have different options available for accessing Heathrow.

The priority is for schemes to provide direct rail connectivity through the delivery of Crossrail, Western Rail Link and Southern Rail Access because 50% of surface access journeys to Heathrow have origin/destinations in London and a further 25% in the South East. However, over a million passengers a year currently travel from Scotland, Yorkshire & the Humber, North East and North West England via ground transportation to Heathrow. Those travelling by rail outside of London need to travel to Paddington, by London Underground or make use of one of the rail-air coach services, so Heathrow connectivity can still be improved for the rest of the UK. If the Government is serious about improving the growth of our regional cities, improving traffic congestion and reducing vehicle emissions, these passengers and their locations need to be served via key rail interchanges so that public transport options are at least as attractive to them as private transport options.

For example, York has excellent connectivity with London via East Coast Main Line and as a result the journey via rail to Heathrow is around 40 minutes shorter than the equivalent road journey. Derby, on the other hand, has a road journey which is almost half as short as the rail option (150 mins by car vs. 276 mins by rail). 54% of passengers arriving at Heathrow from York have done so by rail or tube, for Derby it is only 21%, which highlights the effect good rail links have on passengers' transport choice.

Only Leeds/Bradford, Manchester, Newcastle and Liverpool serve more direct passengers from The North than Heathrow does each year. Currently, twice as many passengers reach Heathrow by public transport from Scotland, Yorkshire & the Humber, North East and North West England than Gatwick (in 2014 657k vs. 327k respectively) more than Newcastle (504k in 2013) and almost as many as Liverpool (688k in

2014). In fact only Manchester can boast significantly more passengers from the North arriving via public transport (3m in 2014).

The Piccadilly Line upgrade will increase line capacity by 60% through a new signaling system and trains allowing faster and more frequent services. While delivery timescales are yet to be finalised, this could provide up to 18 trains per hour serving Heathrow, compared to 12 trains per hour currently. This will improve the offering for passengers arriving at Heathrow from northern cities via London. Western Rail Link to Heathrow by National Rail's Control Period 6 will provide yet more integration to cities like Newcastle, Derby, Sheffield and Leeds via Reading.

The new HS2 interchange at Old Oak Common will be served by frequent Heathrow Express and Crossrail services, providing important connectivity to key cities in the Midlands and the North. This will transform Heathrow journey times for the North, bringing Birmingham within an hour of Heathrow and both Manchester and Leeds within around 90 minutes. This will make rail journey times to the airport significantly better than those by road and also avoids multiple interchanges through London by rail for passengers traveling from the North.

With these additional rail services in place, the number of trains per hour serving Heathrow would double by 2030 to 36 trains per hour with capacity increasing from around 5,000 seats per hour to almost 13,000. Improving rail connectivity to Heathrow will grow the number of people and businesses that can access Heathrow and its direct global connections. Heathrow's surface access strategy sees substantial increases in the number of people who could reach the airport by public transport. Shifting airport passengers from private cars to public transport will also free up capacity on the highway network and provide increased demand on public transport services throughout the day.

The Airports Commission concluded that better rail connections could bring 10 million people within three hours of the airport by public transport. In many locations this will mean that public transport is directly comparable or better than the alternative journey by road helping support the Government's objectives on modal shift and reducing road congestion and emissions for the UK.

Some of the key journey time savings for northern cities is summarised in the table below:

Station	2013		2032	
	Journey time	Interchanges	Journey time	Interchanges
York	3 hours 03 minutes	2	1 hour 52 minutes	1
Newcastle	4 hours 01 minutes	3	2 hour 54 minutes	2
Hull	3 hours 46 minutes	2	2 hour 51 minutes	1
Leeds	3 hours 30 minutes	2	1 hour 48 minutes	1
Liverpool	3 hours 29 minutes	2	1 hour 51 minutes	1
Manchester	3 hours 16 minutes	2	1 hour 28 minutes	1
Sheffield	3 hours 17 minutes	2	1 hour 39 minutes	1

These cities alone represent almost 500,000 pa direct passengers accessing Heathrow via ground transport today.

2. What cost-effective infrastructure investments in city-to-city connectivity could address these weaknesses? We are interested in all modes of transport.

The Commission should note that it is not just city-to-city connectivity that could address these weaknesses, but also city-to-airport connectivity. Strategic connectivity to airports is important because as recognised in the European Commission's new European Aviation Strategy 'studies show that the better a city, region or country is connected by air to other destinations in Europe and other parts of the world, the more growth can be generated.' The Commission's new Strategy also recognises aviation and airports as 'strong drivers of economic growth, jobs, trade and mobility for the European Union' – and hence has listed 'tackling limits to growth in the air and on the ground by reducing capacity constraints and improving efficiency and connectivity' as one of its three key priorities. The surface access network connects people and freight to Heathrow, the UK's only hub airport. It generates economic growth by helping UK businesses connect with existing and emerging markets. Research shows there is a strong link between a passenger's surface access experience[6] and their overall satisfaction with Heathrow. It is also a main influence on their choice of airport (CAA passenger choice report from 2011 pg. 20-21)[7]. Since passengers value reliable, convenient, direct and frequent services, we have to make sure that Heathrow's surface access meets the needs and expectations of its users.

3. Which city-to-city corridor(s) should be the priority for early phases of investment?

In terms of city-to-city connectivity, it is in the Government's gift to review and implement Public Service Obligations and protect domestic UK air links.

That said, connections to London Heathrow should be prioritised because Heathrow is one of the UK's most significant ports, moving the most freight by value in the UK. Heathrow is also the most important freight airport in the UK, moving more cargo than all other UK airports combined (CAA, UK Airport Freight Data, 1990 – 2014[8], Refer to APPENDICES A & B).

4. What are the key international connectivity needs likely to be in the next 20-30 years in the north of England (with a focus on ports and airports)? What is the most effective way to meet these needs, and what constraints on delivery are anticipated?

One of the key international connectivity needs in the next 20-30 years in the North, which was recognised in the European Commission's recently launched European Aviation Strategy is 'the shift of the world's economic centre of gravity towards the East, notably Asia'[9] and how the North will connect to the East. As outlined in our response to Question 1, Heathrow offers more direct and frequent flights to Asia because it is a hub airport and as a hub airport, Heathrow is different to other UK airports, because it can pool international, continental, domestic and local demand for leisure and business passengers as well as air freight, making direct flights to more cities around the world, particularly emerging markets, more commercially viable for airlines. Therefore with the global shift to the East, it is critical that northern cities are well connected to Asia and the most commercially viable way to do this to benefit the UK economy is through better connectivity to Heathrow airport.

That said the UK's regional airports play an important role in connecting regional city regions, but they play a different role to Heathrow. Regional airports have capacity and can provide services where there is direct demand. Otherwise access to a hub airport by surface transport or air is critical to satisfy the region's complete connectivity needs. Therefore surface access to airports and to Heathrow via air and rail are the most effective ways to meet future connectivity needs.

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[6] Heathrow Passenger Survey data QSM scores

[7] https://www.caa.co.uk/uploadedFiles/CAA/Content/Standard_Content/Data_and_analysis/Analysis_reports/Passenger%20choise%20and%20information%20use%20-%20consumer%20research%20-%20produced%20by%20Accent%20for%20CAA%202011.pdf

[8] http://www.caa.co.uk/Data-and-analysis/UK-aviation-market/Airports/Datasets/UK-Airport-data/Airport-data-1990-onwards/

[9] The European Commission, Aviation Strategy for Europe, December 2015

2. London's transport infrastructure

1. What are the major economic and social challenges facing London and its commuter hinterland over the next two to three decades?

As mentioned in section 1, with the global shift to Asia, London's status and its continuing success as a global centre for business is critically dependent on the quality of its international connectivity, as well as its local transport infrastructure. London is expected to see major population growth, but it is in competition with other cities around the world, so investing in London's transport infrastructure and connectivity is key to maintaining its competitive edge and status as a leading global city for its residents, businesses, international investors, exporters, students and tourists.

Demand for connectivity to Heathrow and the capacity of the UK's only hub airport are only going to increase with London's growing population. According to the Greater London Authority, London's population is currently around 8.6m people. The middle estimates for the population in 2050 are around 11m. With over 14m people living in the London commuter belt area, it is essential that people who wish to work and live in London are well connected to all parts of the capital, the South East England, the UK and to the rest of the world.

Heathrow airport obviously plays a significant role in connecting London to the world and the world to London, but it is also a major employer and driver of job creation across the capital. For many local commuters Heathrow is not at the end of the Piccadilly Line, it is at the start and enables them to access London and the associated job market. Similarly, Heathrow Connect and in the future Crossrail will play an important role in empowering airport related workers to make public transport journeys from West London. The Office of National Statistics work on Travel To Work Areas based on the 2011 census has shown that Heathrow and Slough were designated as a separate TTWA, rather than being spread between London and Thames Valley areas. This is against a trend of these areas growing and swallowing up areas due to more concentrated economic activity and a trend to longer commutes to work over the previous decade.

2. What are the strategic options for future investment in large-scale transport infrastructure improvements in London - on road, rail and underground - including, but not limited to Crossrail 2?

- ***How should they be prioritised, taking account of their response to London's strategic transport challenges, including their impact on capacity, reliability, journey times and connectivity to jobs?***
- ***What might their potential impact be on employment, productivity and housing supply in London and the southeast?***

One of the strategic options for future investment in large-scale transport infrastructure improvements in London is in improving Heathrow's connectivity to the wider rail network to ensure that London and the wider South East can benefit from and fulfil Heathrow's global hub route network, taking advantage of the interchange opportunities provided at Heathrow.

The key rail priorities for Heathrow are:

- Crossrail
- Western Rail Access
- Southern Rail Access
- Piccadilly Line upgrade
- HS2

Investment in rail to Heathrow is supported by Network Rail's 2013 London & South East Market Study, which notes how good rail connectivity to airports is important in supporting economic growth, productivity and social mobility and plays a key role in providing better access to markets, national and international destinations, business and leisure opportunities, and to jobs. It confirms that integrating new and improved rail services with other transport modes at major airports is key to delivering sustainable travel opportunities and improving overall connectivity. The study recommends that rail services should provide for the growing demand to access airports by rail, with fast, convenient and reliable rail access to central London a priority for London's airports but direct access to non-London core economic centres both long-distance and within the London and South East area increasingly important.

In the future Heathrow will provide direct terminal access to passengers from every mode of transport. They will be connected to the Underground network and have fast dedicated rail services to London provided by Heathrow Express. In 2019 Crossrail will link Heathrow to the City, Canary Wharf and East London. Western Rail Access will provide fast direct services to the West and South Wales. Southern Rail Access will connect Heathrow to Waterloo and the South and South-West mainlines. In 2026 the new HS2 rail line will provide fast access to Heathrow from the Midlands and the North by 2030.

The transport improvements already committed plus those planned can transform Heathrow into a fully integrated national transport hub that offers connectivity benefits for the local area and the rest of the UK. Heathrow will be a vital component of the national transport system and provide new direct transport links for local communities.

Increasing the modal shift onto public transport is also another priority for Heathrow. Heathrow's public transport improvements will increase transport resilience and give passengers, colleagues and members of the public choice. This is why we believe that projects like Crossrail, Western Rail Link and Southern Rail Access are essential, not just for Heathrow, but for the surrounding areas. Providing this infrastructure will increase public transport mode share, reducing the negative impacts on the local environment from car journeys such as traffic and emissions.

Southern Rail Access will also provide choices, by rail, for the large swath of Heathrow's passengers who live in South West London that don't rely on a journey into and out of central London. Western Rail Link will do likewise for the population to the west of the airport. While Crossrail 2 is not directly linked to Heathrow, enabling it to connect smoothly and quickly with Crossrail, Southern Rail Access and the existing rail and underground networks will mean more and more people are able to get to Heathrow more quickly and conveniently, whether they are coming across London or through it.

These, again, are good for the passenger, the local areas and the country as a whole. Planning and investment in progressing these strategic links to Heathrow should be a high priority in London's infrastructure improvements.

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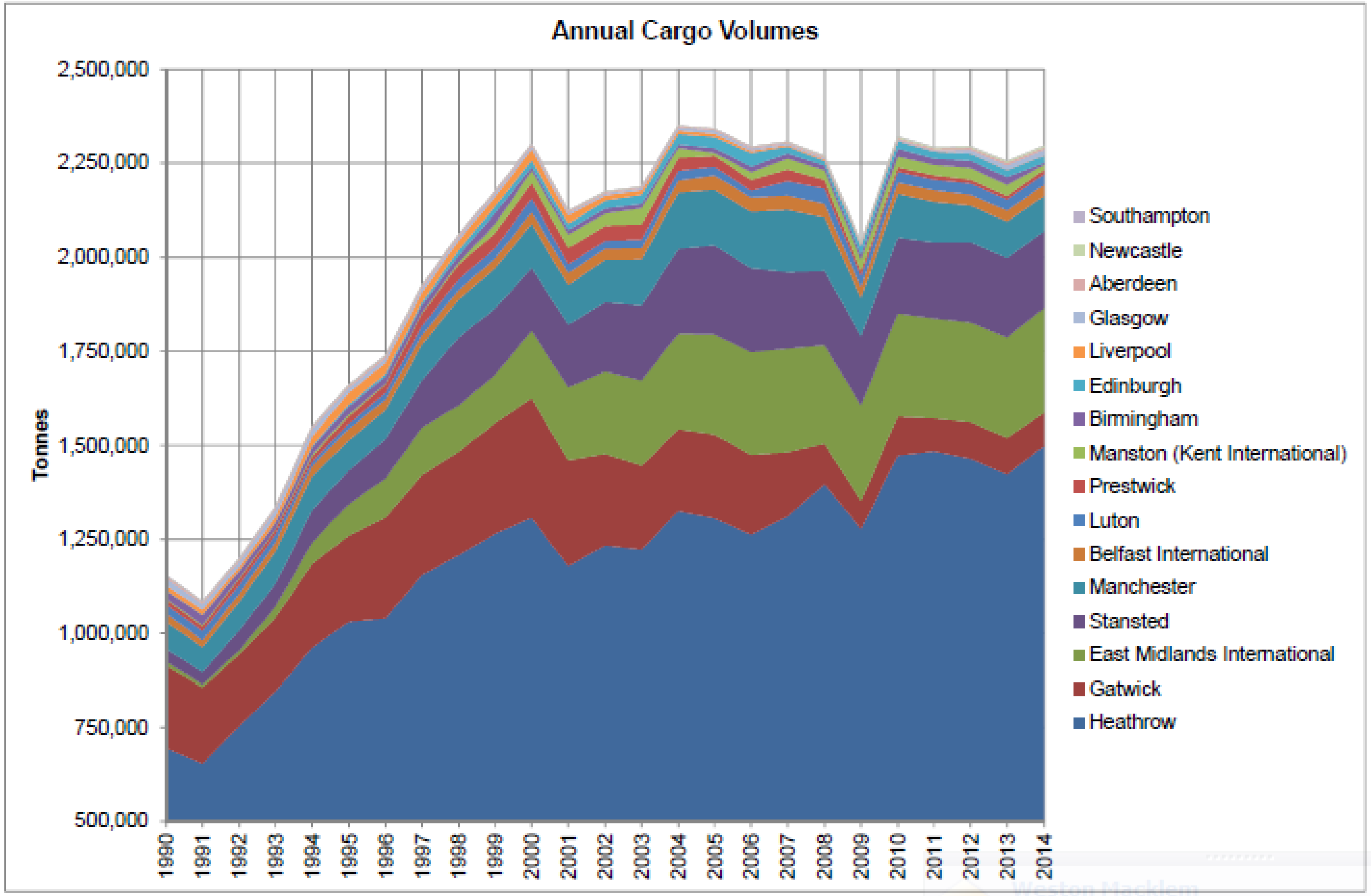
APPENDIX A: CAA, UK Airport Freight Data, 1990 – 2014[10]



[10] http://www.caa.co.uk/Data-and-analysis/UK-aviation-market/Airports/Datasets/UK-Airport-data/Airport-data-1990-onwards/

APPENDIX B: CAA, UK Airport Freight Data, 1990 – 2014[11]

Tonnes	Pax Aircraft					Freighters					Total				
	1990	2000	2005	2010	2014	1990	2000	2005	2010	2014	1990	2000	2005	2010	2014
Heathrow	606,066	1,208,924	1,227,836	1,398,369	1,424,270	89,281	97,983	77,850	74,619	74,636	695,347	1,306,907	1,305,686	1,472,988	1,498,906
Gatwick	193,736	289,209	169,000	102,454	88,506	26,355	29,753	53,779	1,577	3	220,091	318,962	222,778	104,032	88,508
East Midlands International	1,198	145		143	34	9,918	178,624		273,526	277,378	11,116	178,769		273,669	277,413
Stansted	261	2,802	1,347	1,911	1,185	32,266	165,021	235,698	200,328	203,540	32,527	167,823	237,045	202,238	204,725
Manchester	30,329	73,520	76,246	69,131	82,941	41,927	43,497	71,238	46,791	10,525	72,255	117,017	147,484	115,922	93,466
Belfast International	3,207	4,054	368	189	45	20,513	26,845	37,509	29,527	30,028	23,720	30,899	37,878	29,716	30,073
Luton	2,206	768	497	932	632	20,412	35,353	22,611	27,811	26,782	22,619	36,121	23,108	28,743	27,414
Prestwick	997	224	53	44	14	12,643	41,236	29,147	12,119	12,525	13,640	41,460	29,199	12,163	12,540
Manston (Kent International)				0	0				28,103	12,696				28,103	12,696
Birmingham	4,282	7,915	11,694	19,408	5,119	16,999	1,781	1,245	2,197	0	21,281	9,696	12,939	21,605	5,119
Edinburgh	916	2,192	485	339	203	241	16,088	29,110	20,018	19,166	1,157	18,280	29,595	20,357	19,369
Glasgow	7,612	8,331	7,967	2,762	14,623	11,186	469	766	151	788	18,798	8,800	8,733	2,914	15,411
Aberdeen	5,862	3,314	2,487	1,458	2,864	505	1,250	1,602	2,752	3,415	6,367	4,564	4,089	4,211	6,278
Newcastle	606	308	129	3,468	3,681	189	218	70	183	769	795	526	199	3,650	4,450
Southampton	975	253	203	116	131	154	6	1	0	3	1,129	259	204	116	133

[11] http://www.caa.co.uk/Data-and-analysis/UK-aviation-market/Airports/Datasets/UK-Airport-data/Airport-data-1990-onwards/