Sunderland City Council and South Tyneside Council

Impact Study International Advanced Manufacturing Park

Impact Paper Update 2016: Displacement

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Ove Arup & Partners Ltd
Admiral House Rose Wharf
78 East Street
Leeds LS9 8EE
United Kingdom
www.arup.com

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1 Introduction

1.1 Purpose of this paper

In order to develop an understanding of the potential impacts of the IAMP, Sunderland City Council and South Tyneside Council (the Councils) jointly commissioned Arup in 2014 to prepare four topic papers (housing, skills, employment land and displacement). The topic papers used the information in the 2013 PWC Strategic Business Case (including the projected generation of 5,228 gross jobs) that was also the basis of the 2014 City Deal to project and understand the wider impacts of the IAMP proposal.

Since the completion of these topic papers in August 2015, the IAMP project has progressed. In addition, SCC and STC are keen to understand the housing need implications of the total net additional jobs (as outlined in the Displacement Paper) in addition to the gross direct jobs already considered. Accordingly, an update to the work in relation to new information and to confirm the assumptions that informed the outcomes has been undertaken.

The updated analysis of displacement effects has undertaken the following tasks:

- Revisit of the strategic policy context;
- Review of the ‘additionality’ assumptions applied to the analysis including leakage, displacement and multiplier effects; and
- Further analysis of economic multiplier effects.
- This note reports the key findings of the updated analysis.

2 Strategic policy Development

2.1 Overview

There have been several significant strategic policy developments since the completion of the displacement topic paper in August 2015.

Sunderland City Council and South Tyneside Council are jointly preparing an Area Action Plan (AAP) that will set out the planning policy framework for IAMP. Once adopted, the AAP will form part of the adopted Local Plans for both Sunderland and South Tyneside. A Publication Draft of the IAMP AAP is currently out for consultation.

The AAP proposes 260,000 sq m Gross Internal Area (GIA) of development aimed primarily at the automotive, advanced manufacturing and related distribution sectors; located on land to the north of the existing Nissan car manufacturing plant, to the west of the A19 and to the south of the A184.

A number of technical background reports accompany the Publication Draft AAP. Of particular relevance are the Commercial and Employment Report and Exceptional Circumstances for releasing land from the Green Belt Report. Both provide an update on the significant employment sites in the NELEP area and the most up to date employment land position in each authority area.

The most significant developments of relevance are summarised below.

2.2 North East Strategic Economic Plan

Further to the publication of the North East Strategic Economic Plan in 2014, updated evidence was published in May 2016.

The update indicates that manufacturing in the NELEP area is outperforming the UK average, generating 14.6% of its GVA compared with 10.3% nationally. The export of motor vehicles (parts, accessories and fully assembled vehicles) accounts for around 40% of all exports from the North East region. The update also indicates that the North East LEP area has been very successful in attracting Foreign Direct Investment (FDI); securing the third highest number in 2012/13.

2.3 Development of the IAMP proposition

The Displacement Topic Paper (2015) utilised timing/phasing, floorspace and employment numbers from the 2013 PWC Strategic Business Case. The PWC work generated a headline employment figure of 5,228 gross jobs.

Since this time, Sunderland City Council and South Tyneside Council have commissioned a more in-depth and up-to-date analysis of the likely demand from the UK Automotive Sector. [1]Further work has also been undertaken to explore potential non B-class uses that may complement the core floorspace proposition[2].

2.3.1 Updated Analysis for demand from UK automotive sector

This analysis makes a number of conclusions at both the national and regional level:

National

- Worldwide Automotive demand will continue to grow strongly (3.5-4.5% CAGR) for the next 20 years or more;
- European Automotive demand will rise only modestly, but a strong, stable replacement market is assured, albeit characterised by a shift away from ICE engines vehicles to electrification;
- Myriad new ownership models, particularly in large densely populated cities, will emerge driven by digital economy enablers such as ride share, car share and pay-per use schemes. These will accelerate as autonomous control technologies are proven and become more widely deployed, but are not expected to reduce the demand for new vehicles appreciably and the consumer desire for more personalization will drive a large ownership market;
- UK vehicle production has continued to grow and is forecast to grow further despite the EU referendum result, assuming a trade deal can be struck with the EU, based on the underlying competitiveness of vehicle assembly. The vast majority of production is exported; and
- UK Government policy is forecast to be highly supportive of the automotive sector, based on the scale of jobs protected and created, growth prospects, the importance of the sector for R&D and the export value contribution.

Regional

Growth in automotive manufacturing activity in the North East depends primarily on Nissan and their plans.

- Expert analysis of their likely plans indicates that:
- They have a realistic prospect of expanding production further from 525,000 to around 600,000 units p.a. in the next five years. This expansion will be driven by: retaining existing Qashqai business, expanding Infiniti production and expanding electric vehicle production (the next Leaf will have substantially greater battery capacity and range);
- In response to greater demand for customisation of final vehicle build specifications by customers, they are undertaking a major revision to their

[1] RPJ Consulting (July 2016)
[2] Update to 2015 Skills Topic Paper.

manufacturing systems which will drive the need for significantly shorter supply chains. This will increase Nissan Manufacturing UK's (NMUK) desire to move production sources, especially Tier 1, from overseas to within a very short distance of the Final assembly plant to facilitate "Just in Time" in-sequence deliveries at economic cost;

- An increase in locally assembled content of 20-30% may be required over a long term period to facilitate this;
- NMUK is participating in closer cooperation with Renault as part of the Alliance. While this represents a threat to some business, it also represents an opportunity for growth to the incumbent NMUK supply base through winning Renault business; and
- Research with local Tier 1 Suppliers indicates that over 50% of them are planning expansion of their facilities in the Sunderland region. This is without them being explicitly aware of the potential further localisation which we speculate could increase its demand yet further. Key drivers are landlocked operations prevent further increase in capacity; organic growth over 30 years has left some Tier 1 companies in multiple sites which are not optimised for logistics or for lean overheads; and, opportunities (as well as threats) presented by the Renault-Nissan Alliance.

In summary, NMUK needs to grow the local supply base within a less than 10 minute drive from their assembly plant and cannot presently do so due to land availability constraints.

The Tier 1 supply base is constrained for growth by land availability, and further opportunities to improve competitiveness and volume will be denied without more land becoming available in the local area. In the absence of growth potential, the status quo will not be sustainable, as the automotive sector in the North East and in fact the UK will not be in an optimum position to win future assembly competitions with other automotive plants abroad, and over the longer term this will lead to reductions in assembly volume and jobs.

2.3.2 Analysis of potential non B-class uses

The PWC work made no allowance for land uses other than B1, B2 and B8; with these identified for determination as part of a masterplanning process. As the IAMP scheme has been further developed, work[3] has recently been undertaken to explore the potential non B-class uses that may complement the core floorspace proposition. These are referred to as 'hub' uses and outlined as follows in the Publication Draft AAP:

- Education and training facilities;
- Managed workspace (up to a total of 3,000 sq m gross floorspace);
- A range of local scale retail and leisure uses (up to a total of 1,500 sq m gross floorspace);

[3] Update to 2015 Skills Topic Paper.

- Nursery and child care facilities (up to a total of 1,000 sq m gross floorspace); and
- A hotel with associated leisure and conference facilities.
- In addition to the Hub location, small-scale retail and leisure provision of up to 1,000 sq m gross floorspace is outlined to service the northern extent of the IAMP, north of the River Don.

An estimate of the gross jobs associated with these has been produced and is considered within the updated net additional employment effects in Section 3.

2.4 Employment land availability in Sunderland

The Sunderland Employment Land Review (ELR) was updated in March 2016.

The industrial market was viewed as particularly strong in Sunderland, supported by growth in the automotive and advanced manufacturing and offshore engineering sectors. Key geographical concentrations of industrial activity include the area surrounding the Nissan Motor Manufacturing plant, industrial estates within Washington, Sunderland Enterprise Park, the Port of Sunderland and sites surrounding the City Centre.

At March 2016, there were a total 79 general employment sites available with a combined gross site area of 145.96ha in Sunderland. However, only 56 sites totalling 51.73ha were considered to be immediately available.

In terms of future recommendations, the report identifies the amount of land Sunderland should allocate to 2033 for general employment uses, not including the IAMP proposition. This is:

- 15ha for B1(a)/ B1|(b) (Office) uses;
- 35 to 45ha of B1(c)/B2 (manufacturing) uses; and

45-55ha for B8 (warehousing and distribution) uses.

In considering the current supply of employment land and future demand, the study recommends de-allocating 14 existing sites (totalling 26.39ha) in areas where there is an oversupply or low market demand. These sites are predominantly in Sunderland South and the Former Coalfield. Two sites are proposed to be de-allocated in Washington on the basis of particular qualitative considerations. The report highlights however that currently the supply of employment land in Washington is insufficient to meet estimated demand in the area.

The ELR report is very clear that in recommending de-allocation of employment land this is not considered to undermine in any way the case being made in relation to IAMP. This is because *"the sites that are identified for removal from the supply fail to align with the specific occupier requirements to which IAMP is intended to respond. As such, there is no reasonable prospect of the sites being appropriate – either individually or collectively – as realistic alternatives to IAMP".* This is by virtue of scale and location.

In terms of scale, recent automotive developments since 2010 onwards have needed larger sites as follows:

- BAE Systems, Wear West (6.69ha);
- Rolls Royce, Wear West site (11.43ha);
- Vantec, Nissan Turbine site (8.38ha); and
- Vantec Phase 2, Hill Farm Estate (9.58ha).

In terms of Location and the IAMP proposition, the ELR states that "It is clear that the development must be located on the edge of the conurbation and in close proximity to both the strategic road network and the automotive cluster around Nissan in order to meet anticipated occupier requirements."

The majority of land identified for de-allocation is located in Sunderland South and the Former Coalfield area and would be therefore incompatible with IAMP in terms of scale and location. It is estimated that more land is required in the Washington area, which has traditionally been the focus of demand in Sunderland. There may be an opportunity for the emerging IAMP proposals to help meet this need.

2.5 Employment land availability in South Tyneside

South Tyneside updated their Employment Land Review in 2014. The most significant change from the 2011 review was the opportunity to consider the IAMP proposal. In addition, the position was further updated by the Development Plan Topic Paper on Economic Growth and Employment.

The key messages emerging from these studies are outlined below.

- South Tyneside has a limited stock of readily available employment land. At December 2015 there were 19 general employment sites providing a gross area of 46.17ha of available land. Sixteen of the sites were less than 5ha in size. One site was just over 10ha. Some of this land (13.84ha) may be lost to housing development in the future and only a limited amount of the general employment land is readily available for development. There is likely to be a shortfall of around 34ha by 2036;
- The strongest industrial locations are on the southern periphery of the conurbation where there is easy access to the strategic highway network. In comparing the ratio of enquiries for industrial premises to actual take up, (between 2011 and 2014), there is a higher number of enquiries for units over 929 sq m and relatively few units of this size in South Tyneside;
- The manufacturing sector is experiencing an uplift in demand for medium to large B2/B8 accommodation. The Council should consider allocating additional employment land to meet this requirement;

The available employment land is too fragmented or in the 'wrong' locations to meet the needs of occupiers that would seek to be located as part of the IAMP and Nissan supply chains;

- The IAMP scheme is projected to generate around 2,500 jobs in South Tyneside predominantly in the advanced and automotive engineering sectors, with some potential for related large-scale distribution. It is anticipated that over 2,000 jobs will be created in manufacturing with c. 400 within the distribution sector. It is considered that land provided in relation to IAMP is based on a more regional, national and international basis than for the (South Tyneside) local economy; and
- Approximately 45ha to 50ha of general employment land should be planned for over the 15-year plan period and an additional requirement of c. 45ha should be identified specifically for the IAMP opportunity.

2.6 Implications

Recent evidence suggests that the North East has performed relatively well in the manufacturing and automotive space and in attracting inward investment.

A more in-depth and up-to-date analysis of the likely demand from the UK Automotive Sector has been undertaken in 2016. Critically, this work concludes that Nissan UK needs to grow the local supply chain base within a less than 10 minute drive from the assembly plant and cannot presently do this as there is no available employment land in close proximity. The Tier 1 suppliers are constrained from growing by land availability and this is important to secure further opportunities and improve competitiveness. Accordingly, the future demand outlook for automotive space is positive supporting the primary floorspace proposition at the IAMP.

As the IAMP scheme has been further developed, work has been undertaken to explore the potential non B-class uses that may complement the core floorspace proposition. These include ‘hub’ uses outlined in the Publication Draft AAP. These uses will need to be factored into consideration of the overall net additional employment impact of the IAMP

The Sunderland Employment Land Review (ELR) was updated in March 2016. The update highlighted a shortage of available employment land in the north of the local authority area and that automotive and advanced manufacturing plants developed in the area since 2010 required sites of between 5ha and 12ha. The South Tyneside ELRs highlighted the need and shortage of land to the south of the conurbation.

Since the 2015 Displacement Topic Paper was undertaken, the UK has also voted to leave the European Union. At the present time, the nature of the UK’s exit is not known and therefore no conclusions can be drawn in respect of the IAMP other than that it is a source of uncertainty.

3 Estimates of Net Additionality

3.1 Review of assumptions

A review of the 'additionality' assumptions applied in the 2015 Displacement Topic Paper including leakage, displacement and economic multiplier effects has been undertaken. The findings are outlined below.

3.1.1 Gross jobs

The 2015 Displacement Topic Paper used the gross jobs figure in the 2013 PWC Strategic Business Case (5,228 gross jobs) as the basis to assess the net additional impacts.

The IAMP scheme has been further developed and work[4] has recently been undertaken to explore the potential non B-class uses that may complement the core floorspace proposition. This work estimates that non B-class uses will generate the order of 323 gross FTE jobs. These jobs are additional to the 5,228 gross jobs associated with the core floorspace proposition.

3.1.2 Leakage

Leakage effects refer to the proportion of outputs that benefit those outside of the target area. This could be treated as the proportion of employment that is taken up by individuals who do not reside in the NELEP area.

The assumption applied to account for leakage in the 2015 Displacement Topic Paper remains valid. Reflecting the proportion of existing Nissan workers residing outside of the NELEP area (3.6%) while also taking a prudent approach to reflect the broader range of likely employment at the IAMP, an allowance for leakage of 5% is applied.

This assumption is also applied to employment associated with non B-class uses.

3.1.3 Displacement

Displacement refers to the proportion of outputs accounted for by reduced outputs elsewhere in the target area. The scale of displacement effects will vary depending upon the nature of activity supported and local markets. Of particular interest in relation to IAMP is the extent of displacement in the commercial property market and the implications for employment.

The 2015 Displacement Topic Paper considered the implications in relation to:

- **Existing employment sites** – to what extent existing employment sites may experience a loss of existing occupiers. This will depend on type of firms currently located at these sites, i.e. would they benefit from co-location with Nissan.

[4] Update to 2015 Skills Topic Paper.

- Also to what extent the offer is competitive with the proposition at IAMP (even if no co-location benefits then some firms may still move, particularly from sites in closer proximity). This could be a result of supply chain businesses relocating to take advantage of new modern space close to Nissan; and
- **Future planned employment space** – to what extent the take-up of future planned space may be affected by the provision at IAMP.

In terms of displacement, locations that could be particularly vulnerable to automotive supply-chain company movements to IAMP include the Washington area and Pennywell. Whilst a number of firms with strong relationships to Nissan are currently located in these areas, in some cases the space they are occupying is dated or near the end of its life, with limited opportunity for re-provision or expansion in that location.

However, overall, the scale of displacement in the automotive sector is likely to be limited as the majority of other major existing and planned employment locations do not have an automotive focus. The following factors were identified as important in determining the level of displacement:

- The realisation of the Strategic Business Case work findings which indicate that the majority of site occupiers are likely to be inward investors or indigenous companies that might locate, or remain located, outside of the UK in the absence of the IAMP;
- That the IAMP is complementary to the existing UK automotive offer and given the profile of Nissan’s global supply chain base will attract significant inward investor interest;
- The generation of additional demand for supply-chain activity in the area and potentially new incoming firms not currently represented in the area as a consequence of Nissan diversifying into new electric vehicle production; and
- The balance in occupiers between the automotive sector and broader advanced manufacturing and distribution sectors.

The paper stated that it is important to distinguish between the occupiers in the automotive sector and occupiers in the broader advanced manufacturing sector. Whilst the evidence suggests that displacement of automotive related activity is likely to be limited, there is greater potential for displacement of broader advanced manufacturing firms. Other key existing and planned employment locations are also seeking to attract firms within this sector.

However, it was emphasised that there may be positive aspects to the relocation of firms. Potential in-movers may currently be in sub-optimal premises or locations and would benefit from moving to the IAMP. Relocation is often accompanied by re-investment in plant and machinery and so a degree of modernisation is likely to occur with beneficial knock- on effects for productivity in the longer-term. The potential for displacement needs to be considered in the context of the potential for offset by the generation of demand for sites and space in Sunderland, South Tyneside and neighbouring areas as a result of multiplier effects.

Since the analysis undertaken in the 2015 Displacement Topic Paper, further evidence has been published including the Commercial and Employment Paper (August 2016). In particular, the Commercial and Employment Paper includes the findings of specialist advice by RPJ Consulting and their discussions with suppliers. Critically the work highlights that Nissan UK needs to grow the local supply chain base within a less than 10 minute drive from the assembly plant and cannot presently do this as there is no available employment land in close proximity. This further supports strong future demand potential for space from the automotive supply chain – in alignment with the focus of the IAMP on automotive uses. The evidence does not indicate significant changes in the factors influencing displacement and the factors applied in the 2015 Displacement Topic Paper remain valid.

A low level of displacement of 25% is applied to employment associated with non B-class uses, reflecting that these uses are intended to service demand from Nissan and the additional employment floorspace in the core IAMP development[5].

3.1.4 Multiplier effects

Economic multiplier effects refer to the further economic activity associated with additional local income, local supplier purchases and development effects.

The 2015 Displacement Topic Paper concluded that the IAMP project will generate significant multiplier effects, both through the supply-chain (indirect effects) and spending of incomes (induced effects). Together these effects may enable the IAMP to generate the following benefits to the wider area:

- Attraction of greater inward investment;
- Increased market opportunities for Small and Medium-sized Enterprises (SMEs);
- Increased leverage of innovation potential;
- Support greater demand for city centre retail space and services;
- Additional employment opportunities for workers with lower skills; and
- Support growth of the Port of Tyne.

The analysis in the 2015 Displacement Topic Paper applied a composite multiplier of 2.66. This was based on current data on Nissan indicating a multiplier effect of at least 2 for indirect effects (through the supply chain) and making an allowance for induced effects (through increased spending of incomes). These assumptions remain valid.

In understanding the potential distribution of all jobs, the update of the 2015 Skills Topic Paper undertakes an analysis of the distribution of gross jobs by local

[5] Based on low level of displacement factor in Homes and Communities Agency (2014) Additionality Guide Fourth Edition, January 2014.

authority area[6]. This is based on employee postcode information from Nissan and 2 suppliers and therefore historic trends. The analysis indicates that almost half of all IAMP workers could potentially come from Sunderland and South Tyneside. It is expected that there will be some correlation between the spatial distribution of gross jobs and net jobs taking into account economic multiplier effects. Accordingly, the following sub-section on net additionality estimates the potential distribution of net jobs by local authority applying these findings.

The spatial distribution of economic multiplier effects across the Local Authorities within the NELEP area will be influenced by a complex set of factors. These include the proximity to IAMP, availability of suitable premises, existing supply chain activity and residence of workers. As a comparator to the proportion applied from the skills analysis, the ratio between local and regional multiplier effects as per ready reckoners in HCA Guidance suggests local effects being of the order of 60-70% of regional multiplier effects (on the basis that 'local' is commensurate with an area the size of Sunderland and South Tyneside local authorities). The figure from the skills analysis, being based on project specific evidence, is adopted to produce estimates.

A multiplier effect (1.56) is applied to employment associated with non B-class uses[7]. This is based on an average level multiplier effect since there is no significant evidence to suggest that effects will be smaller or larger than average.

3.2 Estimates of net additionality

The 2015 Displacement Topic Paper assessment indicated that IAMP has the potential to generate up to 11,230 net additional jobs in the NELEP area under the central case. The findings of the assessment are reproduced in the following table.

Table 1: 2015 Displacement Topic Paper - Net employment impacts for core floorspace

	Central case		Worse case	
	Jobs	Factor	Jobs	Factor
Gross benefits	5,228		5,228	
Leakage	261	5%	261	5%
after leakage	4,967		4,967	
Displacement	745	15%	1,490	30%
after displacement	4,222		3,477	
Multiplier effects	7,008	2.66	5,771	2.66
Net benefits	11,230		9,248	

[6] Skills Topic Paper Update, Appendix B.
[7] Based on average regional multiplier figure for recreation use classes in Homes and Communities Agency (2014) Additionality Guide Fourth Edition, January 2014.

These results remain valid. There is however a need to take account of the potential non B-class included in the 'hub' of the IAMP that will complement the core floorspace proposition. A net additionality analysis of the non B-class employment yields the following results.

Table 2: Additional analysis - Net employment impacts for non B-class uses in the 'hub'

	Central	
	Jobs	Factor
Gross benefits	323	
Leakage	16	5%
after leakage	307	
Displacement	77	25%
after displacement	230	
Multiplier effects	129	1.56
Net benefits	359	

Together, the results indicate that IAMP has the potential to generate up to 11,589 net additional jobs in the NELEP area under the central case (comprising 11,230 in core floorspace and 359 in non B-class uses).

Applying the analysis of the potential spatial distribution of IAMP workers from the updated Skills Impact Paper to net additional jobs provides an estimate of the distribution by local authority. This is based on historic trends and is therefore indicative only.

Table 3: Additional analysis – Potential distribution of net employment impacts by local authority

Local authority	Net jobs	%
County Durham	3,002	26%
Darlington	96	1%
Gateshead	1,127	10%
Hartlepool	294	3%
Middlesbrough	46	0%
Newcastle upon Tyne	445	4%
North Tyneside	518	4%
Northumberland	395	3%
Redcar and Cleveland	42	0%
South Tyneside	1,261	11%
Stockton-on-Tees	132	1%
Sunderland	4,232	37%
	11,589	100%