

NTU

# NET Phase Two Local Economic Evaluation

## Report 2: Impact Evaluation Findings

### Final Report

The Economic Strategy Research Bureau (ESRB), Nottingham Business School

Produced on behalf of Tramlink Nottingham



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Responsibility for the content of this report lies with the research team alone. The views expressed in this report are those of the authors and do not necessarily reflect those of the project sponsors, Tramlink Nottingham and Nottingham City Council.

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## EXECUTIVE SUMMARY

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This report evaluates the impact that the construction and operation of NET Phase Two has had on the local and regional economies of Nottingham. Particular emphasis is placed on the role that the project has played in delivering local employment and training outcomes at a time when Nottingham's labour market was under some stress as a function of recession. The role of the procurement process in achieving these outcomes is a particular focus of the study.

The NET Phase Two project extended Nottingham's existing tram network by 17.5km and 28 new tram stops, more than doubling the size of the network. In considering the nature and impact of NET Phase Two, it is important to note the differences between this route and that utilised for NET Phase One. As an engineering challenge, the two phases of tram development are quite different. Phase Two saw a greater proportion of the route share tarmac with other road users. It also required the construction of five major engineering structures to effect crossings of the Midland Mainline Railway, the River Trent and major road transport arteries within the City.

### THE PROCUREMENT PROCESS

The legal framework permits contracting authorities to make the realisation of socially beneficial objectives, such as the alleviation of unemployment through the up-skilling of local workforces, an aspect of a contract award. In light of this, the inclusion of requirements to assist in education and training of local people for the building of the NET Phase Two is not innovative *per se*. However, the targeted or 'granular' approach adopted for this project is certainly not common. An example of this granular approach was the specific targeting of young unemployed people as beneficiaries of the training and employment opportunities afforded through this project. In this case, the economic operator (the Concessionaire) became a partner in a wider network of agencies working to deliver specific local benefits. In this respect, this project represents an excellent example of localism in procurement. Furthermore, the NET Phase Two procurement exercise serves as an excellent example of how the requirements of the Public Services (Social Value) Act 2012 might be satisfied in future infrastructure projects.

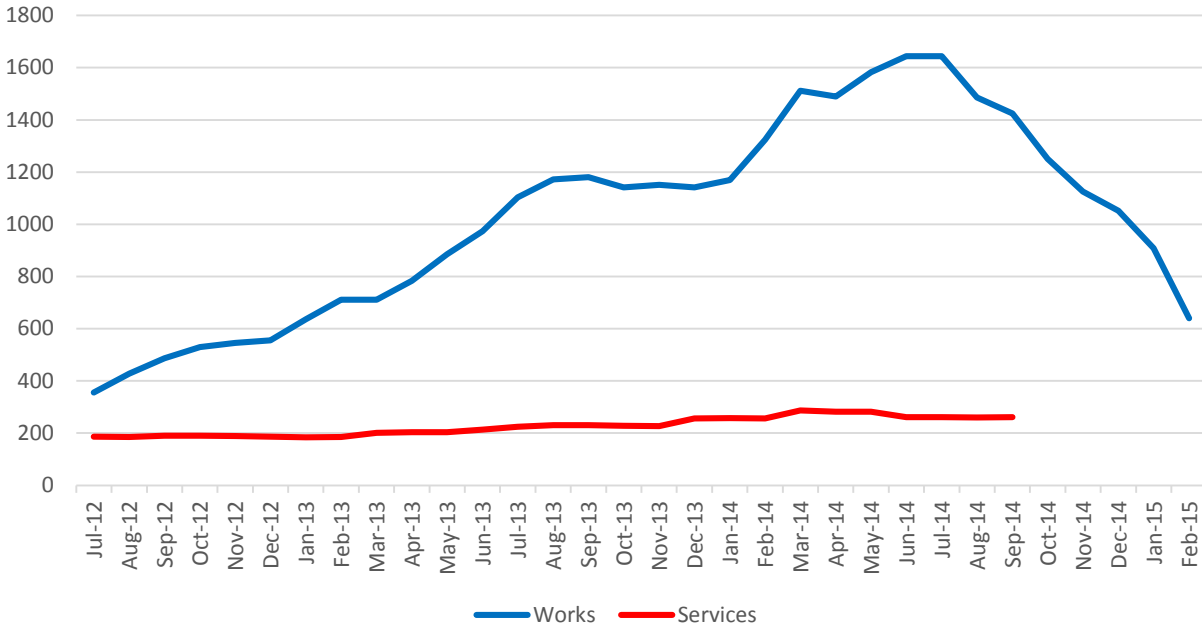
Promoters of light rail schemes have tended to see local economic benefits in very general terms and continue to do so. They have certainly not sought to promote the specific, 'granular' approach to benefitting the local community adopted for NET Phase Two. The issue therefore is not whether other projects have been as innovative, or innovated in different ways, but whether they have sought to make direct and real benefits to the local economy an objective at all. While the legal framework clearly permits this, by comparison to the other such networks, the NET approach can be regarded as unique in the sector.

### ECONOMIC IMPACT ASSESSMENT

The focus of this study is on the relatively short run economic impacts arising from increased employment and expenditure in the local and regional economies resulting from the design and construction of Phase Two and the initial operation of services on the new routes. NET Phase Two was a large and complicated project that has delivered significant impact and will continue to do so as it is used in the future. Potentially important social and environmental benefits will be realised over the long term and are outside the scope of this study. At its peak, around 1600 people were directly employed on the construction of NET Phase Two. In line with normal practice on construction projects, the duration of an individual's employment on

the project varied considerably. Therefore, construction years of employment is the measure used to express the scale of the employment impacts associated with the Works element of the project.

### Employment associated with the NET Phase Two project



Source: Tramlink Employment and Sustainability Reports July 2012-February 2015

Our assessment of impact from design and construction and some operational impacts can be summarised as:

- Around 2,900 years of employment in the local economy and a further 1,600 years of employment in the regional economy have been created, generating around £108m and £61m of gross value added respectively;
- Supply chain expenditures have generated around £140m of activity in the local economy and a further £77m in the regional economy; and
- Around 230 jobs are estimated to have been created as a result of operation of the new services, through additional drivers, control staff and so on, which will generate around £78m of gross value added in the local economy during the next decade.

### LOCAL TRAINING AND SKILLS IMPACTS

A key feature of this scheme was the collaborative approach between Nottingham City Council’s Employer Hub, Job Centre Plus, local Further Education providers and the Tramlink consortium members in delivering pre-employment training, local recruitment programmes, Apprenticeships, work experience and workforce training. To deliver pre-employment training and targeted recruitment for local candidates currently claiming Jobseekers’ Allowance, the Employer Hub worked with Alstom and local colleges to take advantage of the national Sector Based Work Academy (SBWA) model.

- The 5 SBWAs for the NET Phase Two Works resulted in 80 candidates completing their course and attaining a NVQ Level 1 and a CSCS Card (Construction Skills Certification Scheme). In addition, the programme delivered by New College Nottingham also included an employability component, providing transferable accreditation for sustained work-readiness. Approximately 50 of these candidates achieved employment in the project.
- The ‘work like’ training experience offered by the New College SBWA – who constructed a section of tram track on their Basford Construction Academy site – was highlighted as a real strength that helped to improve the ‘work readiness’ of potential recruits. It was also noted that NET Phase Two has significantly helped to establish the profile of NCN’s Civil Engineering Academy at New Basford Hall, which has since hosted a number of construction courses for other projects and employers.
- The Employer Hub played a key role in the recruitment of Apprentices who then received training through a partnership between a local college and a NET Phase Two employer. Over 200 jobs were directly filled by candidates supplied by the Hub. The Hub concept was in its infancy at the start of the construction phase. The NET project was fundamental in establishing its role as a local employment service (which prioritises unemployed people in Nottingham). The service has expanded considerably over the past 5 years.
- A total of 5 young people completed two-year Level 2 Apprenticeship courses in Construction Operations with Stephenson College and TWA, and 3 trainees completed Level 3 Apprenticeships with New College. The Apprenticeship programme helped Stephenson’s develop its Trainee Construction Manager offer which is now a national programme delivered from their Coalville campus.
- In the Services, Nottingham Trams worked with West Notts College to deliver 6 Apprenticeships. Courses of this level and duration were possible because of the significant scale and long-running nature of the project, and both the level and the number of Apprenticeships achieved in NET Phase Two exceeds sectoral baselines established in recent national evaluation studies. This contributed to the project being awarded Construction Academy status by the CITB.
- New Entrant Trainees were a NET Phase Two target group comprising candidates recruited after completing school, college, university or whilst claiming Jobseekers’ Allowance or other working age unemployment benefits. 393 New Entrants to the labour market were employed on the construction of NET Phase Two (219 works employees and 174 services employees).
- The project also facilitated significant workforce development of existing staff across both Works and Services employers. New College Nottingham led a consortium of colleges in delivering a training programme to over 100 Alstom staff. The training was a mixture of NVQ Level 1,2 and 3 qualifications, with at least 50 staff trained to Level 2. Labour contractors such as Rullion Engineering and One Way Recruitment also participated, training staff to NVQ Level 1 and 2 qualifications.
- Work experience courses ran giving young people the opportunity to learn about engineering. This included participation in the National Citizenship Scheme initiative held at the University of Nottingham during the summer holidays. This involved over 700 young people. The Princes Trust also ran three ‘get into construction’ courses with TWA.

- 50 drivers had completed a Level 1 light rail driver training qualification with Levels 2 and 3 training also provided for travel supervisors and NVQ customer service training provided to all newly recruited travel officers.
- The main NET contractor also noted that the social objectives relating to training and employment were the first of their kind the company had needed to fulfil. Having overcome initial challenges in meeting the local recruitment and training targets, this experience has improved the company's ability to bid successfully for subsequent projects.
- College representatives observed that the project has provided an opportunity for closer working between employers and colleges. It was also reported as having engendered greater collaborative working between the local FE colleges.

These initiatives played an important role in helping to deliver the employment and training benefits from the scheme to local residents. In the context of changing national policy on adult skills provision, the FE providers involved in this project were innovative in the way that they deployed different resource streams (e.g. DWP and ESF) to fund training packages tailored to the needs of specific employers engaged in the delivery of NET Phase Two. The importance of such measures is a key lesson for project sponsors in other cities and regions seeking to maximise the local benefit of major infrastructure projects. Other local authorities are reported to be considering developing similar delivery models with the Nottingham Employer Hub as an example of best practice.

Works employers felt that the overall benefit of the project could be summarised in terms of enabling construction and civil engineering employment in the local area to stabilise (in the context of long-term employment decline) rather than to provide significant 'new' or additional employment. This is an important conclusion in the context of projects that later came on stream (e.g. the A453 with Laing O'Rourke). NET Phase Two provided continuity of employment locally in the run up to what is now a pipeline of local and regional construction and civil engineering projects.

Representatives from the Hub and the FE providers involved in NET Phase Two suggested that projects of this kind tended to be much more successful in providing employment opportunities for relatively short-term JSA claimants who are relatively 'work ready'. Support for large numbers of long-term JSA claimants who may have more complex needs was thought to be beyond the feasible scope of such projects. This is largely due to the requirement for complex multi-agency intervention drawing on significant community sector inputs over long timeframes.

## POTENTIAL FUTURE BENEFITS

The research combined insights gained from the literature on the impacts associated with light rail with qualitative evidence gathered from a sample of local stakeholders and project participants in order to comment on the likelihood of Nottingham realising similar benefits as a result of the extension of its tram network. It is possible to identify a range of commonly identified impact types that are often associated with the development of light rail schemes. It is likely to be the case that NET Phase Two will also generate similar future impacts now that it is in operation:

- **Extension of labour market catchment areas:** The combination of strategic employment sites and communities served by NET Phase Two, coupled with the integration of the new tramlines with



heavy rail and park and ride facilities at Toton and Clifton, suggests that these types of impacts are likely.

- **Stimulating inward investment/city image and quality:** Fieldwork has suggested that the Tram has, and is likely to deliver further benefits, in relation to enhancing the image of the City. Attributing particular instances of inward investment to a particular infrastructure project is problematic due to the wide range of factors that influence commercial investment decisions. Nevertheless, respondents confirmed that transport infrastructure is clearly a factor considered by prospective inward investors.
- **Unlocking previously hard to access sites for development:** Fieldwork evidence suggests that NET Phase Two has already influenced property developers' perceptions of the potential offered by particular sites served by or in close proximity to the new tramlines.
- **Stimulating growth through addressing transport network constraints:** NET Phase Two has addressed local transport network constraints and, particularly in concert with other recent and ongoing improvements to the local transport infrastructure (A453, Ring Road and Station), is likely to facilitate local economic growth.
- **Land and property value increases:** The research team have found some evidence of property price increases in residential areas served by the new lines. It remains too early to assess the likely nature and scale of these effects in Nottingham.

Evidence from stakeholders suggests these kinds of benefit are likely to be realised by NET Phase Two in Nottingham, to a greater or lesser extent, over the long term. It remains too early to take a definitive view on the likely scale of these effects.

## CHALLENGES, ISSUES AND LESSONS LEARNED

As is to be expected with a major infrastructure project of this type, disruption associated with the construction phase of the project did impact on local businesses and communities along the route. Some of this disruption was inevitable given the nature of major infrastructure projects of this kind. This report used information on the uptake of financial assistance by businesses to provide an indication of the scale of the number of affected businesses.

A number of respondents also highlighted the importance of project management capability for the delivery of complex infrastructure projects of this kind. It was suggested that this represented something of a sector wide skills shortage. A further contributing factor may be the relatively low volume of light rail projects constructed in the UK – this means that capability is not retained and developed in the way that is possible when tram projects are developed on an ongoing basis – as was said to be the case in other parts of Europe.

The specific structure of the PFI concession adopted for NET Phase Two was appropriate for the promoter of the project – Nottingham City Council – in that it insulated the local authority from financial risks associated with unanticipated project overrun. How far this model remains sustainable in light of the experience of civil engineering contractors who have incurred losses in connection with tram network construction in the UK is an issue that the promoters of future schemes may need to consider.

All the project participants interviewed in the course of the study were asked to identify lessons relevant to the future implementation of similar projects in Nottingham and elsewhere. In a similar vein, a number of respondents identified elements of 'good practice' developed on the NET Phase Two project that could (and are) being replicated by other authorities and in other locations. These form section 7 to the main report.

## CONCLUSIONS

The construction and initial operation of NET Phase Two took place during a period when the UK economy was slowly recovering from the financial crisis and recession of 2008/09. The advent of recession led the scheme's promoters to place more emphasis on using the project to deliver local economic benefits. In this context, it is notable that construction employment increased significantly for residents in Nottinghamshire between 2010 and 2011 and in Nottingham between 2011 and 2013, in contrast to flat or falling national and regional trends. It is likely that the construction and operation of NET Phase Two, alongside other major infrastructure projects underway in Nottingham during this period, contributed positively to the performance of the local construction and transport services sectors during this period. It is also likely that the project helped to provide a degree of continuity of employment for construction workers during a period when the sector was under some stress in the aftermath of recession.

The project has illustrated the manner in which major infrastructure projects can play an important role in providing a local economic stimulus in recessionary and post-recessionary environments. The employment, skills and supply chain impacts associated with this project were invaluable for Nottingham because they came at a time of particular economic stress in the wake of recession. The procurement approach adopted for the Concession was a significant factor in achieving this outcome. Equally important was the investment made by Nottingham City Council in the Employer Hub - which played a central role in achieving positive employment and training outcomes for local people. Indeed, local authorities seeking to maximise the local benefit arising from major infrastructure projects should seriously consider the approach adopted by the NET Phase Two project.

From a transport and spatial planning perspective, it is clear that the development of NET Phase Two has demonstrated a good level of strategic integration with other transport infrastructure and development plans in and around the City. This is likely to facilitate the realisation of future economic and social benefits within the localities served by the extended tram network.

Finally, NET Phase Two has served an important demonstration function. It has shown that the communities, businesses and institutions of Nottingham can deliver large and complex infrastructure projects in challenging circumstances.

# 1 INTRODUCTION AND CONTEXT

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## 1.1 INTRODUCTION AND APPROACH

The aim of this research is to study the impact that the construction and operation of NET Phase Two has had on the local and regional economies of Nottingham. Within this scope, particular emphasis is placed on the role that the project has played in delivering local employment and training outcomes at a time when Nottingham's labour market was under some stress as a function of recession. The research brief also identified the need to explore the role that the procurement strategy played in using this major infrastructure project to deliver local economic and social benefits.

This report builds on the Interim Findings and Baseline Report<sup>1</sup> published in June 2015 and includes the following:

- Estimates of aggregate employment and output impacts related to the jobs created in the construction and operation of NET Phase Two and expenditure through the supply chain;
- An examination of the training and skills impacts and assessment of the role of the project objectives and delivery models in creating employment and training opportunities for local residents; and
- Analysis of the wider procurement process, policy and organisational issues to identify learning points for future infrastructure projects in Nottingham and elsewhere.

This study adopts a mixed methods approach. The quantitative assessment of economic impacts associated with the construction and operation of NET Phase Two utilises a conventional economic impact assessment approach – the scope of this assessment and the data sources utilised are detailed in Sections 3 and 4. This is supplemented by more qualitative data collection through a programme of interviews conducted with project participants and a wider group of local stakeholders. These interviews were undertaken in order to identify lessons learned through the delivery of NET Phase Two and to consider the nature of potential wider and longer term impacts that may accrue to Nottingham as a result of the extended light rail network. In addition, the project team undertook a literature review of previous research on the economic impacts of light rail schemes; an extensive review of documentation relating to the NET Phase Two project; and a comparative assessment of procurement practice in comparable transport and infrastructure projects in order to inform the assessment of NET Phase Two.

This report is structured as follows:

Section 1 includes a summary of the baseline conditions as reported in the interim report<sup>2</sup>. It then describes the nature of the NET Phase Two project – highlighting some key differences when compared to the original NET Phase One project and sets out a chronology for the project. This section concludes by

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<sup>1</sup> ESRB, Nottingham Business School, NTU, produced on behalf of Tramlink Nottingham, June 2015. '*NET Phase Two Local Economic Evaluation – Report 1: Interim Findings and Baseline Report.*'

<sup>2</sup> Ibid.

presenting the strategic objectives of the project – drawing on both documentary sources and the accounts of project participants.

Section 2 presents a comparative analysis of the procurement strategy adopted by the scheme promoter, Nottingham City Council. The distinctive character of the procurement approach is documented and compared with that adopted for similar schemes elsewhere. A number of distinctive characteristics are identified.

Section 3 includes a quantitative assessment of the additional local and regional economic impacts associated with the construction and operation of NET Phase Two. The primary focus of this section is on the employment and supply chain expenditure that resulted from the construction and now the ongoing operation of the extended light rail network.

Section 4 reports on the nature and scale of the local skills and training initiatives that were incorporated into the delivery of NET Phase Two. It further explores the extent to which local residents – particularly those identified as Priority Groups by Nottingham City Council – benefited from training and work experience opportunities.

Section 5 considers the nature of long-term impacts that may be expected to result from completion of the extended Nottingham Express Transit network. Evidence drawn from research on the impact of similar transport infrastructure schemes is combined with qualitative insights provided by local stakeholders to explore the nature of potential impacts.

Section 6 discusses the nature of some of the challenges encountered in delivering NET Phase Two including impacts on communities affected by the construction works. It also identifies some of the practical lessons learned through the delivery of this project – as reported by project participants.

Section 7 provides a summary of the research team’s overall conclusions based on the preceding analysis. It also identifies key lessons learned during the delivery of NET Phase Two.

## 1.2 SUMMARY OF BASELINE CONDITIONS

The Interim Report<sup>3</sup> included the following baseline information drawn from the latest official statistics available at the time of writing. The conditions described represent the context in which to interpret the impacts of NET Phase Two:

With construction of NET Phase Two beginning in 2012, the project has taken place during a time in which the UK economy has been slowly recovering from the 2007 financial crisis and subsequent recession of 2008-2009. Nationally, the recent recession can be summarised in terms of a deep and comparatively long fall in output and a relatively weak and uneven recovery compared to previous recessions (with output as measured by GDP only recently passing pre-crisis levels). However, this has been coupled with a markedly less significant fall in employment. In terms of headline numbers, unemployment did not increase to anywhere near the levels experienced in previous recessions whilst the recovery has been relatively 'jobs rich', with the UK recently reaching record numbers and rates of individuals in employment. However, concerns about weak productivity and weak earnings growth remain considerable, and key sectors – particularly Construction – experienced a sharper than average fall in employment with the onset of recession and have since experienced a weaker recovery.

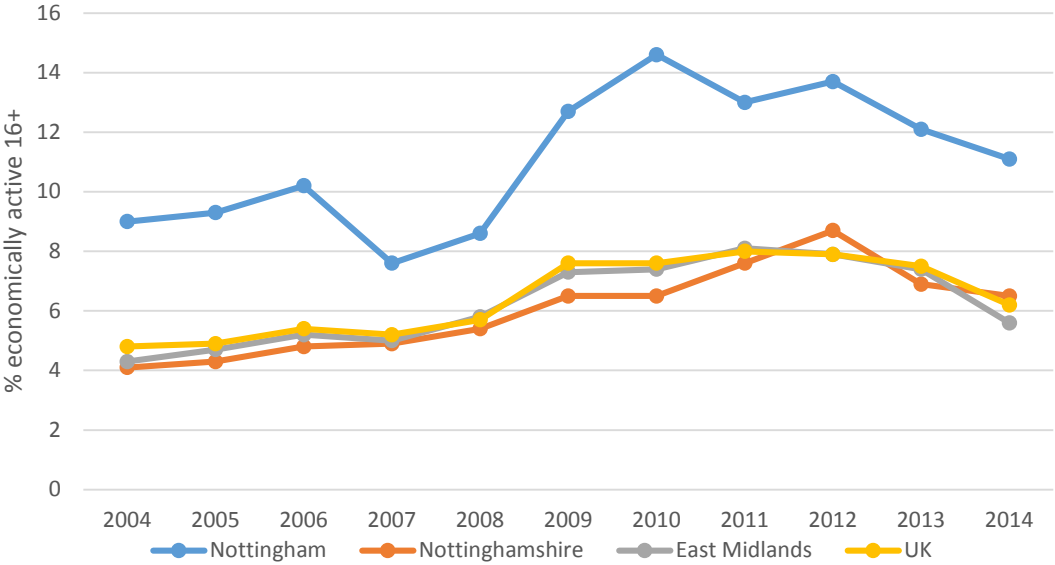
Output in Nottingham City, in terms of Gross Value Added (GVA) per head, was 20% above the national average in 2013. Output in North and South Nottinghamshire was significantly below the national average. This describes activity taking place within workplaces in the city and surrounding area, and is thus affected by the fact the people commute into the city for work. In terms of household income (Gross Disposable Household Income, GDHI, per head) the picture is reversed: income is significantly higher in South Nottinghamshire and is the lowest in Nottingham City, at less than 70% of the UK average. This is further confirmed by earnings (gross weekly pay) on a residence compared to a workplace basis. Earnings in Nottingham City are below the national average in both cases, but are significantly lower on the basis of where individuals live, whilst in Nottinghamshire, residence-based are higher than workplace-based earnings. This suggests that many individuals in more highly skilled, productive activities work within the city but commute from elsewhere, whilst city residents are more likely to be dependent on lower pay activities.

Although employment fell by less compared to previous recessions and unemployment increased by less in the UK overall, Nottingham City experienced both consistently lower rates of employment (and higher unemployment) and experienced a more significant decrease in employment following the onset of recession in 2009. In 2010, employment in Nottingham fell to 55.4% - 14.7 percentage points below the UK average. Employment has since recovered in the city, to 62.9% - 9.3 percentage points lower than average and still somewhat lower than the pre-recession rate. Nottinghamshire County remained close to the UK average over the period.

Reducing unemployment was a key concern for local policy makers that significantly influenced the objectives and delivery of the NET Phase Two project (see Sections 1.3 and 4). Chart 1 shows that unemployment rates rose rapidly in Nottingham between 2008 and 2010 (from 8.6% to 14.6%, more than doubling the percentage point gap with the UK average), but have since fallen back in the latest data (to

11.1% in 2014, almost 5 percentage points higher than the national average and still above the pre-recession level). In Nottinghamshire, unemployment rose by less and recovered more rapidly, from a peak of 8.7% in 2012 to 6.5% in 2014, only slightly higher than the UK average of 6.2%.

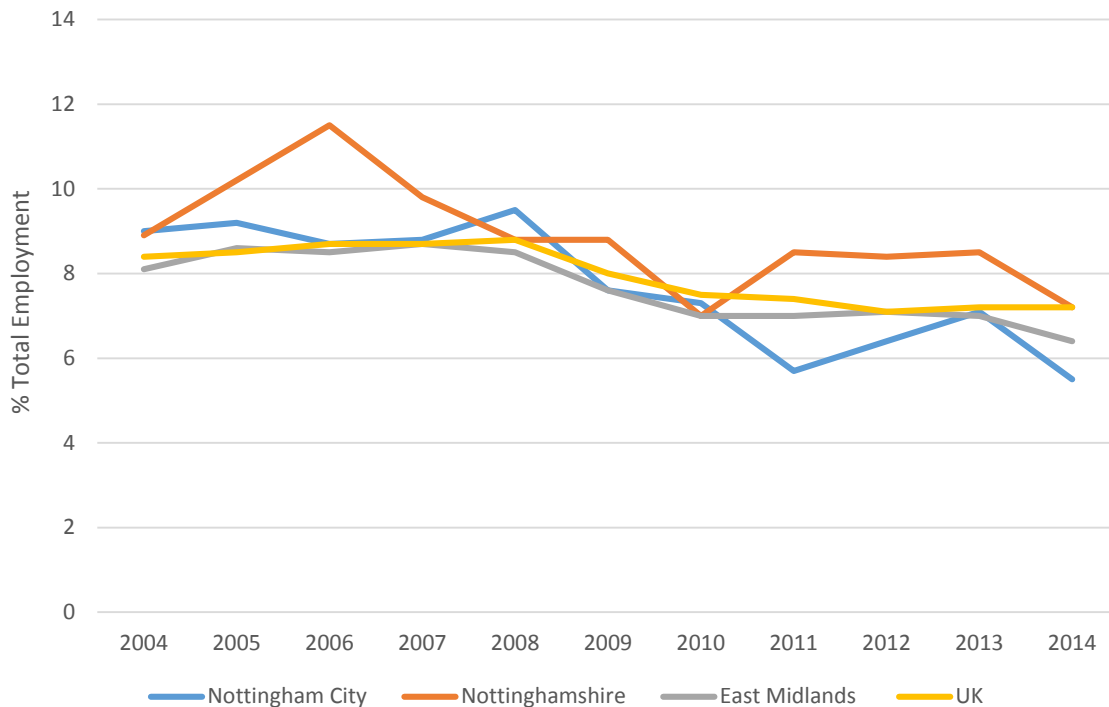
**Chart 1: Unemployment Rate (% economically active, 16+), 2004-2014**



Source: ONS Crown Copyright, 2015. ‘Annual Population Survey’, January-December 2004 to January-December 2014. From NOMIS [accessed 14<sup>th</sup> May, 2015].

Although overall employment numbers and rates have recovered in the UK overall, employment in the Construction sector has continued to fall. However, Chart 2 shows that the trend in the proportion of employed residents working in the Construction sector in Nottingham and Nottinghamshire has differed from the national trend. Construction employment increased significantly in Nottinghamshire between 2010 and 2011 and in Nottingham between 2011 and 2013, in contrast to flat or falling national and regional trends. This cannot be directly attributed to the NET Phase Two project, and may be affected by survey sample variability, but the overall impact of NET Phase Two on local, regional and wider employment will be investigated in detail in Section 3 of this report.

**Chart 2: Employment in SIC Group F: Construction (% of total in employment), residence-based, 2004-2014**



Source: ONS Crown Copyright, 2015. 'Annual Population Survey', January-December 2004 to January-December 2014. From NOMIS [accessed 21<sup>st</sup> of April, 2015].

The highest qualification held by residents and the skills level of the occupation in which they work provide broad proxy measures of the supply and demand for skills in a local area. Latest data shows that there are a significant over-representation of individuals in Nottinghamshire working in the Skilled Trades (an intermediate-skilled occupation, closely associated with Construction, usually requiring training or qualifications equivalent to a Level 2 or 3 Apprenticeship). Conversely, this occupation is relatively under-represented amongst residents of Nottingham City. In both the city and the county there is an under-representation of individuals in higher skilled 'Associate Professional and Technical Occupations' (e.g. engineering technicians, draughtspersons and site inspectors) whilst in Nottingham City there is an over-representation of the occupation associated with the lowest level of skill, 'Elementary Occupations'.

Compared to the national average, Nottingham and Nottinghamshire both have lower proportions of residents qualified to the equivalent of a degree (a Level 4+), whilst Nottingham City has a higher than average proportion of residents with no qualifications. Intermediate skills at Level 3 are under-represented amongst residents of Nottingham but in line with the national average in Nottinghamshire. Interviews with members of the NET Phase Two consortia and Nottingham City Council and the Hub,

suggest that the provision of quality employment opportunities for residents of Nottingham City was a key objective in the 'social value' impacts the project was designed to deliver.

Business data presented in the Interim Report provides further information on potential beneficiaries of the NET Phase Two project. Business birth and death rates (the number of businesses dying or starting in a given year as a proportion of the total business stock) indicate the extent of churn in a local business population. Business birth rates fell to a low point in 2010 but have since recovered, more quickly in Nottingham city than in the county. Business death rates peaked at the deepest point of the recession in 2009 and have since fallen, with Nottingham city consistently having higher death rates. These changes in the business population mean that the latest (2013) count of active businesses is over 8,600 in the city and 24,600 in the county.



### 1.3 THE NATURE OF NET PHASE TWO

The NET Phase Two project extended Nottingham's existing tram network by 17.5km and 28 new tram stops, more than doubling the size of the network. The original estimate for the value of the 22.5 year Public Finance Initiative contract to design, build, operate and maintain the extended NET system was £570 million<sup>4</sup>, making it one of the largest construction projects undertaken within Nottingham in recent years. In considering the nature and impact of NET Phase Two, it is important to note the differences between this route and that utilised for NET Phase One.

Figure 1: The Nottingham Express Transit Network



<sup>4</sup> This figure was reduced by 15% by the then Coalition Government in 2011 at the final approval stage of the project.

Source: Nottingham Local Transport Plan 2011-2026, Nottingham City Council

Although clearly planned as the first phase of a local light rail network, we can characterise the strategic objective of Phase 1 as being primarily regeneration related. Its function was to connect a number of communities to the north of the City to the city centre, stimulating regeneration and reducing traffic congestion affecting routes to the north of the City.

*“By contrast with the buoyant City Centre, Nottingham has pockets of severe disadvantage. The north-west corridor includes areas of high unemployment... Furthermore the edge of the conurbation is adjacent to the coalfield area where many villages were devastated by the pit closures... There is a vital need to link these disadvantaged areas with employment and training opportunities in the City Centre and to create sustainable transport facilities to help encourage local regeneration.”<sup>5</sup>*

Opening in March 2004, the initial lines between Nottingham Station, Hucknall and Phoenix Park quickly established themselves attracting a ridership of some 8.3million people per year by 2014-15<sup>6</sup>.

NET Phase Two shared a number of objectives with NET Phase One, but added more relating to network integration and economic growth – factors reflected in the choice of routes. As an engineering challenge, the two phases of tram development are quite different. Phase 1 was able to take advantage a number of current/former railway routes through the conurbation – reducing the proportion of the total route that had to be shared with other forms of road transport. In contrast, Phase Two saw a greater proportion of the route sharing tarmac with other road users. It also required the construction of five major engineering structures to effect crossings of the Midland Mainline railway, the River Trent and major road transport arteries within the City. The topography of the line coupled with the need to effect multi-modal interchange at Nottingham Station resulted in a more complex engineering project.

Phase One is 14kms long, 70% of which is segregated from other transport modes. Phase Two is longer at 17.5kms, 65% of which is segregated. These figures do not suggest much difference in complexity between the two phases, but there has been less opportunity on Phase Two to re-use or share rail corridors<sup>7</sup> (as did Phase 1) and considerably more on-street running along narrow and residential roads. Overall, it is more integrated with larger sections of the existing urban fabric than Line One. This has led to significantly greater impacts on local communities during construction and has increased associated mitigation requirements. The need to integrate with highways and other public infrastructure (including utilities) has presented particular challenges. One indicator of the greater complexity faced in terms of integrating the new lines into the existing urban landscape is that Phase Two required approximately 80 properties to be demolished and 500 plots of land to be compulsorily purchased. No properties were demolished in order to facilitate the construction of Phase One. This was largely a function of the use that the route was able to make of rail corridors.

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<sup>5</sup> Nottingham City Council and Nottinghamshire County Council (2000) *Nottingham Express Transit Full Business Case*.

<sup>6</sup> NET annual report 2015

<sup>7</sup> NET Phase Two did make some use of former Great Central Railway alignments – particularly in the vicinity of Nottingham Station.

## 1.4 NET PHASE TWO PROJECT TIMELINE

Typically major light rail infrastructure projects of this type are many years in the planning and execution. The Greater Nottingham Light Rapid Transit Act 1994 paved the way for construction of NET Phase One which opened to passengers in 2004. The timeline of NET Phase Two project design, consultation, approval for funding, procurement, and commencement and completion of works can be summarised as follows:

Table 1: NET Phase Two Project Timeline

<b>1998</b>	Transport White Paper signals Government intent to promote the development of and invest in light rail schemes.
<b>2000</b>	Feasibility study commenced. At this stage focusing on 6 possible routes in 3 corridors (via Beeston, Clifton and West Bridgford).
<b>2002</b>	Feasibility study supports the development of 2 routes: Clifton via Wilford and Chilwell via the Queen's Medical Centre (QMC) and Beeston.
<b>September 2003</b>	Major Scheme Appraisal submitted to Department for Transport (DfT).
<b>March 2004</b>	NET Phase One opened. Work had started in March 2000 and the project had been funded through a Private Finance Initiative (PFI) concession contract with Arrow Light Rail for the design, construction, maintenance and operation of the line.
<b>March 2006</b>	Skeletal outline business case submitted to Government. First market testing survey undertaken.
<b>October 2006</b>	NET Phase Two receives Programme Entry Approval from DfT. The project was included in the DfT Local Authority Major Scheme Programme.
<b>April 2007</b>	Application for a Transport and Works Act Order (TWAo) made to the DfT.
<b>November and December 2007</b>	Public Inquiry held on the Phase Two proposals.
<b>March 2009</b>	Secretary of State for Transport publishes a favourable Inspector's report from the inquiry and announces his intention to make the NET System Order.
<b>May 2009</b>	Outline Business Case submitted to DfT.
<b>June 2009</b>	The NET System Order is made giving statutory powers for the scheme to proceed.
<b>July 2009</b>	Conditional Approval received for NET Phase Two allowing procurement to commence.
<b>September 2009</b>	OJEU Notice published for NET Phase Two
<b>December 2009</b>	Following a change of leadership in the local elections in May, Nottinghamshire County Council withdraws from the project. Through a Settlement Agreement, Nottingham City Council becomes sole promoter of the project.
<b>October 2010</b>	Government support for the project is re-affirmed following the General Election as part of the Comprehensive Spending Review.
<b>March 2011</b>	Tramlink Nottingham is selected as the preferred bidder.
<b>July 2011</b>	The Full Business Case is submitted to the DfT as the basis of Nottingham City Council's application for Final Approval.
<b>December 2011</b>	Full approval received from DfT. The existing concession with Arrow Light Rail is terminated and a new concession for the construction of Phase Two and operation and maintenance of both lines is awarded. The Tramlink consortium are awarded the contract, signed on the 15 <sup>th</sup> of December 2011. Existing NET operational staff are transferred to the new concessionaire.
<b>July 2012</b>	Construction works on Phase Two begins.

<b>November 2012</b>	Recruitment of new drivers for Phase Two begins, followed by recruitment of additional Control Room staff and Travel Officers.
<b>December 2014</b>	Track laying completed. Employment in the construction works had peaked in August 2014 and began to fall steeply from this point. Testing of completed track sections began in August 2014.
<b>25<sup>th</sup> August 2015</b>	Phase Two opened to passengers.

Source: Nottingham City Council, July 2011. 'Nottingham Express Transit Phase Two Full Business Case', and Tramlink 'Employment and Sustainability Reports', July 2012 to July/August 2014 (supplemented by interview responses).

The national policy context that framed both the construction of NET Phase One and the planning of NET Phase Two was set out by the then Labour Government in the transport white paper of 1998<sup>8</sup>:

*"Light rail, and similar rapid transit systems, can have a role to play in delivering integrated transport in urban areas - particularly if planned as part of an overall strategy".*

*"In due course, we shall expect local authorities wishing to develop light rail systems, to use revenues from new congestion charging schemes or parking levies as a source of funding for such systems."*

*"...schemes will be supported only if they represent good value for money and form an integral and necessary part of a strategy in a local transport plan - demonstrating clearly that the objectives of the plan cannot be met in alternative ways. We would also expect local authorities to develop public-private partnerships to take forward such schemes wherever it is sensible to do so."*

This policy statement clearly set out the Government's expectations of schemes that might be developed by local authority promoters. There was a requirement for any such schemes to be strategically integrated within a local transport network; an emphasis on value for money; a view that this could best be achieved through public-private partnerships; and an expectation that light rail would be funded through congestion charging or a parking levy.

Work to pave the way for the construction of Phase Two commenced in 2000 with the commission of a feasibility study into potential options for the further extension of the network. This study considered six routes in three transport corridors: Clifton, Beeston and West Bridgford.

The study considered feasibility with respect to engineering, environmental and economic considerations. Its conclusions, published in 2002, were that additional routes to Clifton via Wilford and Chilwell vis QMC and Beeston were viable in these terms, but that the West Bridgford option was not. The opening of Phase One in 2004 coincided with the start of work to prepare a Business Case for new lines for submission to Government. It is noteworthy that by this time the national policy enthusiasm for light rail had cooled somewhat – largely in face of growing concern at the cost of such schemes. Proposed schemes in Liverpool and Leeds had failed to secure Government support on these grounds. A 2004 report by the National

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<sup>8</sup> 'A New deal for Transport: Better for everyone', HMSO, London, Cm3950, 1998.

Audit Office (NAO)<sup>9</sup> responded to this concern by reviewing a number of recently constructed tramlines (including NET Phase One) and made recommendations intended to inform the manner in which future light rail projects were brought forward.

An outline Business Case for Phase Two was then developed by the then joint promoters of the scheme – Nottingham City Council and Nottinghamshire County Council. Programme Entry Approval (which was the first of three approval stages) was duly received from Government in 2006. It seems likely that the experience of delivering Phase One, which by this point had been running for two years, contributed to this successful outcome for the promoters. A Transport Works Act application was made in 2007 resulting in the establishment of a public enquiry to consider proposals for Phase Two. The Planning Inspector's report, published in 2009, supported the scheme. The NET System Order, providing statutory powers for the scheme, was made in 2009. Conditional Approval was received from Government in 2009 and this enabled procurement to proceed. The preferred bidder was selected in March 2011 and the contract awarded to Tramlink Nottingham in December 2011 following the receipt of Full Approval from DfT.

### 1.5 NET PHASE TWO OBJECTIVES

The Nottingham Express Transit System Order (2009), made under the Transport and Works Act 1992, described NET Phase Two as a key element of the Greater Nottingham transport strategy. The Order went on to identify six key aims of the project:

1. To provide a sustainable alternative to the car for many journeys in order to tackle congestion (particular reference being made to the A453 and the A52).
2. To increase public transport capacity to accommodate growth in Greater Nottingham.
3. To improve accessibility and reduce social exclusion and realise further investment in NET Line One.
4. To contribute to integrate public transport in Greater Nottingham and improved interchange [between transport modes].
5. To support land use policy, regeneration and neighbourhood transformation strategies in the City, the district centres of Beeston and Clifton and other important employment and residential areas.
6. To extend the use of an environmentally friendly mode of transport

These high level objectives for the NET Phase Two project were further elaborated by Nottingham City Council in the '*Nottingham Express Transit Phase Two Full Business Case*' (2011), which primarily relate to the long term outcomes expected to follow the completion of Phase Two. These included:

Access to 1,270 workplaces and 20 of the 30 largest employers within the Greater Nottingham

- area, which could lead to an estimated 10,000 additional jobs in the area;
- Improved links to strategic sites such as the QMC and University of Nottingham (the two destinations responsible for the largest number of outward trips from the city centre), and employment hubs such as Southside, ng2, Lenton, Highfields Science Park, Beeston town centre, the Nottingham and South Wilford Industrial Estate, and Clifton town centre;
- Link the NTU Clifton and City campuses;

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<sup>9</sup> National Audit Office (2004).

- Increase the number of passengers using sustainable public transport. Line 1 is estimated to carry approximately 10 million passengers per annum. Congestion would be reduced through an estimated 3 million fewer car journeys each year; and
- Enhance the identity and social integration of Nottingham through a modern, well-designed sustainable transport infrastructure.

The Business Case made little reference to the relatively short run employment, expenditure and skills impacts associated with the construction of Phase Two (“Works”) and the expansion of operations capacity (“Services”), which are a primary focus of this evaluation project. This is perhaps a function of that document’s intended audience within Government and specifically the Department for Transport. It may also reflect the evolution of thinking within the City Council as a function of the changed economic environment in which NET Phase Two came to be constructed. A senior local authority officer commented on this:

*“The local economic impact was key. Pre-crash it was not the number one [priority]. The key driver had been increasing use of private cars and congestion and projections that this would get worse. The transport objectives were key at the start.”*

Senior councillors interviewed echoed this view albeit all were keen to stress that the City Council had been keen to maximise local economic benefits delivered through the project throughout. Initially the key objectives for the scheme were described as economic regeneration and transport integration:

*“Then we had the recession and the crash. This increased the importance of continuing the project. Job creation became more important in this context.”*

A senior manager from Tramlink provided an external perspective on the City Council’s thinking with respect to the balance between transport network and economic imperatives:

*“I think it was a bit of both actually. They genuinely wanted to help the economy.... And I think their vision of having an integrated public transport system was excellent.”*

The extent to which City Council thinking had evolved in this way is evident in the tender documentation associated with the project<sup>10</sup>. Objectives related to these short run impacts were made explicit by Nottingham City Council in the Technical Submission Requirements (TSRs) for tenders. The TSRs for increased local supply chain expenditure and local employment and training opportunities were grouped under General TSR 7 ‘Sustainability’ (T.Gen7). In this case, the term ‘sustainability’ refers to the intention that the project should achieve lasting impacts beyond the immediate timeframe of the construction works. The sustainability TSR was introduced in the following terms:

*“... to improve employment, training and business opportunities in the City of Nottingham and the wide region through the construction of NET Phase Two and the operation and maintenance of the expanded Network. Considerable opportunities will emerge through the project to improve skills in the local market, to provide training tailored to the implementation of the Project, and to*

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<sup>10</sup> It should be acknowledged here that local employment and supply chain benefits had also been implicit objectives of Phase One – but far more emphasis was clearly placed on these objectives for Phase Two.

*utilise the local employment and supplier market. The Authority considers it essential that maximum benefit is taken locally from these opportunities. Raising employment and skill levels for local people, providing openings to achieve qualifications and increased business growth are some of the highest priorities for the Authority generally.”*

(Technical Submission Requirements, 11. Employment, Training and Supply Chains, p. 46)

The tender submission produced by the Tramlink consortium in response to these TSR Requirements was ultimately successful, and became part of the Concession Agreement signed between Nottingham City Council (‘the Authority’) and Tramlink (the ‘Concessionaire’). This was based on Standard PFI Contract Terms amended to reflect lessons learnt from the NET Phase One project and recommendations from the Egan Report ‘*Rethinking Construction*’ (1998).

The members of the consortium responsible for the Works elements of the project were Taylor Woodrow (the civil engineering arm of VINCI Construction UK) and Alstom (manufacturer of the Citadis tram and responsible for the design and installation of the tram tracks and supporting systems). The consortium member operating the Services element is Nottingham Trams (part of the Keolis group). Other members included Wellglade (the bus operating group and owner of Trent Barton), the infrastructure investment specialists Meridiam Infrastructure, and the asset management company OFI InfraVia.

Tramlink’s Proposal (reproduced as Schedule 20 of the Concession Agreement)<sup>11</sup> sets out all activity under the Sustainability TSR Requirement in terms of a commitment to:

*“... work with the Authority to reduce the unemployment rate in Nottingham, increase university retention and the rate of working age people in the city who have a qualification.”* (Annex 1 to Part 4 of Schedule 20, p. 3)

This commitment aligns the objectives of NET Phase Two to the wider *outcomes* of reducing aggregate local unemployment and increasing workforce qualification levels. The Proposal details *outputs* (measurable - directly attributable to the NET Phase Two project) aligned to the above high-level outcomes (wider benefits that are also affected by external factors, particularly the macroeconomic environment). These output targets, or ‘Key Performance Indicators’ (KPIs) are set out in Annex 1.

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<sup>11</sup> Annex 1 to Part 4 of Schedule 20 in the Concession Agreement, ‘Sustainability – Employment & Training’.

## 2 ANALYSIS OF THE PROCUREMENT STRATEGY

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This section of the report will consider the extent to which the design of the procurement strategy devised for the project has contributed to ensuring that specific benefit is bestowed on the local economy and the extent to which, in the context of other similar projects, it can be regarded as a novel use of the legal framework.

The procurement process and strategy are of course in no small part a product of the requirements of central government and the legal framework that governs all larger scale public procurement. First, therefore, we will turn to look at the relevant parts of the legal framework that were in place at the time the NET Phase Two procurement process was under way<sup>12</sup> before continuing to consider how the framework is used by other recent light-rail projects, particularly the Manchester Metrolink, South Yorkshire Supertram, and Newcastle Metro and briefly the approach taken in the heavy rail sector.

In essence, it seems likely that the approach taken by the NET Consortium is distinct from earlier projects, certainly those in the UK, in that it explicitly attempts to tackle issues around employment and employability in the local workforce and that it does this intentionally and in a way that is also aimed at a particular group, directly by upskilling local people for employment on the works themselves. This intention to address a specific group and need is referred to here as the ‘granular approach’. Earlier projects demonstrate some concern with tangible benefits for the local economy but the specific focus on the work force has not been seen.<sup>13</sup> It is notable that even in future planning for these older networks, there is no indication that this will be a feature, by contrast this could be regarded as a ‘general approach’.

This may be because such local economic concerns are, in the context of infrastructure planning comparatively fleeting, the NET approach being ‘of its time’, conversely, it could be argued that the NET approach is only an indication of what might be achieved in light of the shift towards ‘localism’ in procurement. Equally, the earlier projects that will be considered here must be seen in the context of the funding environment which at the time of their conception did not regard factors such as local employment and training as considerations in delivering value or allocating funding.

### 2.1 THE LEGAL FRAMEWORK & THE NET PHASE TWO APPROACH

At the time of the NET Phase Two award, public procurement activities above the relevant thresholds were governed by the Public Contracts Regulations 2006<sup>14</sup>.

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<sup>12</sup> Since the decision to make the contract award, the Public Contracts Regulations 2015 (SI 2015/102) have come into effect. The purpose of the new Directives was primarily to simplify and consolidate the pre-existing body of law and now mandates that all awards above the threshold must be made on a ‘most economically advantageous tender basis’ (i.e. lowest cost is no longer a basis for making an award). The effect of these legal changes on this report, however, is minimal. The substantive aspects, particularly in relation to the award criteria and qualification of contractors, differ little.

<sup>13</sup> Although this may be a reflection of the interests of central government when funding such schemes.

<sup>14</sup> SI2006/5, which give effect to EU Directive 2004/17, also known as ‘the Public Sector Directive’.



The Regulations were applicable when the value of a contract, in this case a contract for a ‘public works concession’,<sup>15</sup> between a contracting authority<sup>16</sup> and an economic operator exceeded a value of more than €5.278m. As a result of being classified as a public works concession, the full regime contained in the Regulations did not apply,<sup>17</sup> although the substantive duties to ensure that the process is properly publicised, fair and transparent remained in place. The Regulations provide for three means by which appropriate bidders can be selected and chosen and two bases for making the final award.

Once it has been determined that the value of the award exceeds the threshold, the regulations are engaged. The contracting authority must then determine the type of process that is to be used to select bidders and the award criteria against which the tenders submitted by those bidders will be judged.

Under the Regulations, a contracting authority was able to choose between:

- an open procedure, under which a tender can be received from any potentially interested party;
- a negotiated procedure where potentially interested economic operators are filtered before they are considered for the contract award; and
- a restricted procedure where only a group of economic operators, selected by the contracting authority are able to tender.

Once tenders have been received (although of course the decision as to the award criteria must be made at the outset) the tender had to be awarded either to the economic operator who submitted the lowest cost tender or to the economic operator who submitted the ‘most economically advantageous tender’ or MEAT. If the latter was chosen, price became but one aspect. Providing they relate to objective criteria, a contracting authority could consider a very wide range of other factors, including those relating to technical capabilities, running costs, ability to provide a service, experience, etc.

It was held in *Beentjes v Netherlands*<sup>18</sup> to be lawful to include a range of other factors in a MEAT award. In *Beentjes* the contracting authority required that the tenderers demonstrate how they would seek to benefit the long term unemployed. The European Court of Justice held that a MEAT award could include as a condition of contract performance specific social outcomes, including this one, providing they were objective in nature. In *Commission v the French Republic*,<sup>19</sup> the ECJ went further, holding that providing they were properly publicised and non-discriminatory (in this case they were not published sufficiently clearly), requirements in relation to tackling local employment could be award criteria. As a result, today, MEAT (which is the only basis for an award under the regime which came into force in 2015) is a widely used vehicle for the delivery of social, economic and environments benefits and provides for what is termed the ‘granular approach’ described above.

The NET Phase Two utilised a negotiated procedure with the contract to be awarded to the MEAT. One aspect of the MEAT was the requirement, “to provide proposals setting out how they will ensure that employment and training opportunities in the design and construction of NET Phase Two and the

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<sup>15</sup> *Ibid.* Reg 2. & Reg. 36

<sup>16</sup> Reg. 2

<sup>17</sup> Reg. 36

<sup>18</sup> Case C-31/87

<sup>19</sup> Case C-225/98

operation and maintenance of the expanded Network will be made available to local people, and how they intend to ensure the delivery of supply chain opportunities to businesses in the local area.”<sup>20</sup>

Such a requirement is very clearly within the scope of a MEAT award and continues to be so under the 2015 Regulations. In broad terms therefore, using a tender to benefit a particular group, to bring skills and employment specifically to local people is not a novel use of the legal framework as such. It is however, a novel use of the legal framework in the context of light rail in the UK and a good illustration of how MEATs can be used imaginatively with the needs of the locality in mind.

Indeed, despite coming into force after the award of the contract, the procurement exercise for the NET Phase Two is very much in step with what has been described as a ‘quiet revolution’ in public sector procurement law – the Public Services (Social Value) Act 2012. This short Act represents a very real change in the approach contracting authorities must take to public sector procurement, specifying in s.1(3) that,

“The [contracting] authority must consider –

how what is proposed to be procured might improve the economic, social and environmental well-being of the relevant area, and

how, in conducting the process of procurement, it might secure that improvement.”

This piece of legislation effectively builds in such local concern to every instance of public procurement and will, for many contracting authorities, be a substantial challenge to their approach to procurement, particularly in times of reductions to public sector budgets across the board. However, the NET experience shows that these two imperatives can be reconciled. The use of the procurement process to incentivise the successful bidder to bring about real benefit to the local economy, to be ‘localist’ and deliver value for money is possible.

This is particularly the case where, as with Tramlink, the contracting authority becomes part of a local or regional partnership for the delivery of skills and employability training, securing ‘buy-in’ to this aspiration and compensating for the fact that a target or undertaking around this is not practicable. This is also an innovative feature, probably unique in a sector where ‘localism’ has historically not gone beyond general concern for the impact a light rail system might have by connecting areas of relative social deprivation with city centres. The prevalence of this approach can be seen in the section below comparing procurement processes elsewhere in the light rail sector.

## 2.2 THE APPROACH TAKEN BY OTHER LIGHT RAIL SCHEMES

### 2.2.1 South Yorkshire Supertram

The South Yorkshire Supertram centred on Sheffield has now been operating for twenty-one years during which time three substantial contracts have been let. The first was for the development of the network and procurement of rolling stock, the second was to expand the fleet, the third and most recent for the replacement of worn out rails.

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<sup>20</sup> The NET Phase Two Full Business Case, p.46

When initially building the network, regard was had for the need to link together more economically deprived areas of the city, particularly post-industrial areas, with the city centre. However, the original business case (reflected in the procurement strategy) makes no reference to creating enduring benefits for the community in terms of jobs, etc. Indeed, the benefits are couched in primarily general terms, a halo effect for the city, general benefits of an improved public transport system, but no references to how funds might be spent in order to benefit specific groups – a general rather than granular approach.

This approach is replicated in the letting of the contract to provide additional rolling stock. Admittedly, not a contract which readily lends itself to the skilling of the local workforce, in the same way,<sup>21</sup> the Additional Vehicles Project highlights once again how the network serves to connect areas of lower employment with local centres of economic activity and elaborates how the additional rolling stock will further this. It stops short, however of offering any vision for how the tender might directly benefit this group through employment, skills or training.

The most recent, substantial tender for Supertram is for the replacement of prematurely worn, embedded rail. The tender was awarded on a MEAT basis, although the criteria make no reference to the need to provide particular benefits to the local community. Again, local benefits are regarded as merely consequential to the works themselves and resulting from the fact of those works.

The SYPTE *Draft Tram Strategy 2008-2021* communicates a clear vision of a future network with less overcrowding, greater capacity and improved performance, yet even within this aspirational document, there is nothing beyond general reference to improvement to the local economy to speak of.

In summary, therefore, while undoubtedly the project has realised many benefits for the city, by contrast to the NET, it has not used its procurement process to achieve more specific benefits.

### 2.2.2 Manchester Metrolink

The GMPTE *Responsible Procurement Charter* makes general undertakings to bring about, “reduced poverty, increased skills levels, community benefits, and improved welfare standards,” although it is unclear whether this is intended to be achieved by specific measures to ensure local procurement and enhancement, or whether this is perceived as a likely resulting benefit of the expansion and operation of the network. There is no readily available evidence that the network operator has used strategies akin to those used by the NET consortium to deliver these benefits, even in relation to the very substantial and recent ‘Phase III’ extension.

Much reference is made in this document to ‘community involvement’, however this appears to focus on engagement with stakeholders and ensuring that works and operations carried on by the network operator have a minimal impact on those who live nearby.

Once again this project has had a major impact on the city but in terms of its procurement strategy it has seemingly been relatively conservative. This appears to have carried over in the design of the tender process currently underway to find an operator for the network for the next ten years.

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<sup>21</sup> There is potential scope, however, in terms of maintenance, for example.

### 2.2.3 Metro – Newcastle & North East

Having been in operation since 1980, comparison with the procurement process of the time is unlikely to be helpful, however, it is possible to look toward the approach intended to be taken by the operator Nexus into the future.

It is notable that looking toward the future, the operator continues to see the network playing an important role in assisting and serving certain groups within the community, including those seeking work, but there is no suggestion that the operation or extension of the network might be a means of assisting directly.

Equally, with a mature network, the opportunities to invest in the education and training, for example are likely to be limited. That said, it is anticipated that replacement rolling stock will be purchased in the coming years. A procurement strategy for this is no doubt some years from being realised but even so, there is no aspirations to use this as a means of enhancing the local economy or groups within or to otherwise consider scope for innovation within the legal framework.

### 2.2.4 Edinburgh Tram

The Edinburgh Tram is another recent development and very publicly plagued with delays and disputes between the company established to deliver the project, Transport Initiatives Edinburgh and the consortium of contractors. Despite the difficulties in bringing the first phase into operation a second phase is now set to go ahead.

As seen with other comparable projects in this analysis, there is a pervasive theme and emphasis on general economic benefits bestowed by such a substantial infrastructure project with benefits seen in terms of the creation of jobs in construction and operation of the system but moreover, supporting the growth of a major commercial city. Edinburgh, the city with the second highest city-GDP in the UK and 15<sup>th</sup> highest in the OECD, low unemployment and the highest wages outside of London, is perhaps simply not a city in need of the kind of direct, granular procurement design that has been used in Nottingham. The economic drivers behind the decision to develop the network in the first place appear to be very different, primarily to ensure the continued functioning of a city with a rapidly growing population (35,000 new jobs were expected to be created in the city during the period of construction)<sup>22</sup> in need of housing (24,000 units required)<sup>23</sup> which then needs to be well connected to the city itself, which owing to its historic nature has severe and long standing traffic problems. That said, the *Final Line One Environmental Survey* which looks at measures of deprivation at a ward level, shows that three wards through which the tram passes are in fact relatively poor, with one, Muirhouse/Drylaw amongst the worst 3% in Scotland.

These wards are characterised by low income, employment and levels of education. Yet, the Edinburgh Tram procurement strategy does not apparently feature any specific requirements that the winning bidders should seek to employ or upskill local people, let alone specific groups within the local workforce, although it is recognised that the network, once operational, will reduce unemployment in area by around 1%<sup>24</sup> It is acknowledged that building of the tram will likely produce some benefits in terms of direct employment but the procurement process and the realisation of those benefits remain disconnected – there is no policy or framework encourage or ensure these jobs go to local people, merely noting there is

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<sup>22</sup> Edinburgh City Council, *Edinburgh Tram Draft Final Business Case*, 2006

<sup>23</sup> *Ibid.*

<sup>24</sup> Mott MacDonald, *Edinburgh Tramline 1 Environmental Statement Non-technical Summary*, 2003.

a fit between the prevailing skill level in areas of deprivation and the skill level required for some jobs in the construction phase.

In broad terms, the 2006 position is apparently unchanged in the preparatory work for the proposed extension to the network.

## 2.3 COMPARISON WITH HEAVY RAIL

It is worth briefly comparing the approach taken by the light rail sector with that taken in the heavy rail sector. Although there are of course many differences in the nature and structure of this industry there are many common players, suppliers of both infrastructure and rolling stock, some crossover of workforce and the intended economic and social benefits of many heavy rail projects (e.g. Crossrail) could be regarded as similar to those of urban light rail projects outside of London.

### 2.3.1 Network Rail

The Network Rail approach to procurement can be found in their *National Supply Chain Strategy*. Here, Network Rail make fleeting references to localism in procurement, acknowledging that local suppliers and labour bring with them local knowledge which may be suitable in some projects<sup>25</sup> and in making reference to their *Sustainable Procurement Principles* espouse 'sustainable employment' to "[a]dvertise employment and training opportunities to give local communities an equal opportunity to work on Network Rail sites," and 'diverse and inclusive supply chain' to "[p]rovide local suppliers and sub-contractors an equal opportunity to compete for appropriate contracts." Unfortunately, no detail of either of these is provided so it is difficult to discern what if any substance they have in practice, or whether they have informed past procurement, there is no evidence if this has been the case, although the use of local suppliers, even for purely pragmatic reasons, will clearly have created local benefits by accident if not by design, although these benefits may be purely financial and not reflected in the skill levels of local people. Certainly, it would seem that they are intended to be aspirational and little more.

It is however noteworthy that an Alstom manager interviewed about NET Phase Two indicated that a recent Network Rail tender included local employment and training targets of a very similar nature to those included in the concessionaire's agreement for NET Phase Two. It is not possible to say whether this represents a more general policy shift or indeed if this is evidence of policy learning from Nottingham. We can however state that Nottingham City Council anticipated this shift in procurement practice relating to infrastructure projects.

### 2.3.2 Crossrail

By comparison to many light rail schemes and the general position of Network Rail, Crossrail, through its *Responsible Procurement Policy*, stands out as a strong example of an infrastructure project that has sought to develop opportunities for the unemployed and particularly youth unemployed. The *Responsible Recruitment Policy* states in somewhat equivocal in its wording stating, "[w]e will seek to incorporate provisions into our contracts, where appropriate, to offer training and employment opportunities for London's communities and to address under-representation of particular groups in particular sectors, and the need for providing skills and opportunities for people experiencing long-term unemployment."<sup>26</sup> However, it has delivered real results, using many of the same approaches taken by the NET Phase Two,

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<sup>25</sup> At p.18

<sup>26</sup> At p.3

including requiring that all vacancies are advertised at Job Centres, partnering with sub-contractors to deliver 1600 training places and 800 apprenticeships and working with contractors to engage local unemployment groups near construction sites to provide advice and exposure to Crossrail jobs. The responsible Procurement Policy goes further and shows how the boundaries of the MEAT legal framework might be pushed (although in non-committal language), favouring diverse suppliers (including SMEs) who pay a living wage, make good provision for workforce welfare, etc.

Comparison with Crossrail however must be treated with caution. The sheer scale of Crossrail alone is of course a factor in this, as is the fact this is a further infrastructure investment in a city that is already wealthier and better served in this regard than almost anywhere else in Britain. To counter this, Crossrail also has a further strand of procurement policy which seeks to maximise the benefit to the UK as a whole, thereby distributing the benefits more widely. A situation where there is scope to maximise local benefit, while ensuring funds dissipate over the rest of the region, let alone the country, is unlikely to arise in light rail.

## 2.4 CONCLUSIONS

The legal framework does, and has for some time, permitted contracting authorities to make the realisation of socially beneficial objectives, such as the alleviation of unemployment through the up-skilling of local workforces, an aspect of a contract award.

In light of this, the inclusion of requirements to assist in education and training of local people for the building of the NET Phase Two is not innovative *per se*, although it's local and detailed, 'granular' approach, in which the economic operator becomes a partner in a wider network is certainly not common, and is an excellent example of localism in procurement. The NET Phase Two procurement exercise may serve as an excellent example of how the requirements of the Public Services (Social Value) Act 2012 might be satisfied in future infrastructure projects.

Light rail schemes in general have seen local economic benefits in very general terms and seem to continue to do so. They have certainly not sought to promote the specific, 'granular' approach to benefitting the local community that has been adopted by the NET Phase Two. The issue therefore is not whether other projects have been as innovative, or innovated in different ways, but whether they have sought to make direct and real benefits to the local economy an objective at all. While the legal framework clearly permits this, by comparison to the other such networks, the NET approach, while very similar to that of Crossrail in heavy rail, can be regarded as unique in the sector.

### 3 ECONOMIC IMPACT ASSESSMENT

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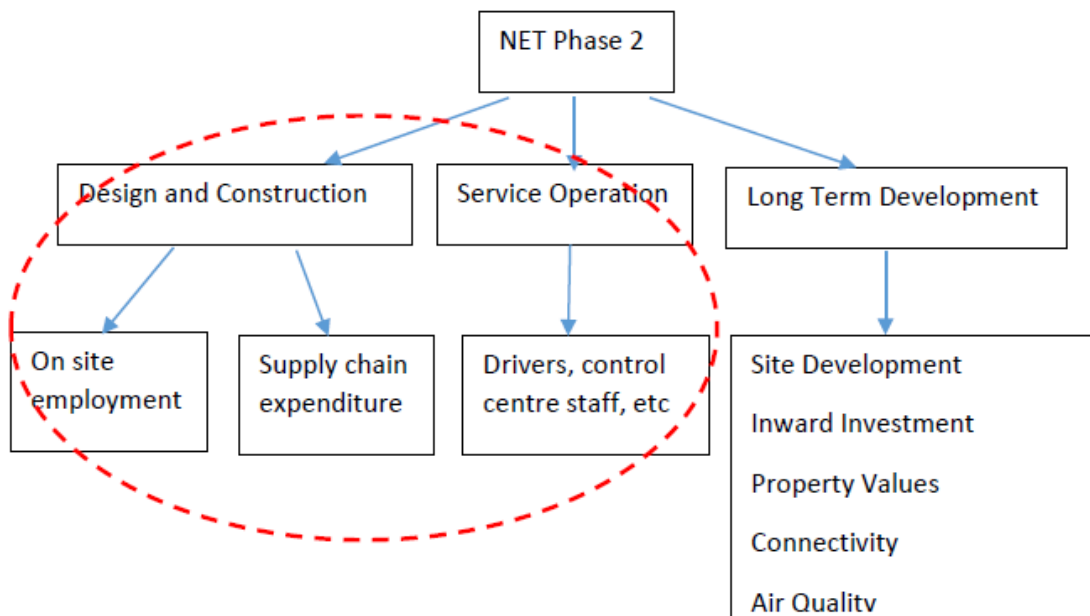
This section of the report sets out the economic impact associated with the construction of Phase Two. The Phase Two project is a complicated one with a range of impacts, economic, social and environmental, associated with it. For example, environmental impacts may result from lower levels of air pollution because of fewer car journeys on Nottingham's roads. Social impacts may result from fewer accidents as a result of fewer cars on the road. These are important and potentially significant impacts over the long term but are potentially difficult to quantify and attribute to the Phase Two project and fall outside the scope of this study. Longer term economic impacts may arise from inward investment decisions, site development or increased levels of connectivity in the labour market as a result of Phase Two. A qualitative assessment of the potential impact from these and other sources is presented in Section 5.

The focus of this study is on the relatively short run economic impacts arising from increased employment and expenditure in the local and regional economies resulting from the design and construction of Phase Two and the operation of services on the new routes. There are three sources of impact that are assessed in this section:

1. Impacts arising from the increased employment during the construction of Phase Two;
2. Impacts arising from supply chain purchases of plant and materials used during construction, for example concrete, earth-moving and landscaping equipment; and
3. An indicative assessment of the impact of the additional employment required to operate services on the new routes, such as additional drivers and control staff.

Each of these sources of impact will generate successive rounds of expenditure in the local economy (the multiplier effect), for example increased demand for concrete will, in turn, generate increased demands for cement and aggregates. This will, in turn, increase demand for the ingredients of cement and so on. Capturing these multiplier effects is a standard approach to economic impact assessment and is incorporated into our approach. Figure 2 summarises the sources of impact from the Phase Two project, with the red dashed line highlighting the short run impacts that are quantitatively assessed in this section of the report.

**Figure 2: Nature of impacts associated with the Phase Two project**



The data used in this impact assessment has been provided by the consortium that has designed, built and is running Phase Two. At the time of writing final data for the project was not available so the results presented in this section should be seen as a lower bound on the economic impact of the Phase Two project<sup>27</sup>.

### 3.1 EMPLOYMENT IMPACTS

This sub-section presents an analysis of the employment impacts of the NET Phase Two project. The employment associated with the Phase Two project has been categorized as ‘Works’ and ‘Services’. ‘Works’ employment is generally that associated with design and construction activity, is temporary in nature and includes all people working on site at any given time (including sub-contractors). ‘Services’ is the employment that is associated with ongoing operations.

Chart 3 is based on monthly employment and sustainability reports compiled by the Phase Two project and shows how employment has developed on a monthly basis since mid-2012. Unsurprisingly employment in ‘Services’ has been much more stable than that in ‘Works’. Services employment has, for most of the period reported, been quite stable with an upward trend during the autumn/winter of 2013. The latest report that we have suggest that there were around 260 staff employed in ‘Services’ in

<sup>27</sup> It is particularly important to consider this in light of media reports of significant cost overruns on the project. Additional expenditure over and above that reported here will, on the basis of the impact methodology utilised, increase the impact of the project.

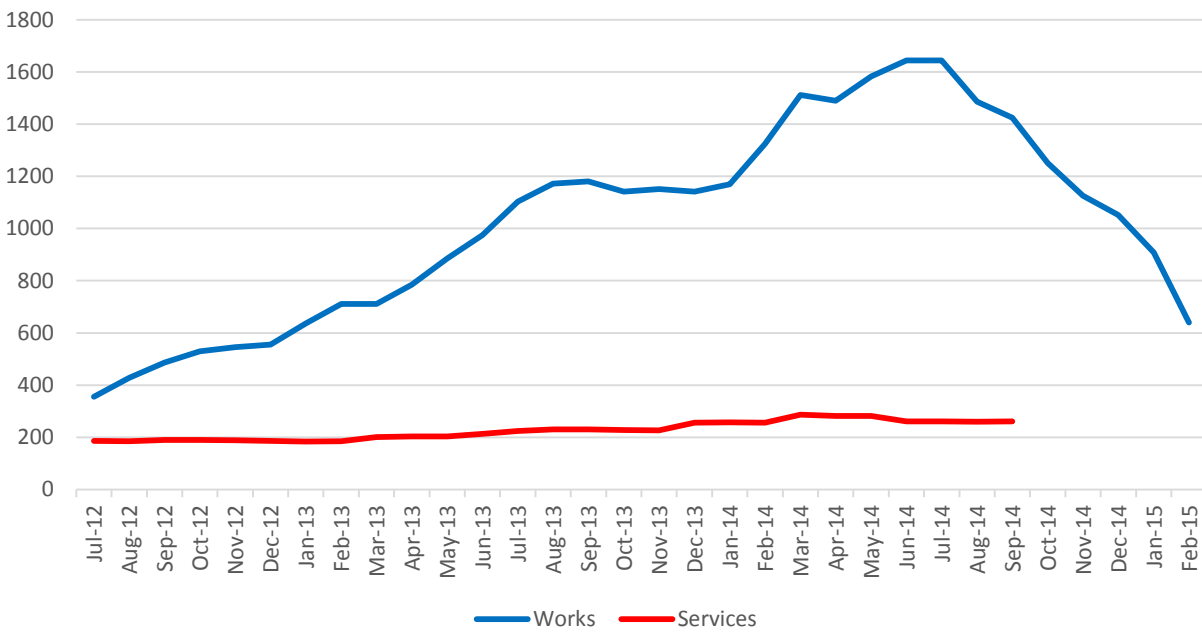


September 2014 and around 100 of these are directly employed as a result of the extension of the tram. The impact of this additional services employment is considered in the following sub-section.

In contrast there are four clear phases to ‘Works’ employment:

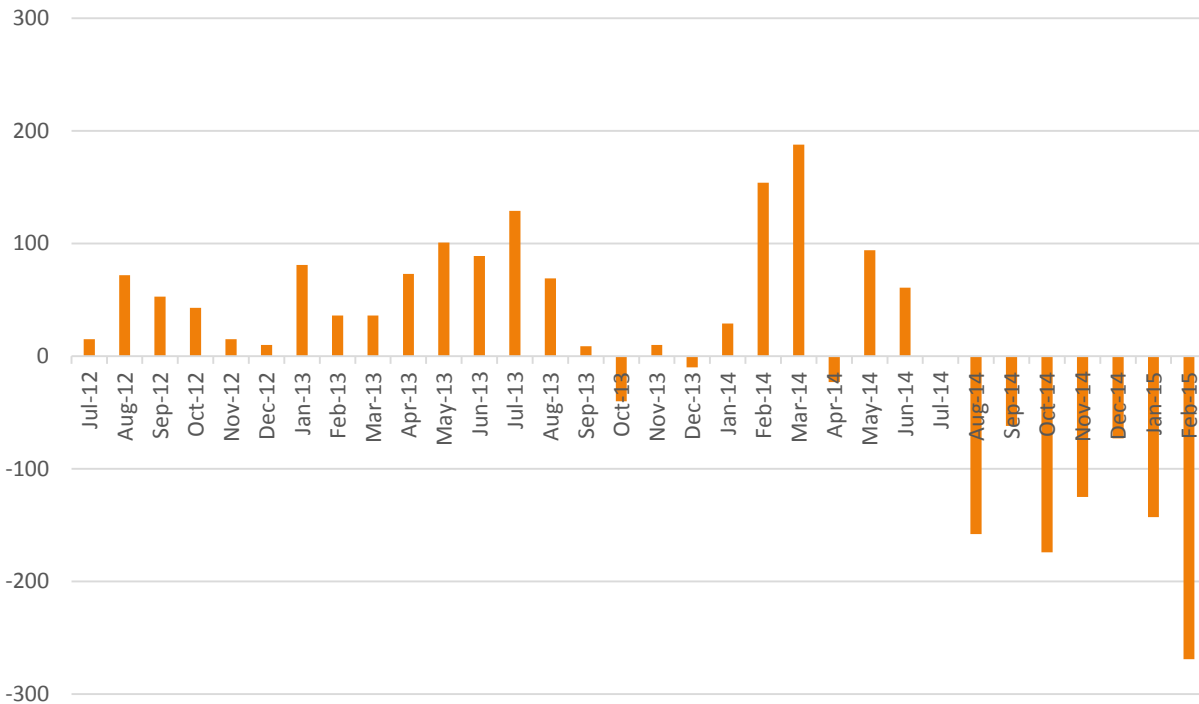
- The first, from July 2012 to July 2013, is one of steady increase from around 350 to 1,100 staff;
- The second period is one of stability, at around 1,100 staff, from July 2013 to January 2014;
- There is then another period of growth as the number of ‘Works’ staff increases to a peak of around 1,650 in mid-2014; and
- A final period of contraction as activity on the ground winds down. The latest report is that in February 2015 there were around 640 ‘Works’ staff still on the project.

**Chart 3: Employment associated with the NET Phase Two project**



Source: Tramlink Employment and Sustainability Reports July 2012-February 2015

**Chart 4: Monthly change in 'Works' employment on the Phase Two project**



Source: Tramlink Employment and Sustainability Reports July 2012-February 2015

In addition to this aggregate data it is also of interest to examine the spatial pattern of those working on the Phase Two project. This breakdown will be particularly useful in the assessment of employment impact that will be based on this data. Reporting on the spatial patterns of employment has changed as the project has progressed so there isn't a single consistent data series. However it is possible to state the following:

- For 'Services' staff in the period from July 2012 to March 2013, on average around 60% were local, 12% from the wider area, 26% were regional and the remaining 1% from further afield. There is no reason to suggest that these proportions will have changed significantly in the intervening period;
- For 'Works' staff in the period from July 2012 to December 2014, on average around 31% were local, 13% from the wider area, 23% were regional and 33% were from further afield; and
- On the basis of an alternative set of definitions for the period August 2013 to September 2014 an average of 25% of 'Works' staff were from the City, 15% from the Conurbation, 5% from Greater Nottingham, 24% from the East Midlands and 30% from further afield.

### 3.1.1 Economic Impact of 'Works' Employment

This sub-section sets out the impact associated with design and construction activity in the 'Works' stage of the project. The profile of 'Works' employment was presented in Chart X and this data forms the basis for this assessment of impact. There are a number of stages to this assessment:

1. Estimation of the number of years of employment associated with the works stage of the Phase Two project;
2. An assessment of leakage outside the geographical areas of interest. For the purposes of this assessment we are interested in local (Nottingham and Nottinghamshire) and regional impacts. Employment created for residents outside these areas is counted as leakage and excluded from the calculations;
3. The application of a multiplier to account for economic activity generated by this employment; and
4. Estimation of impacts on gross valued added by applying a GVA per worker figure to the estimated number of jobs.

Chart 4 shows the number of Works employees by month from July 2012 to February 2015. This gives us the total number of Works employee months which is converted to years of Works employment. In total over this period Phase Two generated over 2,800 years of Works employment (see Table 1).

However not all of this employment is within the area of impact for the purposes of this study. Data collected by the Phase Two project allows us to identify where these employees come from. Those employees from outside the study area are considered as leakage and excluded from the impact calculation. The proportion of employees counted as local was 47% in 2012 and 2013 and fell to 41% in 2014 and 2015. The proportion of employees counted as regional was 19% in 2012, 23% in 2013 and 24% in 2014 and 2015. Table 2 shows that accounting for leakage gives a total of 1,232 years of local Works employment and 650 years of regional Works employment.

The third step of our methodology involves the application of a multiplier to account for the additional activity elsewhere in the economy that is supported by the Works employment generated by the Phase Two project. On the basis of previous research into the multiplier effects of a range of activities<sup>28</sup> we use a local multiplier of 1.33 and a regional multiplier of 1.4 to estimate these effects. Table X shows the effect of taking these multiplier effects into account. Locally the Works stage of the Phase Two project has supported around 2,900 years of employment and a further 1,600 years of employment regionally.

The final step in our approach is to apply a productivity figure to the employment numbers to generate an impact in terms of gross valued added (GVA). Estimates of output per worker from the WebTAG<sup>29</sup> database have been applied to the employment impacts and these are shown in the final two columns of Table X. Locally, the 'Works' stage of the Phase Two project has generated GVA of £108 million, with a further £61 million regionally.

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<sup>28</sup> *BIS OCCASSIONAL PAPER NO.1: Research to Improve the Assessment of Additionality, Department for Business, Innovation and Skills, October 2009.*

<sup>29</sup> *TAG Unit A2.1 Wider Impacts Version 2.5, July 2013, Department for Transport.*

**Table 2: Economic impact of 'Works' employment**

Year	No of Works Employee		Local Works Years	Regional Works Years	Local multiplier effect	Total Local Years	Regional multiplier effect	Total Regional Years	Local GVA (£)	Regional GVA (£)
	Months	Years								
2012	3,951 <sup>30</sup>	329	155	63	206	361	88	150	13,251,000	5,735,000
2013	11,590	966	454	222	604	1058	311	533	39,557,00	20,686,000
2014	16,703	1,392	571	334	759	1330	468	802	50,529,000	31,669,000
2015	1,549	129	53	31	70	123	43	74	4,772,000	2,989,000
<b>TOTAL</b>	<b>3,3793</b>	<b>2,816</b>	<b>1,232</b>	<b>650</b>	<b>1,639</b>	<b>2,871</b>	<b>910</b>	<b>1,559</b>	<b>108,109,000</b>	<b>61,079,000</b>

Source: ESRB Calculations

<sup>30</sup> Note: this figure includes an estimate of around 1,000 months of employment for the period January- June 2012.

### 3.1.2 Economic Impacts of ‘Services’ Employment

In addition to the impacts associated with the design and construction of Phase Two, there is a need to assess the potential impact associated with the operation of Phase Two. In terms of overall numbers, these employment impacts are much smaller than those associated with construction, but they are permanent full-time equivalent (FTE) increases so will have ongoing impact. The method employed for assessing impact from ‘Services’ employment is similar to that used above for ‘Works’ employment.

As a result of the Phase Two extension there has been increased demand for a number of staff in key categories. In addition to drivers and travel officials required to run the new services staff have also been recruited to:

- Operate a new customer service centre- these functions were undertaken by general administrative staff for Line 1 but the expansion of the network means that a dedicated team is now required; and
- Facilitate an expansion of the depot and control centre- this has doubled in size as a result of Phase Two and there has been a requirement for additional service delivery supervisors and managers.

In line with recent guidance, the impact of these additional posts has been assessed on the basis of an assumption that they will last for 10 years, with GVA values discounted using the HM Treasury Green Book recommendation of 3.5%. Overall around 100 posts have been created directly as a result of the expansion of the network<sup>31</sup>. In total this additional direct employment will support a further 130 jobs through indirect and induced effects and is expected to generate a total of around £78m of GVA for the local economy.

**Table 3: Ongoing impact from ‘Services’ employment**

No of FTE jobs created	230
GVA (£m)	77.6

*Source: ESRB Calculations*

There is also a small temporary employment impact due to the Alstom Warranty Team, which will be in place for 2/3 years. This is a small team of around 20 staff who will provide emergency maintenance and repairs as required. It is anticipated that this will generate around £5.3m of GVA for the local economy.

## 3.2 SUPPLY CHAIN EXPENDITURE

This sub-section presents an assessment of the impacts associated with purchases of goods and services made by the consortium from its suppliers. The introduction to this section of the report noted how the multiplier effect works and generates wider economic impact from the Phase Two project. A total of £226m has been spent on the design and construction of Phase Two. The profile of this expenditure shows that just over a fifth was spent in 2012, just over half in 2013 with the remainder in 2014.

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<sup>31</sup> This assessment excludes a small number of temporary ambassadors who were employed for between 6 and 8 weeks in the second quarter of 2014.

However not all of this will generate impact within the study area. Where supplies have been sourced from outside of the region, this counts as leakage- it generates impact outside of the study area. Around 32% of total expenditure occurred outside the study area and counts as leakage. Around 44% of expenditure was local and the remaining 24% was regional.

There is an additional complication in that some of those in employment shown in Chart X were sub-contractors. Expenditure on sub-contractors is included in the total of £226m so in order to avoid double counting of impact in our approach, we have to exclude this expenditure from our analysis. We have been advised by the consortium that this expenditure would account for around 40% of the total. Accounting for these labour costs and leakage means that we assess the impact of £92m of supply chain expenditure on the local and regional economies, with £60m of this spent locally and £32m spent regionally (see Table 4).

**Table 4: Impacts from supply chain expenditures (£m)**

	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>Total</b>
Total spend	51	110	65	226
<i>Local spend</i>	<i>13.6</i>	<i>29.2</i>	<i>17.3</i>	<i>60.1</i>
<i>Regional spend</i>	<i>7.2</i>	<i>15.5</i>	<i>9.2</i>	<i>31.9</i>
Local multiplier effect	18.0	38.9	23.0	79.9
Regional multiplier effect	10.1	21.7	12.8	44.6
<i>Total local impact</i>	<i>31.6</i>	<i>68.1</i>	<i>40.3</i>	<i>140.0</i>
<i>Total regional impact</i>	<i>17.3</i>	<i>37.2</i>	<i>22.0</i>	<i>76.5</i>
<b>Total impact</b>	<b>48.8</b>	<b>105.3</b>	<b>62.3</b>	<b>216.4</b>

Source: ESRB Calculations

Overall the £92m of supply chain expenditure generates a total impact of £216m of economic activity over the three year period 2012-2014. This comprises local and regional impact as follows:

- Local impact: application of a multiplier effect to the £60m of local spend generates an additional £79.9m as a result of successive rounds of purchases made in the local economy, giving a total of £140m of additional economic activity in the local economy as a result of the Phase Two project; and
- Regional impact: application of a regional multiplier effect to the £32m of regional spend generates an additional £44.6m, giving a total of £76.5m of additional economic activity in the regional economy as a result of the Phase Two project.

### 3.3 SUMMARY OF ECONOMIC IMPACTS

The design and construction of Phase Two was a large and complicated project that has delivered significant impact and will continue to do so as it is used in the future. This assessment has been limited to the economic benefits associated with its design and construction and economic benefits associated with its operation. Potentially important social and environmental benefits will be realised over the long

term and are outside the scope of this study. Our assessment of impact from design and construction and some operational impacts can be summarised as:

- During the design and construction period around 2,900 years of employment in the local economy and a further 1,600 years of employment in the regional economy have been created, generating around £108m and £61m of gross value added respectively;
- During the design and construction period supply chain expenditures have generated around £140m of activity in the local economy and a further £77m in the regional economy; and
- Around 230 jobs are estimated to have been created as a result of operation of the new services, through additional drivers, control staff and so on, which will generate around £78m of gross value added in the local economy during the next decade.

## 4 LOCAL TRAINING AND SKILLS IMPACTS

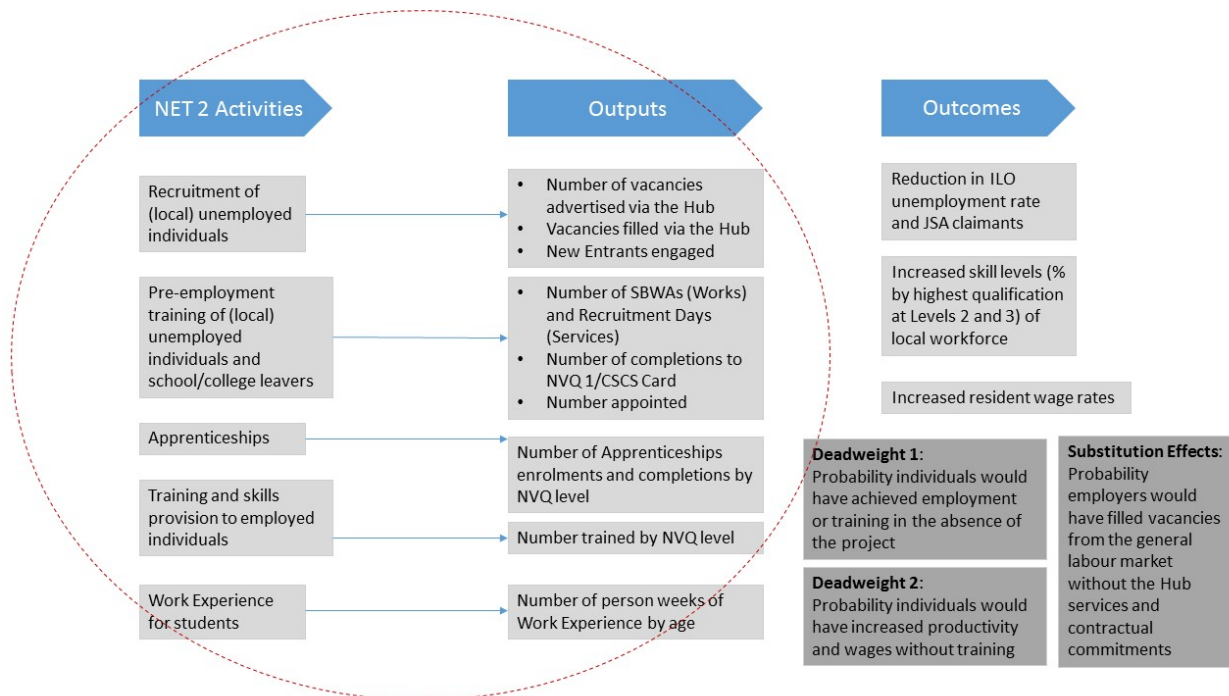
### 4.1 APPROACH AND RESEARCH INPUTS

NET Phase Two was designed to have a sustained impact on local unemployment and skill levels, reflected in the original instructions to bidders and the Concession Agreement. As well as identifying activities that could contribute to the high level outcome objectives of reducing average unemployment rates and increasing skill levels and wages across the resident population of Nottingham, the Concessionaires also committed to ensure that specific 'Priority Groups' identified by Nottingham City Council would benefit from the project. These groups included:

- Job Seekers' Allowance (JSA) claimants resident in the city;
- Young people not in education, employment or training (NEET) or in work with no training;
- Residents in the most deprived wards in the city; and
- People belonging to Black, Asian and minority ethnic groups.

This section will investigate the NET Phase Two activities that can be aligned to local employment and training objectives, including for Priority Groups. Figure x illustrates these activities, the measurable project outputs directly associated with them, and the high level outcome objectives they are aligned to. It is based on a logic model for evaluating the impacts of training and job brokerage initiatives (Ecotec, 2009).

**Figure 3: Nature of Recruitment and Training impacts associated with NET Phase Two**





Source: adapted from Figure 6.1 of the *'Toolkit for the Evaluation of emda Strategic Programmes'*, Ecotec on behalf of the East Midlands Development Agency, 2009.

The five activities listed on the left-hand side of Figure 3, refer to:

1. **Recruitment through Nottingham City Council's Employer Hub**, covering targeted recruitment to job vacancies in the Works and Services as well as brokerage of Apprenticeship opportunities;
2. **Pre-employment Training through the Sector Based Work Academies (SBWA)**, where local residents (of Greater Nottingham postcodes) in receipt of JSA could be referred by the Hub to a 6-8 week training course, completion of which resulted in a NVQ Level 1 in Construction Operations and a guaranteed interview for a Works job role with Alstom. In the case of the Services, comparable activities took place through one day recruitment events run by Nottingham Trams with the Hub;
3. **Apprenticeships** at NVQ Levels 2 and 3 with Works and Services employers;
4. **Workforce development** where consortium members and sub-contractors engaged with local providers to train existing staff, including to NVQ or equivalent qualifications; and
5. **Work experience, internship and graduate placement opportunities** provided by consortium members and local FE colleges, including through the Prince's Trust's 'Get Into Construction' and the Construction Youth Trust's 'Budding Brunels' schemes.

In figure 3, the red dash indicates the areas that can be investigated in detail in this section - the five activities themselves and their associated outputs. The extent to which to any change in the high level outcome objectives (such as reduced overall unemployment) can be attributed to the project outputs cannot be investigated quantitatively in this evaluation report. This is because there is not sufficient information to estimate: deadweight (the proportion of outputs that may have occurred in the absence of the project); substitution (whether employers chose to fill vacancies with beneficiaries of NET Phase Two activities, substituting candidates who may have otherwise been recruited from the general labour market); or the persistence or transferability of impacts. Moreover, there is limited information on the duration of many NET Phase Two job roles and the extent to which skill and productivity gains can be transferred to other employers or industry sectors after the end of the project. The areas of figure 3 outside the red dashed line will therefore be addressed qualitatively with reference to interview responses.

The sources and research inputs for this section include:

- A document review, including the Concession Agreement, the monthly Employment & Sustainability reports, email correspondence between the project partners, and relevant national evaluations of the Youth Contract and Sector Based Work Academies (SBWAs), Apprenticeship and training to NVQ levels 2 and 3;
- Output monitoring data from the Employment & Sustainability reports and other ad hoc reporting (as also used in Section 3). This has been checked and adjusted through interviews with staff responsible for HR, recruitment and training amongst the consortium members as well as staff from FE colleges and the Hub. More detailed information on demographic characteristics and employment outcomes for a sample of Hub outcomes (clients who successfully secured employed

or training with the project partners) was also provided, enabling the assessment of Equality and Diversity characteristics against local and national baselines; and

- More qualitative insights from the interviews with project partners, which included the importance of the project’s objectives and priorities, the nature and effectiveness of partnerships and delivery bodies, and different views on the sustainability and transferability of training and skills output and the additionality of the training and employment associated with NET Phase Two activities.

Interviews suggest that, in addition to benefits for recruits and trainees, NET Phase Two may also have benefited local partnerships and the capacity of consortium members to deliver subsequent projects. Observations of this kind will be made where relevant across the 5 strands of activity.

It is necessary to establish some key terms and definitions used throughout the documentation, management data and interview responses. These are set out in the table below:

**Table 5: Recruitment and Training Terms and Definitions**

New Entrant Trainee	A person leaving an educational establishment or training provider, or a non-employed person seeking employment with on-site assessment and training and/or off-site training.
Apprentice	A new entrant trainee registered as an apprentice with an industry recognised body.
Other trainee	A new entrant trainee other than an 'apprentice'.
Graduate Entrant	A new graduate trainee that is recruited prior to commencement on a Degree course or during or after a Degree course.
Work placement or Internship	A period of unwaged engagement for work-shadowing or a pre-employment work-trial. The Employment & Sustainability Reports monitor work placements for 16-17 year olds (school/college) and 18+ year olds (college/Higher Education).
Vacancy	An employment (or self-employment) opportunity within the Concessionaire, Contractor or a Sub-contractor.
Employer Hub	A local labour brokerage/targeted recruitment service now known as the 'Nottingham Jobs Hub'. Funded by Nottingham City Council principally through Section 106 leverages. The Concessionaire agreed to advertise 100% of NET Phase Two Works and Services vacancies through the Hub.
SBWA	Sector Based Work Academies, a Department of Work and Pensions (DWP) model for pre-employment training, with funding from the Skills Funding Agency (SFA) adult skills budget. To be classed as an SBWA, a course must be linked to an employer and a job vacancy.

Source: Annex 1 to Part 4 of Schedule 20 in the Concession Agreement, '*Sustainability – Employment & Training*', Terms and Interpretation, page 4, amended with information from project partner interviews.

## 4.2 RECRUITMENT THROUGH THE EMPLOYER HUB

The Employer Hub was established in August 2011 by Nottingham City Council as a local recruitment and training service, with key partners including Jobcentre Plus, Work Programme providers, FE providers and

a network of community-based organisations. The service can be described as a job brokerage service facilitating “the entry of those out of work into employment” by working with “both employers and jobseekers to directly match individuals to vacancies.” (Ecotec, 2009. P. 124)

The Hub’s capacity increased significantly during the lifetime of the NET Phase Two project. According to interviews with representatives of the Hub and Nottingham City Council, it was initially operated by a single Project Officer and a consultant (plus a part-time administrator) employed by Nottingham City Council. They worked with the Tramlink consortium to negotiate the KPIs in the Concession Agreement.

The Hub provided limited job brokerage services for earlier construction projects, notably the NTU Byron House development and the Nottingham Station Hub (both also delivered by TW/Vinci), and a range of smaller construction projects. Interviewees stated that the scale and duration of the NET Phase Two project made the increased range and depth of Hub services viable.

Following the finalisation of the NET Phase Two Concession Agreement and the commencement of the Byron House project Works (which began in early 2012 and finished in 2014), a new Hub co-ordinator was appointed in February 2012 and became the Hub’s representative on NET Phase Two steering groups. The Project Officer remained responsible for the bulk of delivery activities. After the NET Phase Two construction had been underway for 12 months, new posts at the Hub were created in July 2013, including a Partnership Development Manager who worked closely with the Department for Work and Pensions (DWP), a second Project Officer and three Employment Advisors. Between July 2013 the April 2014, the full-time staff for the Hub grew from 1 to 5.

From 2014, the Hub has been consistently resourced and had been integrated with local DWP recruitment and training services, with the head count growing to 12 with the addition of DWP Employer Advisors. However, this period of stable capacity coincided with the tapering of employment in the NET Phase Two Works. Interviewees noted capacity constraints during the earlier periods of peak Works recruitment, and felt that full staffing at an earlier point in the project may have increased impact and improved the consistency and detail of monitoring information.

The service is now known as the ‘Nottingham Jobs Hub’ or ‘Nottingham Jobs’ and is promoted as a joint initiative led by Nottingham City Council and the DWP (following service integration) providing a labour brokerage and recruitment service for local businesses. Activities include free vacancy advertisement and management, an interview service, and some further recruitment and HR services flexibly available to businesses, including Apprenticeship advice and guidance services. The vacancies advertised are predominantly targeted at an entry level client base, many of who will be JSA claimants. The Hub’s stated aim is to, “address unemployment in Nottingham and help unemployed city residents back to work.” ([www.nottinghamjobs.com](http://www.nottinghamjobs.com)). It therefore explicitly targets the unemployed Priority Group as the main client base for its services. It is funded by the City Council, primarily through Section 106 leverages, and now includes provision of a conditional wage subsidy to employers (the ‘Nottingham Jobs Fund’, a local equivalent to the Future Jobs Fund, funded by any underspend elsewhere in the Local Authority).

The KPI in the Concession Agreement for ‘targeted recruitment’ required the Hub to be notified of all vacancies associated with the project, including those that are advertised internally within the consortium and, where possible, those advertised by subcontractors.

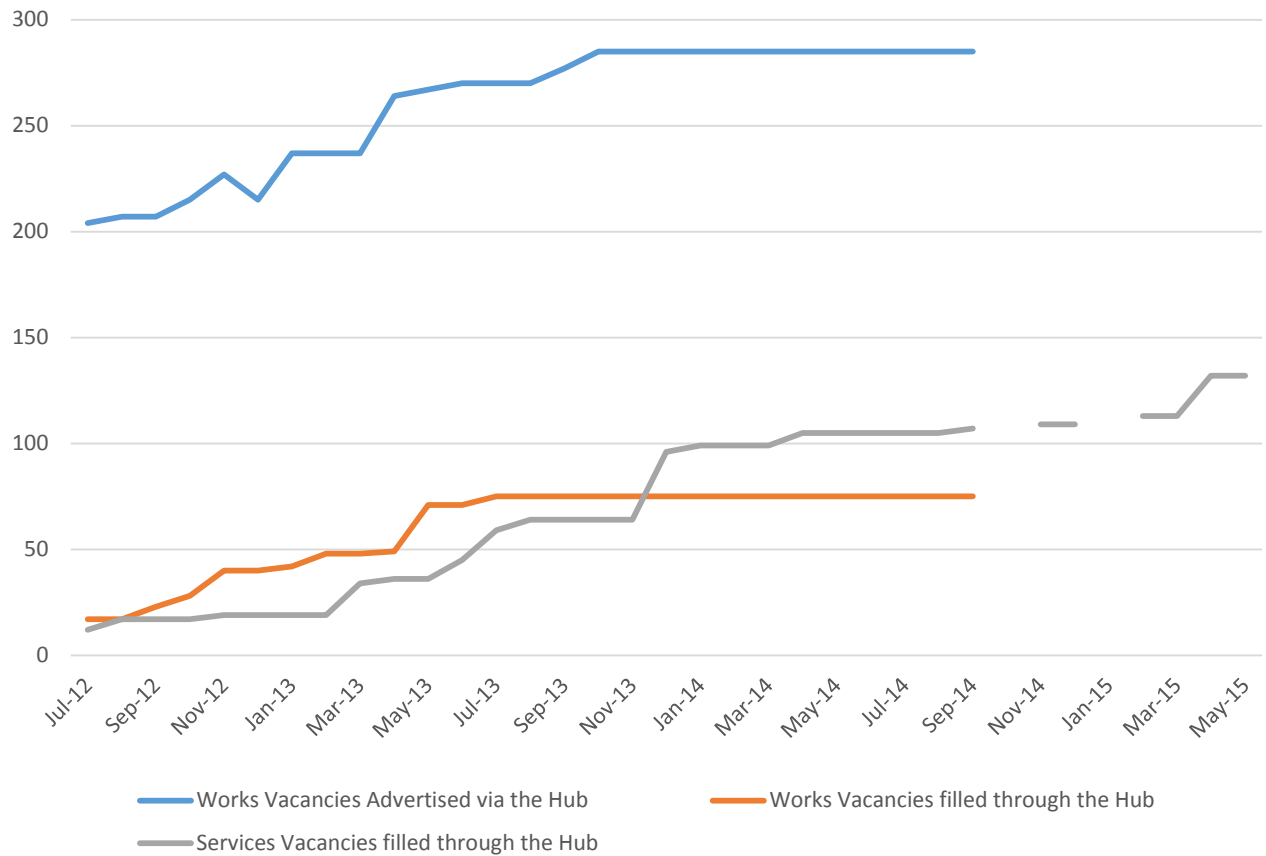
The number of vacancies *advertised* through the Hub were only recorded for the Works element of the project in the monthly Employment & Sustainability reports. This was confirmed in interviews with both Works and Services employers. NET Phase Two vacancies *filled* by Hub candidates were recorded for both Works and Services. The time series for these are illustrated in Chart 5. The cumulative totals for vacancies filled include New Entrants (candidates who were previously unemployed or in full-time study), including candidates who had completed a SBWA (thus referred through the Hub) and were offered a job at the end of the course. On Works vacancies advertised through the Hub, the chart shows that:

- Works vacancies advertised grew relatively steadily from July 2012 until October 2013, from 204 to 285. It then remained level for the rest of the available time series – suggesting no new Works vacancies were advertised via the Hub from October 2013 onwards;
- This is not consistent with the trend in the total employment shown in Chart x in Section 3, where Works employment grew to a peak headcount in June 2014. One possible explanation is that much or all of the increase in headcount in later stages of the construction project was met through agency labour providers rather than direct employment with the project partners – which is likely due to the relatively short duration of the remaining employment contracts. The KPI is worded in more permissive terms for vacancies with subcontractors, stating that this should only be advertised through the Hub “where possible”;
- An alternative explanation is a reporting issue. From this stage in the project, Works vacancies advertised through the Hub may have simply stopped being recorded; however
- Interviews with Works employees confirmed the 285 figure for total Works vacancies corresponded with their own management information.

On Works and Services vacancies filled through the Hub, the chart shows that:

- During 2012 and 2013, the Works accounted for the largest number of vacancies filled via the Hub reaching 75 in July 2013 and then remaining at that cumulative total;
- As the focus of activity shifted to the Services, including the recruitment and training of drivers, control room and other operational staff, cleaners, infrastructure technicians and administration and management staff, Service vacancies filled via the Hub increased sharply between November and December 2013, from a cumulative total of 64 to 96; and
- The number of Services vacancies filled by Hub candidates continued to increase, reaching 109 in December 2014, before increasing twice at the end of the study period: to 113 in March 2015, the final figure available from the Employment & Sustainability reports; and to 132 in May 2015, according to further information provided during interviews.

**Chart 5: Vacancies advertised through the Hub (Works only) and vacancies filled via the Hub (Works and Services)**



Source: *Employment and Sustainability Reports July 2012-February 2015, updated by information from Project Partner interviews*

The Concession Agreement details the process for employers’ responses to applications through the Hub. Consortium members committed to short list and interview Hub candidates up to a ratio of 5 to 1 per vacancy, but candidates must have first met minimum skill and behavioural competencies before they are referred for shortlisting. Final decisions would be on the basis of job-specific competency based selection, with no guarantee of a job offer.

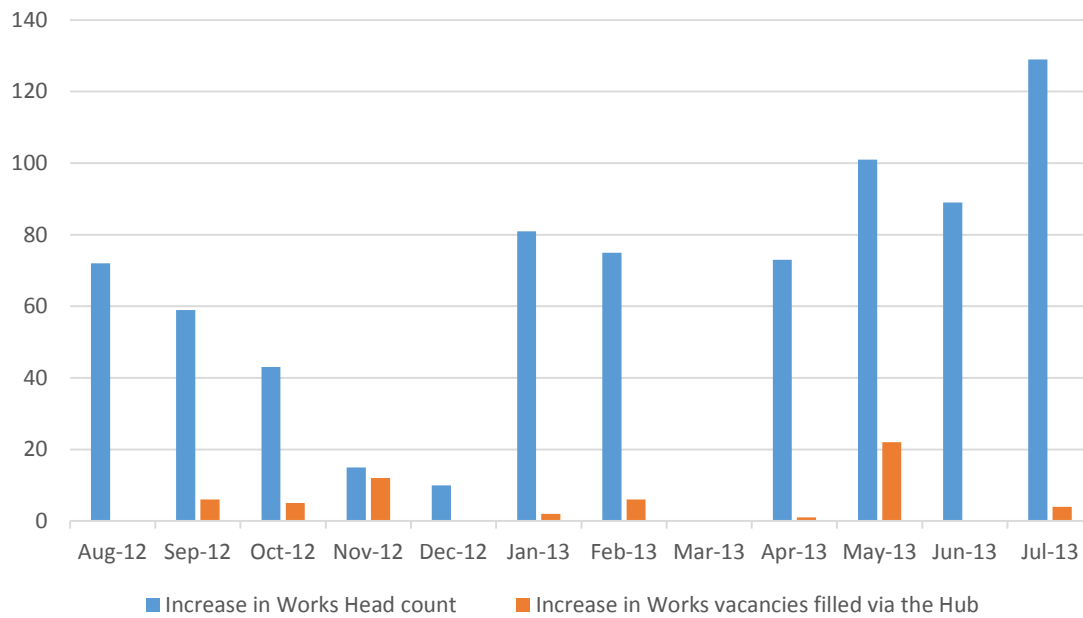
Interviews with representatives of both Works and Services employers confirmed that all their vacancies were advertised through the Hub, although they noted that the Hub was not their only recruitment source. Interviews with representatives of the Hub suggested that it was an important brokerage service for New Entrants from Priority Groups (especially JSA claimants) but actually accounted for a relatively small proportion of the total NET Phase Two workforce.

The data suggests that this is certainly true for Works employment. Charts x and y show the monthly increase in Works and Services employment compared to the corresponding monthly increase in the number of Works and Services vacancies filled through the Hub (noting that in some months, recruits would be unlikely to join the workforce immediately). The charts show that:

- Throughout the period of Works recruitment, vacancies filled through the Hub accounted for a small proportion of the increase in Works headcount in most months. In May 2013, for example, Works employment increased by 101 individuals on the previous month but only 22 additional vacancies were filled via the Hub compared to the previous month. In a number of months this proportion was much smaller: for example, 10% and 12% in September 2012 and October 2012 respectively, and; 3% and 1% in January 2013 and April 2013 respectively. November 2012 is an outlier, where a significant increase in Works vacancies filled via the Hub corresponded to a relatively small increase in total Works headcount; and
- In the Services, the number of vacancies filled via the Hub was frequently close to or exceeded (due to a delay in successful candidates taking their posts) the increase in total headcount that month. For example, in March 2013 there were an additional 15 vacancies filled via the Hub compared to the previous month and an increase in total Services headcount of 16. In July 2013 and December 2013, the increase in vacancies filled via the Hub significantly exceeded the increase in total headcount that month. The interviews with NTL/NET suggest that there was quite a lot of churn across the different aspects of Services employment, with periods of increased recruitment for tram drivers or control room operations staff corresponding with reductions in Travel Officers (formerly known as Revenue Protection Officers) and the hiring of temporary NET ambassadors for periods of 6 to 8 weeks.

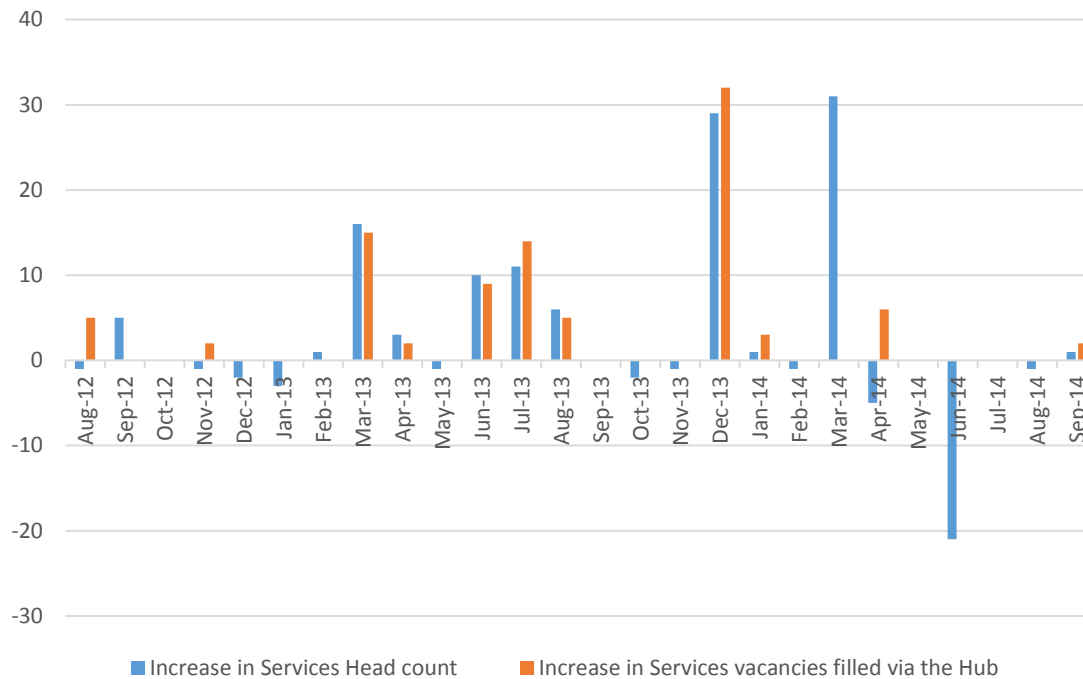
Therefore, the monthly report data suggests that the Hub was relatively more important for meeting staffing needs in the Services compared to Works. Interpretation provided by Nottingham City Council suggests that this can be understood in terms of the different duration and status of job roles in the Works compared to the Services. As the majority of job vacancies filled for the Services were permanent, there was a higher proportion of local residents applying for these roles through the Hub. Conversely, only a small minority of jobs in the Works were permanent, meaning that many of these vacancies were filled by a mobile civil engineering and construction workforce, requiring a smaller role for the Hub with its focus on local residents.

**Chart 6: Monthly increase in Works Head count and monthly increase in Works vacancies filled via the Hub, August 2012 to July 2013**



Source: Employment and Sustainability Reports, August 2012-July 2013

**Chart 7: Monthly increase in Services Head count and monthly increase in Services vacancies filled via the Hub, August 2012 to September 2014**



Source: Employment and Sustainability Reports, August 2012-September 2014

The interviews suggested that few specialist roles were filled through the Hub and the majority of Hub appointments were to entry level roles, which was expected and in line with the objectives agreed between the Authority and Concessionaire. Works employers emphasised the difficulty in filling more technically specific civil engineering vacancies (e.g. those related to electrification for Alstom). NTL/NET identified similar challenges in recruiting skilled engineering roles for the Services through the Hub (with appropriate candidates frequently recruited from other parts of the Keolis group).

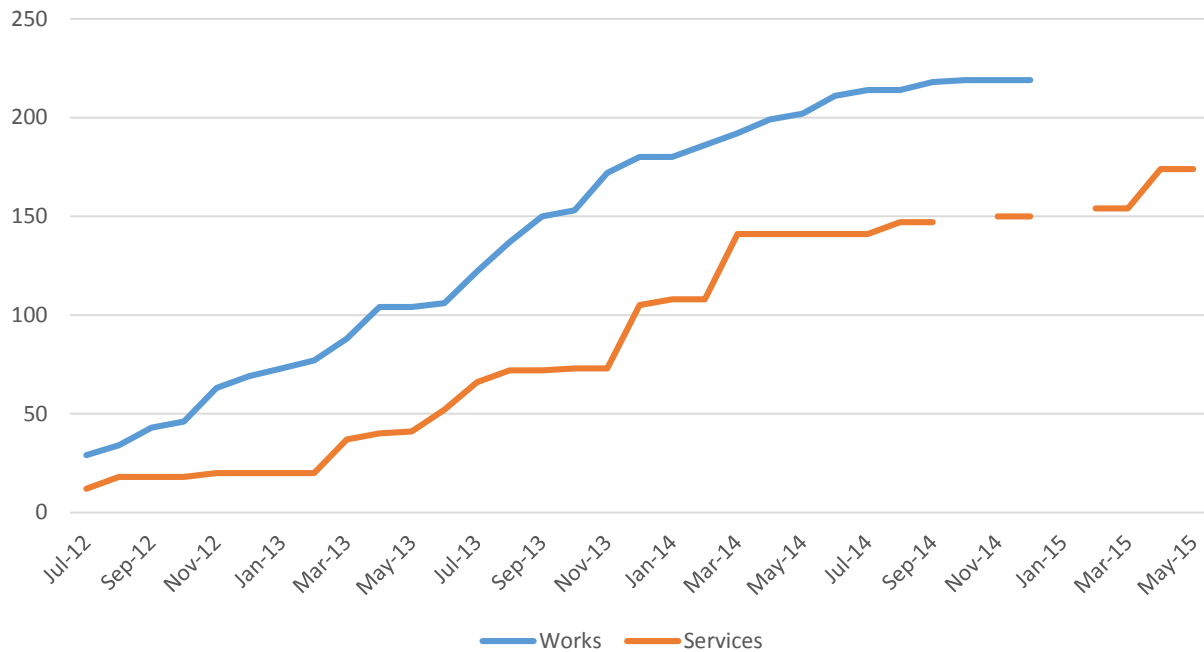
Data provided by the Hub confirms this, with the largest numbers of candidates successfully securing roles with NTL/NET as: Tram Conductors (17 appointments through the Hub); Tram Crews (36 appointments); and Cleaners (10 appointments). Only one Track Engineer was appointed by NTL/NET from Hub candidates, although all of the Apprentices for the Services were recruited via the Hub – which included 2 Apprentice Technicians and 2 Apprentice Electrical Engineers according to the Hub’s data (out of 6 in total according to information later provided in the interview with NTL/NET, see Section 4.4 below).

In terms of impact on Priority Groups, the NET Phase Two employers interviewed all confirmed that a large proportion of vacancies filled through the Hub were ‘New Entrants’, i.e. candidates who were not in employment immediately prior to applying for the role (principally JSA claimants, but also school, college and university leavers). However, not all New Entrants would have been engaged through the Hub (for example, these totals may include applicants following Jobs Fairs and open days, as well as those who applied through newspaper or web adverts). The chart below shows the trend in New Entrants engaged in the NET Phase Two Works and Services – either into general employment or trainee positions:

- The cumulative total of New Entrant trainees engaged in roles in the Services increased in clear stages, in contrast to the steady increase in Works. Significant increases in New Entrant engagement in the Services occurred in December 2013 (mirroring the trend in the vacancies filled data illustrated in Chart 6 and 7) and between February 2014 and March 2014 (where Chart y suggests that no vacancies were filled through the Hub – suggesting New Entrants in the Services in this period were engaged through other means, such as a Jobs Fair); and
- The narrative provided with the monthly reports indicate some difficulties in filling Service vacancies and trainee opportunities locally, which prompted the City Council to hold a ‘White Collar Jobs Fair’ in early June 2013 in order to attract more local candidates for the NET Phase Two Services.



**Chart 8: New Entrant Trainees Engaged, Works and Services**



Source: *Employment and Sustainability Reports July 2012-February 2015, updated by information from Project Partner interviews*

In the Concessionaire’s Proposal, the project partners committed to “recruit a workforce for the provision of the Works and the Services which reflects the diversity of the community in which the Network operates” (p. 8). More detail on the characteristics of Hub candidates, and the representation of Priority Groups amongst them, can be drawn from a data provided by the Hub itself. This contains records of individuals who successfully secured an employment or training position on the NET PHASE TWO project, recorded as ‘Employer Hub Outcomes’.<sup>32</sup>

Summary statistics are presented in Table x below. It is important to state that this does not cover all candidates who achieved employment in NET Phase Two via the Hub. It is a sample of 135 individuals recorded between March 2012 and March 2015 (compared to more than 200 vacancies that the monthly Employment & Sustainability reports suggest were filled by Hub candidates). Interviews with Hub representatives suggested that, prior to the service achieving stable staffing and funding in 2014, not all engagements will have necessarily been recorded or recorded consistently. There is also the potential of double counting, as the records have been anonymised. Some candidates, upon finishing a fixed term

<sup>32</sup> The Concessionaire’s Proposal (p. 35) includes a commitment to monitor recruitment and training by some of the groups identified in UK Equalities legislation (gender, race, disability and age). Such monitoring information was not included in any of the monthly Employment & Sustainability reports and has not been accessible from any of the documents or data provided by the project partners, meaning that this report can only draw conclusions on the recruitment of Priority Groups and equality and diversity issues from the sample of employment outcomes provided by the Hub.

contract with a NET Phase Two employer, may have conceivably gone on to secure further employment within NET Phase Two.

With these caveats in mind, the table shows that:

- The Services accounted for the largest share of all NET Phase Two jobs and training positions recruited through the Hub, with NTL/NET identified as the employer for 60% of all employment outcomes;
- In outcomes for Priority Groups and New Entrants, previously unemployed candidates made up the largest share (47%), followed by candidates who had previously been fully employed (27%);
- The vast majority (125 out of 135) of candidates went into general employment, with only a small minority (10 individuals) taking on Apprenticeship/trainee roles. Of the Apprenticeships, 6 of these were recorded as being with Taylor Woodrow (Works) and 4 were with NTL/NCT; and
- The largest share of successful candidates (32%) applied for the role directly through the Hub's website, with a further 20% being referred by the Employer Hub. Referrals from Jobcentre Plus accounted for a further 13% of successful candidates

**Table 6: Employer Hub Outcomes (candidates obtaining general employment or Apprenticeships with NET Phase Two), March 2012 to March 2015**

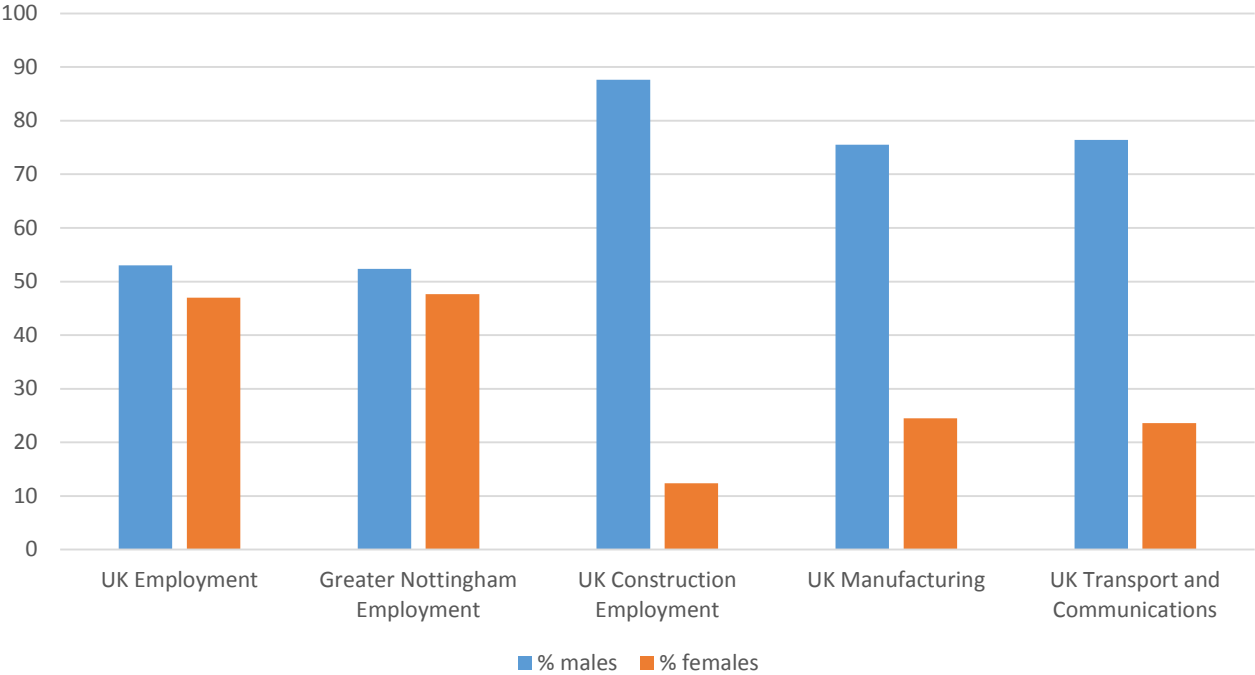
Hub Outcome Information		Referral Information	
Total Number of Outcomes	135	<b>Employment status when Referred</b>	
Jobs	125	Unemployed	47%
Apprentices	10	Full-time Employed	27%
Alstom	23%	Part-time Employed	4%
TW	17%	Self-Employed	5%
Nottingham Trams Ltd	60%	Not Specified	17%
Local Candidates (City Residents)	57%	<b>Referral Route</b>	
<b>Outcome Type</b>		Employer Hub	20%
New Entrant	53%	SBWA	1%
General Employment	47%	JCP	13%
<b>Demographic Characteristics</b>		Jobs Fair	2%
Male/Female	83% / 17%	College	2%
White - British	59%	Evening Post	3%
White - Irish/White - Other	3%	Website	32%
Black, Asian and Minority Ethnic group	8%	Word of mouth	13%
Other	2%	Referral Partner (including Futures, Enable, etc.)	3%
Not Specified	28%	Training Agency	1%
		Direct to employer	2%
		Not Specified	10%

Source: Based on data supplied by the Employer Hub, July 2015. All percentages have been rounded up to the nearest 1pp.

In order to compare the demographic characteristics of this sample to the “diversity of the community in which the network operates”, charts 9 and 10 show the employed population of Greater Nottingham<sup>33</sup> and the UK by gender and ethnicity and average UK employment by gender in relevant sectors.

The table shows that a large majority of Hub candidates placed in jobs or Apprenticeships with NET Phase Two were male (87%). Chart 9 shows that, in terms of overall employment in Greater Nottingham, women – who account for 48% of employment locally - are significantly under-represented in the sample from the Hub. The chart also shows that the Construction sector (Works) and the Manufacturing and Transport & Communications sectors (Services) also each have significant under-representations of female employment across the UK overall. The 17% of female recorded Hub employment outcomes exceeds the share of women in the UK Construction sector (12%), but falls below the proportion of women employed in the UK Manufacturing (25%) and Transport and Communications (24%) sectors.

**Chart 9: All in Employment by Gender (aged 16-64), January to December 2014.**



Source: ONS Crown Copyright, ‘Annual Population Survey’, January 2014-December 2014. From NOMIS [accessed 6<sup>th</sup> November, 2015].

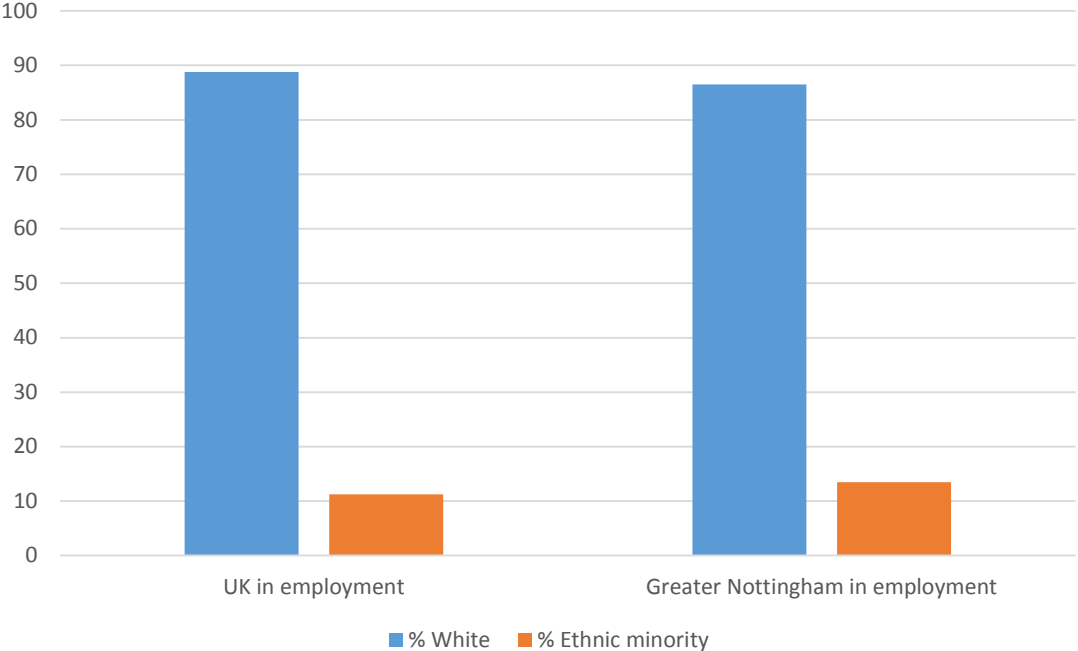
Table 6 shows that the largest share of the Hub sample self-identified their ethnic group as ‘White – British’ (59%). To compare to baselines drawn from available official statistics, those who did not specify their ethnic group (28%) are then discounted from the total, and those identifying themselves as ‘White – British’, ‘White – Irish’ and ‘White – Other’ are summed – which comes to 87% of all candidates who

<sup>33</sup> In this case, Greater Nottingham is based on the GNP definition preferred by Nottingham City Council, aggregating the Local Authority Districts of Rushcliffe, Broxtowe and Gedling with the Nottingham City Unitary Authority area. As LFS data is not robust below a district level, the Hucknall wards in the Ashfield district are not included.

specified an ethnicity. The remaining 13% combines the Black, Asian and Minority Ethnic groupings (which includes self-identified ethnic groups in the Hub database such as ‘Black – Caribbean’ and ‘Asian – Indian’). Chart 10 shows that the share of ethnic minority candidates in the Hub employment outcomes database exceeds the proportion of individuals in employment in the UK overall who identify themselves as belonging to an ethnic minority group (11.2%) and is closely in line with the proportion in employment in Greater Nottingham (13.5%).

This suggests that, on the basis of the sample of Hub employment outcomes, the NET Phase Two project partners were broadly successful in “representing the diversity of the community” in terms of ethnicity if not gender.

**Chart 10: All in Employment by Ethnicity (aged 16-64), January to December 2014.**



Source: ONS Crown Copyright, ‘Annual Population Survey’, January 2014-December 2014. From NOMIS [accessed 6<sup>th</sup> November, 2015].

Interviews with representatives of the Hub and NET PHASE TWO employers identified the following issues relevant to capacity and partnership working and the transferability and sustainability of impacts:

**The importance of political leadership in the prioritising of local employment impact:** representatives of the Hub commented on the significant personal role of the Leader of Nottingham City Council (Councillor Jon Collins) in establishing the local recruitment and training objectives for NET Phase Two and ensuring that the Hub had a role in delivering this. They commented that Councillor Collins had been impressed by the social value objectives prioritised by the London Boroughs responsible for the 2012 Olympic Village. The Council Leader, who was also portfolio holder for employment and skills at the time, met with the

Mayor of Newham prior to the negotiation of the NET Phase Two contract. Additionally, the Hub Manager appointed during the period of DWP service integration had previously worked for the London Boroughs of Stratford (the London Olympic Park) and Greenwich (the Millennium Village) – where Section 106 agreements had been used alongside or within procurement contracts to ensure large scale investment contributed to reducing local unemployment and benefited local SMEs. There was a feeling that in earlier urban regeneration projects, especially those in Manchester, Leeds, Sheffield and Newcastle during the ‘ODPM years’, largescale public investment had improved the public realm without significantly impacting on unemployment in neighbouring deprived estates.

**The capacity of the Hub and the importance of data collection:** representatives of the Hub recognised gaps in data required for impact evaluation. They felt this was due to a lack of shared responsibility for data gathering between the Hub, Jobcentre Plus and the consortium members. Although the Hub felt that NET Phase Two employers engaged with data collection seriously, this was approached by all parties in terms of tracking progress towards contractual targets. Thus there was little incentive to continue to collect monitoring information once targets were met, which may explain why the time series for Works vacancies advertised and filled via the Hub may have stopped prior to the peak period of Works employment. The Hub also felt that, in retrospect, the instructions on monitoring requirements could have been more precise – for example specifying the duration as well as number of jobs advertised and filled. In summary, the view was expressed that when a public body emphasises social value outcomes in contracts, it needs to put resources into progress monitoring. Central coordination of monitoring would have been valuable, and this was a role the Hub could have performed if better resourced at an earlier point in the NET Phase Two project.

**The impact on wider Hub capacity:** On reflection, the interviewees from the Hub felt that the NET Phase Two project was “too big” for the Hub in its initial iteration: resources were not sufficient to provide a full recruitment, selection and monitoring service. This was because NET Phase Two was the first major project in which the Hub played such a central role in facilitating progress towards social value objectives. The Hub as a concept was untested whilst its capacity and capability were in their infancy. It was also the first opportunity to develop a significant relationship with construction employers. This then enabled the City Council to engage businesses on later schemes (such as the A453 scheme with Laing O’Rourke, a relationship that has continued in the Victoria Centre redevelopment). Following the completion of NET Phase Two, Nottingham City Council is now working with the CITB on a joint Construction Strategy building on the learning gained during the project. This will have an SME element, aimed at increasing the number of local construction businesses engaging in public sector contracts, and an element targeting drivers and enablers of social value outcomes, including identification of how best to achieve employment and training outcomes from public contracts.

**The impact on the capacity of NET Phase Two employers to respond to subsequent public sector infrastructure projects:** In the interview with a representative of Taylor Woodrow, it was noted that NET Phase Two was among the company’s first exposures to a project of this kind. Overcoming initial challenges in meeting local recruitment and training objectives improved the company’s ability to bid successfully for subsequent projects, including Crossrail and a number of projects with the Highways Agency, with social value objectives becoming increasingly commonplace in public infrastructure

contracts. For example, the majority of recent contracts with the Highways Agency had been procured through a Framework Agreement that requires pre-qualification. TW used evidence from NET Phase Two as part of their successful pre-qualification bid in partnership with Alstom, demonstrating benefits to organisational capacity felt across the Taylor Woodrow-Alstom joint venture. The Alstom interviewee also noted similar KPIs to NET Phase Two in recently advertised Network Rail projects, including prioritising young people who are NEET with very similar language as used in the NET Phase Two TSRs. Interview responses from the Hub support this, noting that the Works employers were not initially well equipped to recruit from hard-to-reach groups, but engaged with this requirement extremely well and demonstrated significant improvements in capacity.

**Challenges experienced in local recruitment, including recruitment from Priority Groups, included:**

1. Aptitude and attitude was prioritised above specific technical skills during Works recruitment, but there was a high drop-out rate during recruitment fairs and SBWAs with many candidates not exhibiting the required behaviours;
2. The Hub was aware of TWA's aptitude and attitude requirements, with applicant screening improving significantly through the duration of recruitment to NET Phase Two Works. However, TWA felt that an exception was a consistent lack of recognition of the skills required in civil engineering. TWA felt there was a tendency to refer candidates to interview who had general construction labouring experience but were not well equipped for civil engineering posts. Experience of large civil engineering projects was not widespread across the local labour force;
3. For Alstom in particular, it was extremely difficult to fill vacancies for the more technically demanding roles locally, including through the Hub. Some technical vacancies, such as those related to electrification, remained unfilled through the duration of the project. Local candidates were important for filling vacancies for Alstom's white collar/professional roles, with 70 such staff recruited at the start of the project, around a third from local candidates. However, the Hub played a limited role in this area of recruitment, with only a few of these candidates coming through the Hub whilst the majority came from the general local labour market;
4. Agencies were particularly important in staffing Alstom's track teams, although all vacancies were advertised through the Hub prior to the appointment of the principal labour provider (Rullion Engineering Ltd.);
5. Alstom appeared less positive about the role of the Hub than their Taylor Woodrow partners, perhaps because of the greater specificity of skills needed in activities such as the installation of electrified tram lines. Because of a large number of candidates referred via the Hub lacking the required skills, the Alstom interviewee stated they had to devote a significant amount of time (as much of 50% of the time spent managing all HR aspects of the project) working with the Hub and the City Council to filter candidates and improve pre-selection processes, although they recognised the long-term benefits of doing so;
6. From the perspective of the Services, NTL/NET felt that local recruitment was possible in theory, due to rail specialism around Derby. However, in practice the role of the Hub was small in filling intermediate or higher-skill vacancies due to its greater focus on entry level candidates, especially young school and college leavers and those who had been unemployed for some time. NTL/NET felt

that Hub candidates were highly unlikely to be specialist rail engineers – although they were able to recruit one track engineer through the Hub; and

7. Local candidates were therefore principally recruited for entry-level roles in both the Works and Services. TW suggested that a very large proportion of these candidates had been previously unemployed. Of the 219 New Entrants engaged by the Works employers, 2 were graduates straight from Higher Education, 7 were Apprenticeship enrolments, and the remaining 210 were previously JSA claimants.

**The additionality of NET Phase Two employment brokered through the Hub:** a key question relevant to the ‘additionality’ of NET Phase Two activities in employment impacts (the proportion of impacts that would not have occurred in the absence of the intervention) was the probability of unemployed candidates referred through the Hub gaining employment elsewhere. Interview responses suggest that the extent of additionality is unclear for the following reasons:

1. Representatives of the Hub and TWA confirmed that the majority of unemployed candidates securing employment or training posts in NET Phase Two were relatively employment-ready (described as “low hanging fruit” by the Hub). Very few long-term unemployed (who may have complex needs) were successfully placed in NET Phase Two jobs or training positions. TWA argued that the greatest contribution of NET Phase Two to overall levels of employment and unemployment in Nottingham was in keeping the staff of sub-contractors and labour providers in work during a period of falling construction and civil engineering employment, rather than creating significant amounts of ‘new’ employment;
2. TWA argued that the specificity of skills needed by the NET Phase Two project made it unlikely that comparable skill outcomes would have occurred in the absence of the project;
3. Interviews with representatives of both partners in the Taylor Woodrow and Alstom joint venture suggested that there was probably significant leakage of employment benefits outside the local area, especially in the later stages of the Works where sub-contractors became increasingly important. Sub-contractors drew labour from a wide area, including ground worker gangs from Leicestershire, Coventry, and the North West, due to the limited experience in big civil engineering projects locally. As more large construction and civil engineering projects (including the A453) came on stream during the lifetime of the NET Phase Two Works, the supply of local workers with appropriate skills would have become increasingly constrained in light of growing demand; and
4. This leakage of benefits should be expected given the highly mobile nature of civil engineering work, with engineers and foremen frequently required to travel significant distance to work on projects that are always time-bound. For those civil engineers based locally, NET Phase Two is likely to have played a role in retaining their skills and expenditure within Nottinghamshire up until the recent commencement of a pipeline of local work, including the Laing O’Rourke project on the A453. TWA noted that during the main period of redundancies during the drawdown of Works employment from September to November 2014, a number of senior civil engineers resident in Nottinghamshire left TWA to go and work for Laing O’Rourke, as did a number of ground workers.

**Sustainability and Transferability of impacts:** a key concern when considering the duration or 'persistence' of training and skill impacts following the end of the NET Phase Two project is the transferability of skills and experience to other activities, given the majority of Works employment was limited to the lifespan of the project (although some Hub candidates did go on to secure roles on other civil engineering projects with TWA/Vinci). It is not possible to estimate the proportion of employment or training outputs that can be transferred to other activities with the information available. Many of the Works roles filled through the Hub were for ground worker vacancies (23 of the 53 Works employment outcomes on the Hub database). This is an entry level job in civil engineering, but very distinct from general construction labouring. Although much of the experience should be transferable to general construction, the skills developed are unlikely to be utilised to a comparable level – affecting the sustainability of any productivity and wage impacts. To improve the sustainability of general employment impacts following the end of the NET Phase Two Works, Nottingham City Council delivered redeployment programmes for out-of-work construction staff towards the end of the project. Alstom also invested significantly in redeployment activities during drawdown of Works activities, running a demobilisation programme that linked to 4 sites run by ABC Electrification on other projects. An estimated 20 staff employed by Rullion (Alstom's principal labour provider) went on to find subsequent employment locally. Redeployment of staff hired to work for Taylor Woodrow was likely to be more straightforward than Alstom, given the greater transferability of some of the more general civil engineering skills – with TW noting that a number of their staff went on to work on the A453 with Laing O'Rourke. TW also noted that an emerging pipeline locally would mean that local residents with civil engineering skills would have employment opportunities across projects including with the Highways Agency (with a significant programme of investment in the East Midlands planned from 2017) and with the expected start of HS2 works. A cyclical upturn in civil engineering is expected over the next 10-15 years.

**Adoption of Hub models in other local areas:** interviewees from Stephenson College believed that the Hub has been identified as a model of Local Authority best practice in jobs brokerage in other areas, with Leicestershire County Council in particular investigating establishment of a similar service. NET Phase Two was instrumental in establishing this reputation.

#### 4.3 THE SECTOR BASED WORK ACADEMIES AND OTHER PRE-EMPLOYMENT TRAINING

Sector Based Work Academies (SBWAs) are a national model of pre-employment training developed by the Department for Work and Pensions and adopted by Nottingham City Council's Employer Hub as one of the local employment and training activities with Works employers in NET Phase Two. Although promoted alongside the Youth Contract, the SBWA is a separate delivery model and does not have an upper age barrier. To be eligible, candidates have to be claiming certain benefits (principally JSA), but cannot be mandated to join an SBWA (they can only be invited or referred to an assessment day). Only after initial assessment and enrolment with the participating provider (usually a Further Education college) are they then mandated to attend the course. To be classed as 'sector based', and to qualify for both DWP and Skills Funding Agency (SFA) funding, an SBWA has to be attached to a specific employer and a genuine job vacancy, with a guaranteed interview for trainees who complete the course.



In the interview with a representative of the Hub, the NET Phase Two SBWAs were described as an “elongated recruitment process mixing training and workforce development.” Nottingham City Council and Tramlink contracted local FE colleges to deliver a package of SBWA courses in partnership with Jobcentre Plus and the Employer Hub, with two such contracts during the lifespan of the Works element. In the first contract, 4 SBWAs were delivered by Stephenson College in 2012. In a second contract, a further one SBWA was delivered by New College Nottingham in 2013 (in addition to provision for candidates carried over from the contract with Stephenson and a package of workforce development for existing Works employees, including those recruited through previous SBWAs). Alstom were the employer for both NET Phase Two SBWA contracts, with most jobs filled through the programmes being in track laying teams.

In the Services, NET/NTL did not utilise the SBWA model for pre-employment training and recruitment, instead operating a number of Recruitment Days with the support of the Hub. These had elements in common with the SBWA model, but delivered through a one day event entirely delivered by the employer (rather than in partnership with a FE provider). Services vacancies filled through the Recruitment Days were first advertised through the Hub. Applications were scored by NTL/NET based on criteria such as a driving license and relevant skills. If applicants met this initial criteria, they were invited to the Recruitment Day. The majority of job vacancies filled through the Recruitment Days were tram drivers. In each Recruitment Day, 25-30 applicants were invited. There was an initial drop-out rate of approximately 5 individuals per event (mainly due to non-attendance) with a further 10-15 filtered out based on the company’s approach to observation testing. These one day events had a number of characteristics in common with the SBWA for Works, including a ‘toolbox’ element of briefings and videos on the job’s requirements, hazards, and procedures such as random drug and alcohol testing.

Both models of pre-employment training targeted New Entrants – with the 5 SBWAs with Alstom exclusively targeting residents of Nottingham City who were claiming Job Seeker’s Allowance claimants.

The NET Phase Two SBWAs were amongst the first SBWAs run in the East Midlands, but were not the only SBWAs delivered during the Works period. Stephenson College, at the same time as delivering the first round of NET Phase Two SBWAs, ran multiple other SBWAs, including in construction projects (for example the redevelopment of NTU Student Accommodation on the Clifton Campus, also with Vinci/TWA).

The DWP model for SBWAs followed the process of:

1. A selection day with a basic job-readiness assessment;
2. A training course (the SFA funded element);
3. A period of work experience; and
4. A guaranteed interview for course completers.

In the NET Phase Two SBWAs with Alstom, these elements were delivered as follows:

1. Candidates were initially referred to an SBWA by the Hub. They were eligible to enrol if claiming JSA or Employment and Support Allowance (ESA – for claimants with a work-limiting illness of disability) and resident at Nottingham City postcode areas. The first criteria was general to the national SBWA model, the second criteria on local residents was particular to the NET Phase Two

project. They could apply directly through the Hub, be referred by their Jobcentre Plus advisor, or respond to an advert. The initial selection day tested English and Maths and, according to the interview with Stephenson College, “overall enthusiasm and commitment to training.” Between 14 and 21 candidates were then enrolled on an 8 week course;

2. The training course, the SFA funded element, was delivered by the college with the input of the employer. Stephenson described it as “a tailored package to meet the employer’s requirements, including hands on experience with specific tools and equipment;”
3. Because of the nature of the NET Phase Two sites (requiring specific Health & Safety experience and certification, particularly as regards electrification), work experience did not take place on site, but as part of the SBWA course, which included presentations from employers. New College developed this further with a bespoke ‘work like’ environment replicating the NET Phase Two tram track sites, discussed in more detail below. For those ‘already at a level’ required for employment, DWP guidance enabled fast-tracking straight to interview; and
4. Those candidates who completed an SBWA were guaranteed an interview with Alstom. They were also awarded a NVQ Level 1 qualification in Construction Operations and a Construction Skills Certification Scheme (CSCS) Card. Those candidates who completed the later SBWA with New College also received a Level 1 Award in Work Skills (covering transferable employability skills). The CSCS card was funded by DWP and was a required element of an SBWA in construction.

Table 7 below shows the outputs and time periods for the 2 SBWA contracts with Alstom.

**Table 7: NET Phase Two Sector Based Work Academies – Summary of Provider Output Information**

<b>Employer:</b>	<b>Alstom</b>	<b>Alstom</b>
<b>Provider:</b>	<b>Stephenson College</b>	<b>New College Nottingham</b>
<b>Number of SBWAs:</b>	4	1 (plus carryover from previous provider)
<b>Time Period:</b>	2 SBWAs delivered simultaneously in August 2012; 2 in October 2012	1 dedicated NCN SBWA delivered in June-July 2013; Carryover training delivered in February 2013
<b>Number of portfolios</b> received from the Hub/Jobcentre Plus (if known) and <b>number enrolled</b> on SBWA:	70 portfolios received for 4 SBWAs; 53 candidates enrolled (each SBWA ran with 14-15 candidates)	19 candidates in NCN SBWA; 21 candidates carried over from Stephenson received training to Level 1 Work Skills with NCN and a job interview
<b>Number of completions:</b>	51 completions	18 completions from the 19 NCN SBWA candidates (1 dropped out); All 21 carryover candidates completed their training
<b>Qualifications awarded:</b>	NVQ 1 Construction Operations CSCS Card	NVQ 1 Construction Operations CSCS Card NVQ 1 Work Skills Emergency First Aid at Work Abrasive Wheels training (plus additional specialised tools for rail operatives and concrete finishing)
<b>Employment outcomes:</b>	Ofsted report on Stephenson SBWAs states 87% of completions resulting in an employment offer (this figure also includes Princes' Trust 'Get into Construction' programmes)	14 of the 18 NCN SBWA candidates who completed offered jobs with Alston (1 declined having being offered an alternative post elsewhere in the Vinci group) (of the 4 remaining course completions, 2 gained employment with other employers); 20 of the 21 carryover candidates offered jobs with Alston (14 in the same employment after 6 months)

**Benefits, challenges and lessons learned from the SBWAs with Stephenson College**

Stephenson College's principal role in NET Phase Two was the pre-employment elements of the project and the delivery of Level 2 Apprenticeships for the Works element of the project (summarised in Section 4.4). In interviews with representatives of Stephenson College, the Hub, Taylor Woodrow and Alstom,

the Stephenson-run programme of 4 SBWAs were seen as successful in delivering pre-employment training and targeted work placements. Stephenson believed that the key benefit of the SBWA model was in providing employers with interview candidates who would be able to “hit the ground running”, as they would be familiar with the project and working environment, and would have developed the essential specialist vocational skills and had these formally accredited. The CSCS Card, a key outcome of a Construction SBWA and funded by the DWP, was seen as absolutely key as a “ticket to the workplace” that would not necessarily be provided in other courses. For example, this may not be offered in a small construction of civil engineering sub-contractor’s induction training because of the costs of the CSCS Card. The standard charge per trainee set by the Construction Skills Certification Scheme at the time of writing is £30 for the card plus £19.50 for the linked Health, Safety and Environment (HS&E) tests. This does not include the training costs to develop the skills and knowledge accredited by the scheme. This was important for the transferability of the benefits of the SBWA, as the CSCS Card would enable candidates to be more readily employable across a range of construction and civil engineering projects.

Compared to SBWAs run with other sectors, the outputs for NET Phase Two (both in terms of the proportion of candidates put forward by the Hub who completed the initial assessment day and the proportion of job offers made to candidates completing the SBWA course) were notably higher. This may have been due to relatively attractive employment conditions across the Tramlink consortium, including the extent of workforce training and development and the comparatively long duration of employment on the project, with many candidates contracted to work on NET Phase Two for 2 ½ years. In contrast, in the Health and Social Care sector, the pool of eligible candidates diminished significantly over successive SBWAs delivered by Stephenson College due to the less attractive nature of the contracts and conditions of service (including zero hours contracts).

From the perspective of college as a training provider, key practical challenges included the work experience element, due to the volume of SBWA enrolments and also the nature of the track work. The SBWAs delivered by Stephenson included a ‘toolbox’ element of practical activities led by Alstom within the taught course environment rather than onsite training activities. Another challenge came at the end of some of the SBWAs, with a delay between course completion and successful interviews and commencement of employment, principally due to the delay in the start of the Appitrack track laying phase of the Works (the majority of job roles attached to the SBWAs were in track laying teams).

The main barrier to upskilling SBWA beneficiaries beyond a NVQ Level 1 qualification was funding. With the phasing out of the SFA’s Train to Gain programme (which funded work-based learning up to a first NVQ Level 2) and with pressures on the wider Adult Skills budget, it was difficult to facilitate intermediate level training that built on the entry-level qualifications attached to the SBWA. A proposal was discussed across the partnership to extend aspects of the SBWA model with Alstom to a NVQ Level 2 in Construction Operations/General Construction through a programme of work-based assessment over 12 months. This would initially have been a pilot for 15 candidates who had been appointed via the SBWA who were aged 18 to 24 and currently lacked the equivalent of Level 2 (which would have been fully funded by the SFA), but could move on to co-funded training for young people already qualified to a Level 2 and for older workers aged over 24. However, with the phase out of Train to Gain, the NET Phase Two employers would

have had to bear the full costs of training as well as the indirect costs associated with any disruption to work activities, so the upskilling proposal was abandoned.

As the start of the NET Phase Two Works coincided with the introduction of the SBWA model, the project partners were able to use this to their advantage, with representatives of the college noting the proactive role of the City Council and the local Jobcentre Plus as the “driving force” in making SBWAs work in the context of the project. The interviewees from Stephenson noted that it was positive that the City Council had chosen to make best use of an existing DWP model rather than developing their own programme. This was particularly as it provided opportunities to lever-in public investment in activities that the NET Phase Two employers would have had limited incentive to fund (i.e. into the development of unemployed local candidates, not all of whom would be successfully placed with Alstom but would nonetheless gain with fully funded, transferable qualifications). This is consistent with views expressed by the project partners on the role of political leadership in the emphasis on social value objectives across the project in general and in establishing the role played by the Hub.

Following the experience of NET Phase Two, Stephenson College expanded their delivery of SBWAs to other sectors, including Health and Social Care, where the college has a contract with the Hub to deliver a sector-based programme. Interviewees from Stephenson College felt that NET Phase Two had an important role in establishing employer and public sector partnership confidence in the SBWA model in delivering employer-led training to job seekers. On this basis, Stephenson took the opportunity to increase capacity to broaden their SBWA offer to other initiatives, including with other Jobcentres and Local Authorities. The A453 project has had less of an impact on such capacity and partnership working, because of more limited local employment opportunities.

However, as reported for general employment vacancies filled via the Hub, representatives of both the Hub and Stephenson College noted concerns around the extent of additionality, as SBWAs also tended to target unemployed candidates who were already close to work (case portfolios marked as ‘green’ or ‘amber/green’ by Jobcentre Plus). The Hub noted limitations to the SBWA model in supporting hard-to-help candidates, given it usually implied a course of only 8 weeks, which would be unlikely to enable those with more complex needs to become work ready. Both Stephenson College and the Hub noted that the majority of those enrolled on SBWAs had been claiming JSA for periods of less than a year. Interviewees from the Hub commented that, following the completion of NET Phase Two, JSA claimant rates in Nottingham had fallen back to pre-recession levels, but the proportion of long-term claimants was now higher.

The main challenge to the transferability of skills developed through the SBWA and subsequent employment on NET Phase Two relates to the specificity of civil engineering activities, and particularly activities related to light rail. As most of the SBWA candidates were trained specifically for roles related to the Appitrack track laying machinery (not operating the machinery itself, but in concreting etc.), ground worker experience could be readily applied to other civil engineering projects, but less so for more commonly available vacancies in general construction. In this respect, interviewees from Stephenson College felt that the key transferable outcome related to the wider benefits of supporting previously unemployed candidates back into work. Qualitative benefits of this nature included improved self-confidence and the establishment of contacts and relationships useful for subsequent employment. This

is itself an important outcome, as the Concession Agreement states the aim to “give local people the self-confidence and skills they need in order to be able to enter employment” (page 6, Annex 1, Part 4, Schedule 20).

### **Benefits, challenges and lessons learned from the SBWAs with New College Nottingham**

Following the 4 SBWAs delivered by Stephenson College, Nottingham City Council and Tramlink advertised a new contract for a final SBWA course that was awarded to a consortium of local colleges led by New College Nottingham (NCN) along with Central College and West Notts College. The NCN bid included additional accredited workforce development for existing TWA staff, which will be summarised in Section 4.5.

NCN’s ‘Scheme of Training’ proposed in their successful bid attempted to learn from the previous programme of SBWAs. Although the NCN contract only covered one dedicated SBWA (with 19 enrolled candidates), it also included SBWA training to 21 candidates carried over from previous courses delivered by Stephenson college. This was principally to cover wider employability skills that Alstom had felt needed further development on previous SBWA contract, which had focused principally on developing technical and vocational skills.

This development coincided with an increasing emphasis in FE on facilitating a ‘T-shaped’ skill profile, emphasising depth and breadth of skill: where the vertical line in the ‘T’ represents depth of expertise in a specialist technical skill in a given field, whilst the horizontal line represents a broad range of transferable skills and aptitudes.

The NCN Scheme of Training committed to closer working with Alstom on the employability agenda, the outcome of which would be a Level 1 Award of Work Skills for completing candidates alongside the Level 1 in Construction Operations awarded in the earlier SBWAs (in addition to the CSCS Card and a range of more specific training packages related to track team skill needs, including Abrasive Wheel training and training in specialised hand tools).

As well as the greater emphasis on transferable ‘job-readiness’ skills, the other key difference between the NCN SBWA and the earlier courses was the facilities, which took advantage of the college’s new Civil Engineering Academy at Basford Hall, which has established in 2012 with £354,000 of investment. These facilities enabled the establishment of a ‘work-like training site’, including a section of tram track provided by Alstom which could mirror the construction and track laying sites along NET Phase Two. Other characteristics to facilitate ‘training as work’ included requirements for SBWA candidates to comply with Alstom’s site regulations. Trainees clocked on and off, were subject to drug and alcohol testing, attended daily toolbox talks on the work programme for the day, and were required to wear the regulation Personal Protective Equipment worn by current Alstom employees working on NET PHASE TWO Phase 2. Through this environment, development of wider employability skills – such as the ability to read and follow instructions, work in teams, and communicate clearly and professionally – were delivered in a vocational, industry-specific setting. Candidates were also supported to develop job-ready skills outside this ‘work-like environment’ including interview and presentation skills training, assessed through a trial interview

to ensure they could perform in the guaranteed interview at the end of the course and secure subsequent posts at the end of the NET Phase Two project. The NCN SBWA was 6 weeks in duration, with Jobcentre Plus waiving the requirement for trainees to sign-on with their advisor during the programme, instead monitoring JSA claimants through college attendance records and providing weekly drop-in sessions at Basford Hall to provide support and guidance on job readiness and benefit-related issues.

The SBWA delivered by NCN also provided learning points for funding skill provision in similar projects. As with Stephenson College, DWP and SFA funding enabled specialist vocational provision (including the Jobcentre Plus funded CSCS Cards) but in addition, NCN's successful bid for ESF Skills Support for the Unemployed enabled them to fund additional employability elements.

In common with Stephenson College, interviewees from NCN noted the significant capacity benefits for them as a provider. The NET Phase Two SBWA provided a case study for creative but appropriate uses of multiple funding streams to finance the softer 'job-readiness' skills that can frequently be neglected in favour of the vocational elements. In the mix of ESF and SFA funding, the ESF funded employability element of the course was a pre-requisite for the SFA funded vocational element. NCN was able to broaden its construction offer in providing the bespoke, tailored 'work-like' training for Alstom on NET Phase Two (further expanded with the training of 106 Alstom employees to civil engineering qualifications at NVQ Level 2 and 3 discussed in Section 4.5). NCN was also able to work closely with Rullion, Alstom's principal labour provider. This activity has helped to establish the profile of the Civil Engineering Academy at Basford Hall. The Academy was developed in response to the prioritisation of construction, transport and infrastructure in the D2N2 Local Enterprise Partnership and Nottingham City Council's respective strategies and investment plans. Specific investment made possible because of the NET Phase Two project included hiring a vibrating poker for use in training for the specialised process of setting and finishing concrete to high specifications. The NCN Civil Engineering Academy has since hosted 8 construction SBWAs for other projects and employers, engaging a further 120 JSA claimants from Nottingham City postcodes, as well as longer running programmes for young people in residential care to support access to construction training and employment.

NCN also made similar observations on partnership benefits of the project. Not only did the project provide an opportunity for closer working between employers and colleges, and between public sector organisations such as Jobcentre Plus and the City Council, it also encouraged colleges to work together collaboratively. Providers moved from a previous tendency towards competition and became better positioned for policy and funding changes, such as those associated with the Government's 'Trailblazer' agenda.

#### **4.4 APPRENTICESHIPS**

The creation of a significant number of Apprenticeship opportunities was a key objective in Nottingham City Council's design of the NET Phase Two project, aligned to the outcome objectives of upskilling local residents and increasing employment for Priority Groups (principally young local residents, including

those who are NEET<sup>34</sup>). The Concession Agreement links the Apprenticeship activities in NET Phase Two to Nottingham City Council’s achievement of the national target to get 25% of young people choosing Apprenticeships by 2020. It goes on to state that NET Phase Two should be a catalyst for greater take-up of Apprenticeships amongst employers in related sectors, including suppliers and sub-contractors, through “leading a large-scale design and construction project in Nottingham and carrying out the Project Operations on the extended Network requires us to lead by example” (Annex 1 to Part 4 of Schedule 20, p. 26). Apprenticeship opportunities in the Works and Services would be generated by:

- Creating entry-level jobs for participants and subsequent work access programmes for people facing significant barriers to entry into the labour market;
- Advertising Apprenticeship vacancies through the Employer Hub to maximise the recruitment of local candidates in Priority Groups; and
- Participating in jobs fairs and other local and national schemes to raise awareness of opportunities for both Apprenticeships in NET Phase Two and career progression within the civil engineering and construction sectors more widely.

Apprenticeships supported by the project were presented as one of the principal elements of the ‘sustainability’ or legacy of NET Phase Two. In a Tramlink press release (*‘NET Helps Apprentices Get on Track’*, 15<sup>th</sup> March 2015) TWA Resource Manager Colin Tomlinson described the range of Apprenticeships and the sustainability objectives of the project as follows:

*“there are many types of Apprenticeships available and we want to show that we are contributing to the legacy of this project by investing in training in local people.”*

The Employment & Sustainability reports and interviews with project partners provide a picture of the total number of Apprentices recruited, the level of qualifications attained by candidates and some of the employment outcomes that followed – with some information gaps, especially as regards higher-level (Level 3) Apprenticeships. This is summarised in terms of trainee enrolments and completions in Works and Services as follows:

<p><b>Works Apprenticeships</b></p> <p><b>Level 2</b></p> <ul style="list-style-type: none"> <li>• Stephenson College was the principal provider of Level 2 Apprentices for the Works employers. Seven candidates enrolled, 5 completed in 2014. This is because one individual left after 2 weeks, and was replaced by another candidate who also left before finishing;</li> <li>• All candidates were recruited through the Hub. The selection process was managed by Stephenson College with final selection of candidates undertaken by TWA;</li> <li>• This comprised of an 18 to 22 month course, completion of which resulted in a Level 2 NVQ Diploma in Construction Operations; and</li> <li>• Level 2 Apprenticeships were principally for groundworker roles.</li> </ul> <p><b>Level 3</b></p>
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<sup>34</sup> Not in employment education or training.



- New College Nottingham was the principal provider of Level 2 Apprentices for the Works employers. As with Level 2 Apprenticeships, these were recruited through the Hub, with TWA selecting candidates;
- There were 4 enrolments. One candidate left after 6 months. Of the remaining 3, the interviewee from TWA believed that all 3 completed their courses but stated that there was possibility that one trainee may have left just before they completed their course; and
- The Apprenticeship was referred to simply as a 'Level 3 Apprenticeship', though a Level 3 Apprenticeship framework was later developed by Vinci in partnership with Stephenson College as a 'Trainee Construction Manager' Apprenticeship.

#### **Sustainability of employment/ employment outcomes**

- One trainee who completed a Level 2 Apprenticeship in NET Phase Two has since enrolled on Vinci Level 3 Construction Management course with Stephenson (at the Coalville campus), although did not complete as they secured a job with another employer.

#### **Services Apprenticeships**

- West Nottinghamshire College was the principal provider of Apprentices with NTL through the Vision Apprentices service. The level of the qualification was unknown. The representative at NTL interviewed suggested that the course was likely to start at the equivalent of an NVQ Level 2 but to move towards a Level 3 equivalence by completion;
- The Employment & Sustainability reports indicate that at least 2 Apprentice Engineers started with NTL in July 2012, and 2 Apprentice Technicians started in July 2013. In June 2014, a further 2 positions were recruited for as Apprentice Technicians;
- The interview with a representative of NTL confirmed that there were a total of 6 Apprentices recruited to roles within the Services in 3 tranches of 2 individuals. All 6 were in posts of 'Assistant Technicians';
- This was a 2 year course moving to Assistant Technician roles in either Electrical or Mechanical specialisms. After completion of the Apprenticeship course, candidates would continue to either a HND or HNC; and
- Apprentices also undertook a course with Bridgeway Consulting on rail training and competence management.

#### **Sustainability of employment/ employment outcomes**

- At the time of interview, 3 candidates had completed their Apprenticeships, 2 were in their final year of study, and 1 had been promoted. 5 of the 6 remained employed with NTL.

The interviews with the project partners provided insight into the extent to which the above outputs contributed to the Concession Agreement objectives.

Firstly, the interviews confirmed that the Hub had played a key role in delivering Apprenticeships – particularly for trainee positions with Works employers. Interviewees confirmed that all candidates applied via the Hub, and suitable candidates were then assessed by TWA. Interviewees from TWA and Stephenson College felt that the support of Apprentices through NET Phase Two was possible because of the large scale and duration of the project – with Apprenticeship courses lasting between 12 and 22 months, a smaller project would not have provided the same opportunities.

As in the case of the SBWAs, the Works employers interviewed suggested that the Apprenticeship targets in NET Phase Two had significant capacity building benefits contributing to successful tendering and delivery of later projects. The interviewee from TWA associated subsequent success in contracts for Network Rail and the Highways Agency with the transferability of delivering against the NET Phase Two Apprenticeship targets. Current contracts on Crossrail include similar targets for Apprenticeships (although these are for broader ‘business administration’ Apprenticeship frameworks), at a challenging scale. For every £3 million spent on the project, Crossrail want to see one Apprenticeship supported, with the very large value of the project implying large numbers of Apprentices (for example, £98 million for Crossrail preparation and design work in West London and Berkshire). Given the duty of care that needs to be exercised in relation to Apprentices on site, TWA felt that NET Phase Two project was an essential experience for demonstrating sufficient capacity and capability. This was particularly important as the TWA interviewee suggested that contracts that included Apprenticeship targets were fairly novel at the beginning of NET Phase Two. Therefore TWA’s capacity to address both the partnership (working with colleges to identify and implement appropriate training frameworks) and the practical challenges, for example safety, supervision and duty of care, was largely developed during the project life-cycle of NET Phase Two. Another outcome of the Apprenticeships, workforce development and SBWA programme was that the NET Phase Two was awarded National Skills Academy status by the Construction Industry Training Board (CITB).

However, an aspiration in the Concession Agreement that was highly challenging to deliver against was to influence sub-contractors to take on Apprentices. TWA commented that many smaller companies in construction and civil engineering regard Apprenticeships as a risk, and the Tramlink consortium members never felt able to impose Apprenticeship targets on their sub-contractors, not least because of the short duration of many sub-contractors’ involvement. Most labour suppliers sub-contracted to the Works sites provided staff for periods between 6 to 8 weeks, far too short a time to support an Apprenticeship course.

The other significant challenge was around progression from Level 2 to 3 Apprenticeships. This was due to both available national funding and the availability of appropriate Apprenticeship frameworks. Both TWA and Stephenson’s College confirmed that there is no clear existing Level 3 Apprenticeship framework in General Construction Operations. To progress from Level 2 to the equivalent of Level 3, those trainees who completed their Apprenticeships through the NET Phase Two Works would have to go down the route of a BTEC Level 3 diploma in Construction and the Built Environment. However, the project did provide the opportunity for longer term development of progression routes, enabling Stephenson to work with the Vinci partnership to develop a model for a Level 3 Apprenticeship course in Civil Engineering –

which would become the college's 'Trainee Construction Manager Apprenticeship offer' – a national programme not specific to NET Phase Two delivered from Stephenson's Coalville campus.

In the Services, progression occurred within Apprenticeship frameworks. West Notts College had been chosen by NTL as best placed to deliver the course, but the framework also included input from specialist rail engineering and training consultancy Bridgeway on Competency Management Systems. The interviewee from NTL stated that their Apprenticeship framework started with learning equivalent to an NVQ Level 2 but moved towards the equivalence of Level 3 learning outcomes by completion.

National evaluations of the delivery of Apprenticeship frameworks provide some useful context to appraise the extent of success in NET Phase Two. According to an evaluation project undertaken on behalf of the Department of Business, Innovation and Skills (BIS, 2014), construction (in this case, including civil engineering) made up a significant share of employers that provided Apprenticeships (at 9%) but health and social work (at 23%) and wholesale and retail (at 14%) accounted for larger shares. This suggests that although Apprenticeships are an established training and recruitment route in construction and civil engineering, they are not as widely established as in other sectors.

The number of Apprentices completed in the NET Phase Two Works (5 completions at Level 2 and 3 at Level 3) was towards the higher end of the number supported by employers nationally. According to the BIS evaluation, of those employers who had supported Apprentices across all sectors and frameworks, the majority (60%) had just one Apprentice completing their training within 8 months of the survey date. A minority (18%) had between 3 and 9 trainees completing their Apprenticeships. For employers in construction and civil engineering, this balance towards fewer Apprentices was more extreme. 76% of these employers supported just one Apprentice and only 9% supported between 3 and 9. This perhaps reflects the over-representation of very small employers in construction, and the importance of the size of the main contractors in NET Phase Two in supporting a higher number of Apprentices. In terms of level of Apprenticeship, the NET Phase Two outputs appear quite typical, with the majority (68% of employers in the BIS evaluation) supporting just Level 2 Apprenticeships, compared to 51% who provided Level 3 Apprenticeships.<sup>35</sup>

#### 4.5 WORKFORCE DEVELOPMENT

In the Concession Agreement, the members of the Tramlink consortium made a number of commitments to the training of their and their sub-contractors' existing workforce and of new recruits. In the Services, the Concessionaire committed to provide, "extensive training opportunities for our Project Operations staff" with 90% qualified to the equivalent of an NVQ Level 2 by 2020 (page 6, Annex 1, Part 4, Schedule 20). For all New Entrants and other trainees, this would include a corporate induction, a role induction and on-the-job training. For those who lacked relevant qualifications on appointment, this would include internal job-specific training (for example, Tram Drivers to be provided initial training for at least 25 days, including background and route visit, introduction to rolling stock, power and safety, evaluation, signalling, and health and safety regulation). Staff employed in the NET Phase Two Services would be trained

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<sup>35</sup> Colahan, M., and Johnson, C., Ipsos Mori, on behalf of the Department for Business, Innovation and Skills, 'BIS Research Paper Number 204: Apprenticeships Evaluation: Employers', December 2014.

through formally accredited routes, in order to support Nottingham City Council's target to enable 90% of the working age resident population to have at least the equivalent of an NVQ Level 2 by 2020.

The interview with NTL suggested that established internal processes across the Keolis group, alongside commitments to the NET Phase Two contract and national occupational standards, meant that these aspirations were well embedded in recruitment and workforce development practices. This included an extensive training programme across the Keolis group as part of competence review. All job roles are monitored and supported through a competence framework, with appraisal identifying the training needed to maintain and refresh and individual job holder's competencies. Specific to the NET Phase Two project, the interview identified the following outputs and practices:

- For train drivers, NTL secured SFA funding to support NVQ Level 1 Light Rail Tram Driver qualifications. At the time of writing, 50 drivers had completed this course (most in 2013). Initially, trainees were drivers from Line 1 – demonstrating value added by NET Phase Two to the existing Services workforce. As new drivers were recruited for Phase Two, the Level 1 training was rolled out across the workforce and built into the pay structure (Level 1 course completion was required for pay progression);
- Further Government funding was obtained for Institute of Leadership and Management (ILM) Level 2 and 3 training for Travel Supervisors delivered through Challenge Consulting, and NVQ Customer Services training was provided to all newly recruited Travel Officers. SFA criteria on numeracy, literacy and ICT enabled new appointees to be fully funded. The training costs of those who didn't meet the criteria for SFA funding were met by NTL; and
- As in the case of tram drivers, for Travel Officers and Travel Supervisors, training is also built into the pay structure.

On the progression and transferability of this training, NTL noted that the drivers' training may have more limited transferability compared to other roles. However, the expansion of Operations with NET Phase Two provided several routes for progression within NTL, such as to move from tram driving into Control Centre roles as SDS/SDM (Service Delivery Supervisors and Managers). This was possible with the expansion of the Control Room required for Phase Two (which almost doubled in size from 10 to 18 staff). The new roles were filled internally from the pool of drivers, whose previous roles were themselves backfilled through external recruitment. NTL attributed this additional recruitment and progression entirely to the NET Phase Two project. Line 2 also led to an entirely new Customer Services department of 12 individuals, trained through Challenge Consulting in NVQ Customer Services. With the move to ticketless travel in Phase Two, ex-Conductors were provided opportunities to work in the Customer Services department on a no redundancy guarantee. Training offered to individuals who took this progression route included Microsoft Office for candidates lacking the required IT skills.

For the Works employers, training of existing staff was achieved by consortia members and, to a significant extent, sub-contractors. The interviewee from TWA described the importance of the scale of NET Phase Two, without which it would have been very difficult for labour suppliers to invest in training of a comparable duration and nature. He described many labour providers in construction and civil engineering as typically smaller companies, who may be unlikely to undertake joint training initiatives for

a project, get involved in training independently, or have training or even discrete HR departments. Large companies like TWA are able to trail blaze workforce training and initiatives. Therefore both the scale of the project and the size of the Tramlink consortium members enabled training to take place on this scale. But, as above with Apprenticeships, the short duration of many sub-contractors' role in the project meant that TWA never felt able to impose formal workforce training targets on their sub-contractors. However, two examples of significant training on behalf of sub-contractors were:

- One Way Recruitment, who trained 20 of their workforce to a Level 2 NVQ in Construction Operations, as they had become increasingly aware through their work on NET Phase Two that future public sector infrastructure projects were likely to require similar commitments to train; and
- Alstom's principal labour sub-contractor, Rullion Engineering Ltd (part of Rullion Recruitment group), utilised an SBWA-style route for a NVQ Level 1 course for their track team members who subsequently progressed to a Level 2 with New College Nottingham.

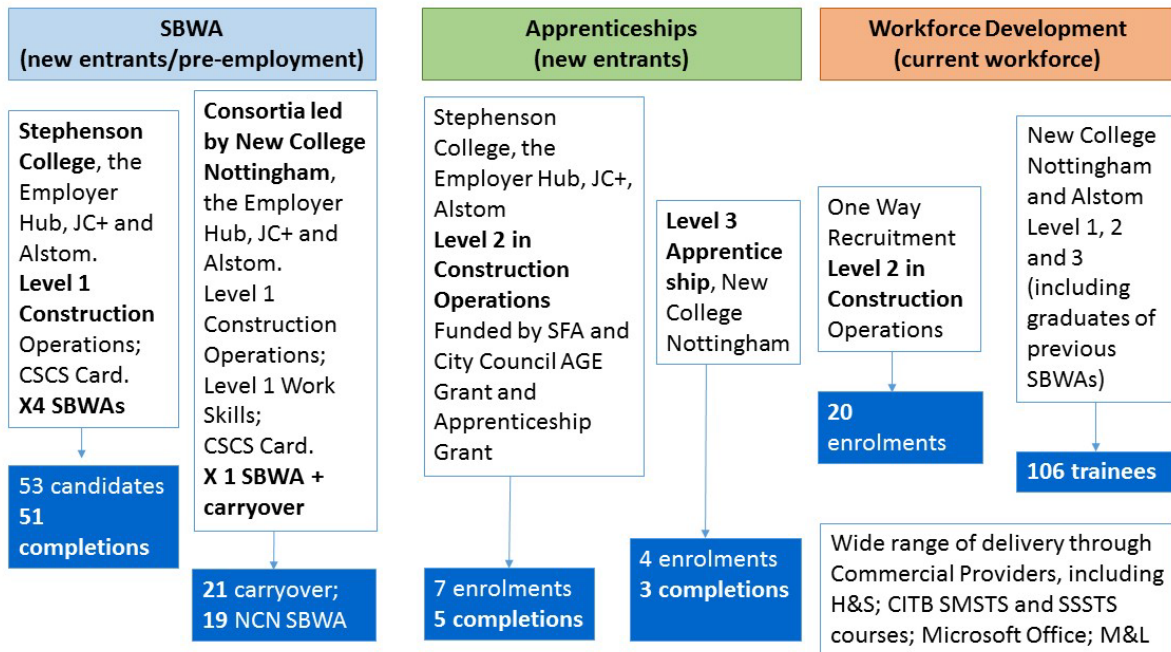
As part of their successful bid to deliver SBWA as part of a consortium with West Notts and Central College, New College Nottingham delivered a large share of the accredited workforce development and training to the Works employers (TWA) themselves. A large proportion of this was accredited with an NVQ qualification. Outputs included:

- 106 existing Alstom employees trained on a mix of Level 2 and Level 3 courses in Construction and Civil Engineering. Over 50 were trained to an NVQ Level 2. The overall total of 106 included staff who had completed one of the 4 SBWAs with Stephenson and then went on to train to a Level 1 in Work Skills whilst in post with Alstom; and
- One TWA employee (a local resident) completed an HND and one (not resident locally) enrolled on a foundation degree.

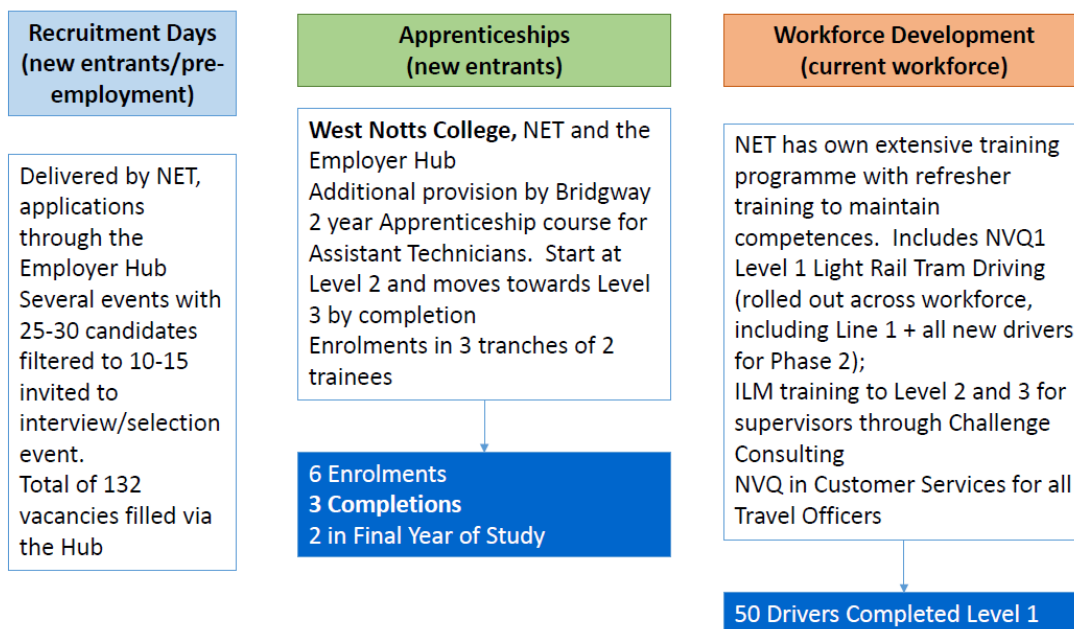
## 4.6 SUMMARY OF RECRUITMENT AND TRAINING OUTPUTS

The training outputs across the SBWA, Apprenticeship and workforce development areas are summarised in the two figures below.

**Figure 4: Training Outputs – Works**



**Figure 5: Training Outputs – Services**



#### 4.7 WORK EXPERIENCE, INTERNSHIPS AND GRADUATE PLACEMENTS

The final area of activity aligned to local recruitment, training and skills outcomes was the provision of work experience for school, college and university students. This included a KPI target for the provision of at least 80 individual work placements during the life cycle of the NET Phase Two project. To deliver this, the Concessionaire committed to work with the Employer Hub and “Local Impact Area schools, colleges and universities to arrange presentations of our organisation and available employment, internship and apprenticeship opportunities.” Stephenson College were to have a key role as one of the employers’ partners to “provide practical work experience and enable learners to secure full time sustained employment on the construction activities” (p. 8-9, Annex 1, Part 4, Schedule 20).

From the interviews, it was clear that this was the most challenging of the Employment & Sustainability KPIs to meet. TWA suggested that it was unlikely to have been fully met. This was due to significant practical difficulties that included risk assessment, monitoring and on-site supervision requirements of 18 year-old placements along with very significant scheduling challenges for example of 16-17 year old placements, which could only take place during school holidays. Where TWA felt that other KPIs (including pre-employment training, local recruitment and Apprenticeships) had contributed positively to their capacity development and ability to successfully bid for subsequent publically funded infrastructure projects, they did not feel it would be feasible to agree to similar work placement targets in the future.

However, a range of work placement outputs were achieved by the Works employers, including some significant qualitative or reputational successes (including close working with the Prince’s Trust and the Construction Youth Trust):

- TWA supported two tranches of one-year university undergraduate placements. In the 2012-13 academic year, 4 Engineering and 1 Commercial (Quantity Surveyor) placements were supported; in the 2013-14 academic year, 3 Engineering and 2 Commercial placements were supported;
- For 16-17 year old school and college students, 32 person weeks of work placements were supported (20 of which were college work experience, 12 were school work experience placements);
- Vinci Construction UK sponsors several NTU students and provided placements across the organisation;
- Working with the Prince’s Trust ‘Get Into Construction’ scheme secured 24 individual work placements, 5 of which led to full-time job offers;
- Budding Brunel courses with the Construction Youth Trust and NTU provided 3 day courses for 40 young people in school years 11 and 12 in October 2013, with 6 doing a work experience placement as a result; and
- The NET Phase Two employers worked with the National Citizenship Scheme to deliver a programme in the summer of 2014 to raise awareness of the project and opportunities for careers in construction and engineering. This was attended by 700 young people.

For the Services, the Concession Agreement included an aspiration to imbed and integrate work placements within tram Operations activities: “we will integrate placement students into the Project Operations Staff team and enable them to take the role of engineers supported closely by senior or system

engineers.” (p. 22, Annex 1, Part 4, Schedule 20). Outputs for the Services for 16-17 year olds were 2 students who each undertook 2 week work-placements in 2013-14, and for young people aged 18+, internal candidates employed across the Keolis group were offered internships with NET Phase Two equivalent to 16 weeks of work experience. No university undergraduate placements were provided in the NET Phase Two Services.

#### **4.8 SUSTAINABILITY AND ADDITIONALITY OF EMPLOYMENT AND SKILLS IMPACTS**

The question of sustainability and additionality discussed in the interviews with the NET Phase Two project partners was the extent to which employment achieved by local candidates in the project, and subsequent training received, would have happened in the absence of the project. Works employers felt that the overall benefit of the project could be summarised in terms of enabling construction and civil engineering employment in the local area to stabilise (in the context of a period of employment decline) rather than to provide significant ‘new’ or additional employment. This is an important conclusion in the context of projects that later came on stream (e.g. the A453 with Laing O’Rourke) as NET Phase Two provided continuity of employment locally in the run up to what is now a pipe-line of local and regional construction and civil engineering projects.

At the time of writing, the latest ILO unemployment rate for Nottingham was 7.9% of the economically active resident population aged 16 and over (for the period July 2014 to June 2015). This is close to the pre-recession level (the last time it was lower was 7.4% in the period October 2007 to September 2008). It is not possible to attribute any given proportion of this overall fall in employment to jobs generated in NET Phase Two (ONS Crown Copyright, 2016).

Both representatives from the Hub and the colleges (New College Nottingham and Stephenson) noted that projects like NET Phase Two tended to be much more successful in providing employment opportunities for relatively short-term JSA claimants who were ‘work ready’. Support for large numbers of long-term and hard-to-help JSA claimants was beyond the feasible scope of such projects. Both the colleges and the Hub noted that harder to help candidates were less likely to meet the criteria to be enrolled on either Works SBWAs or Services Recruitment Days. The representative of the Hub interpreted this challenge within a general context of falling overall unemployment, which means that the long-term unemployed make up an increasing proportion of these falling overall numbers.

According to monthly Jobseekers’ Allowance claimant data, pre-recession (between 2006 and mid-2008), the proportion of working age residents claiming JSA in Nottingham was around 4% (compared to just over 2% nationally). In terms of long-term unemployment, the proportion claiming JSA for more than a year was less than 1% of residents in Nottingham (between 1,200 and 1,600 long-term JSA claimants), or between 17% and 21% of all JSA claimants. When unemployment reached its highest levels in 2011 and 2012, total JSA claimant rates in Nottingham increased to over 6% of residents (more than 14,000 individuals). Claimants for over one year exceeded 4,000 individuals, or 30% of all JSA claimants. As total JSA unemployment began falling in 2013, the number of residents unemployed for more than a year fell significantly less rapidly - reaching 38% of all JSA claimants in November 2013, at 4,260 individuals.



The number of long-term JSA claimants in Nottingham has since fallen, to 2,115 in the latest month at the time of writing (November 2015). However, this continues to account for a significantly higher proportion of total JSA claimants compared to pre-recession, at 31%, although the total rate of all JSA claimants in Nottingham is now below the pre-recession rate at 3.2% (or 6,920 individuals).<sup>36</sup>

Therefore future projects may experience challenges in achieving comparable impact to NET Phase Two given a decreasing pool of 'work ready' local unemployment benefit claimants. This will be a challenge for multi-agency working, where future projects will need to work more closely with organisations (including those in the voluntary and charitable sector) working with deprived communities and with individuals with long-term and complex barriers to work-readiness.

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<sup>36</sup> ONS Crown Copyright, 2015. Jobseeker's Allowance by age and duration, from NOMIS [accessed 23<sup>rd</sup> December, 2015].

## 5. POTENTIAL FUTURE BENEFITS

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The purpose of this section is to review existing evidence on the economic impact of Light Rail schemes implemented in other UK cities and internationally with a view to highlighting potential future benefits that may accrue from NET Phase Two. There is a large and growing body of evidence on the economic impacts of Light Rail schemes of the kind constructed in Nottingham. There remain gaps in this evidence base, but it is possible to identify a range of commonly identified impact types that served a useful purpose in helping to inform the fieldwork and data analysis undertaken for this evaluation. This literature also helped the research team to identify, *ex ante*, some of the future impacts that NET Phase Two could generate in operation. In this section, insights gained from this wider literature are combined with qualitative evidence gathered from a sample of local stakeholders and project participants in order to comment on the likelihood of Nottingham realising similar benefits as a result of the extension of its tram network.

A recent report commissioned by UK Tram (Knowles and Ferbrache 2014) identifies economic impacts arising from the construction of light rail systems in a number of broad thematic areas. This section of the report will use a condensed version of the Knowles and Ferbrache typology – focusing on those categories of impact most relevant to NET Phase Two:

1. Extension of labour market catchment areas;
2. Stimulating inward investment/city image and quality;
3. Unlocking previously hard to access sites for development;
4. Stimulating growth through addressing transport network constraints;
5. Land and property value increases; and
6. Transit-orientated development.

Knowles and Ferbrache (2014) present the most comprehensive and up to date synopsis of existing research on the economic impact of Light Rail. In general, their conclusions are positive in that they do conclude that light rail can generate positive economic benefits for cities in which they are developed. However they also identify two significant caveats:

- Local circumstances matter – ostensibly similar light rail schemes developed in different locations will not necessarily generate similar impacts; and
- Light rail projects alone are unlikely to be sufficient to generate local economic change – in the absence of other supporting policies and programmes.

It is clearly important for any evaluation of a light rail project to be extremely sensitive to local context. It is also important to consider the wider strategic and policy context within which any major light rail scheme is delivered. In the context of the NET Phase Two project this means that we need to be aware of and sensitive to relevant Nottingham City Council and Nottinghamshire County Council strategies and

programmes. It is for these reasons that the project team used a number of interviews with stakeholders from Nottingham and the surrounding area to explore perceptions of the difference that the extended tram network may make on the future.

## 5.1 LABOUR MARKET CATCHMENTS

Given the nature of light rail schemes in urban areas, one of their most consistent effects is to influence the shape or size of labour market catchment areas surrounding employment locations served by a new light rail line or network. This is a consistent theme reported in a number of research studies presenting meta-reviews on the impact of investment in trams (Knowles & Ferbrache 2014; Hass-Klau et al 2004; Crampton 2003).

More specifically, the Croydon Tramlink is highlighted as a domestic example of a light rail scheme that is seen to have had these effects (Siraut 2004). Although noting the difficulty of quantifying impacts, Siraut places most emphasis on employment impacts (access to jobs for residents) and recruitment/marginal productivity benefits for employers. He sees these benefits as resulting from improved access to employment sites served by the tram. In a finding that resonates very strongly with the NET Phase Two experience, Siraut also notes the importance of providing training to residents to enable them to access employment opportunities directly or indirectly made available by the tram.

As noted in Section 1, one of the main differences between NET Phase One and Two lies in their distinctive spatial functions. If the primary strategic rationale for NET Phase One can be seen as regeneration, that for NET Phase Two is improving the accessibility of key strategic employment sites on the South and West of the City. NET Phase Two connects major employment sites such as the NG2 business park, Nottingham Science Park, the Queens Medical Centre, the University of Nottingham and the Nottingham Trent University Clifton Campus.

A number of local stakeholders cited these kinds of benefits as being realised already as a result of the opening of NET Phase Two. A local business representative interviewed within a month of the tram opening cited significant time savings on the part of employees traveling to work on the NG2 business park by tram since its opening. Research on the relationship between travel to work and wellbeing (Wheatley 2014) supports the contention that employees may experience significant wellbeing gains as a function of these kinds of improvements. Similar benefits in terms of accessibility to and from the City Centre were also noted by a local business person with premises on the Nottingham Science Park.

A number of interview respondents also endorsed the view that these kinds of benefits were likely to be more significant now that the NET system has taken on the character of a 'genuine network' with the latest extension. Whereas the first two lines opened in 2004 primarily served a number of communities to the north of the city, the extension has created a local transport network capable of facilitating both radial and cross-conurbation journeys to work. Furthermore, it is a network that integrates well with heavy rail as a result of the redevelopment of Nottingham station as a multimodal transport hub and the strategic road network through the provision of park and ride sites at Toton Lane and Clifton.

In sum, all of these characteristics of the extended network suggest that it is likely to reshape the effective labour market catchment areas of employing organisations served by the new lines. Indeed anecdotal evidence collected as part of this project is suggestive that this may be happening already.

## 5.2 INWARD INVESTMENT/CITY IMAGE AND QUALITY

Many of the studies reviewed to date have made assertions about the extent to which investment in a light rail scheme has resulted in benefits associated with the ability to attract inward investment. Or indeed place marketing benefits relevant both to inward investment and the ability to recruit high calibre labour. There is an important rider to this assertion. It is equally the case that few if any studies are able to attribute specific instances of inward investment to a particular light rail development (Knowles & Ferbrache 2014).

Arguably the most comprehensive attempt to explore these impacts in a UK context, was the longitudinal evaluation of the South Yorkshire Supertram undertaken by a team from the Centre for Urban and Regional Development Studies (CURDS) at Sheffield Hallam University (Lawless, P. & Gore, T. 1999; Dabinett, Gore, Haywood and Lawless 1999). This example did not result in very conclusive support for the proposition that inward investment resulted from investment in the Supertram. It is however important to recognise that this finding was significantly influenced by the local context of Sheffield. The tram development happened at a time when significant development of the local road network was also underway – making it difficult to isolate the impact of either enhancement to the transport infrastructure.

Two high profile domestic examples of light rail infrastructure being closely associated with significant inward investment are identified in the literature. The first relates to the Manchester Metrolink extension to Salford Keys and the MediaCityUK development (Hass-Klau et al. 2004; Knowles & Ferbrache 2014) – said by some to have influenced the BBC relocation. The second is the Docklands Light Railway (DLR), opened in 1987, and often cited as an example of light rail infrastructure helping to unlock the regeneration of a previously derelict part of East London (Knowles & Ferbrache 2014; Grant 1990).

Most interviewees accepted the difficulty of attributing specific inward investments to a single infrastructure project, several cited image benefits as likely to result from the tram:

*“They are an impressive investment – they look good, smart, clean... The statement in a location is massive. It has a ripple-on effect”. [Local developer with inward investment experience]*

In a similar vein, a local place marketing professional made the following observations:

*“What it says about the place is important... It conveys a positive image... It’s a great asset for the City in these terms.”*

*“It looks the business, it certainly does... slick, efficient, neat, user-friendly, appealing. It fits with what you want to say about the City. From that perspective it is quite important.”*

This recognition of the image marketing benefits of the tram, was balanced by the view that from a visitor attraction perspective, the tourism related benefits that might accrue from the tram were largely a

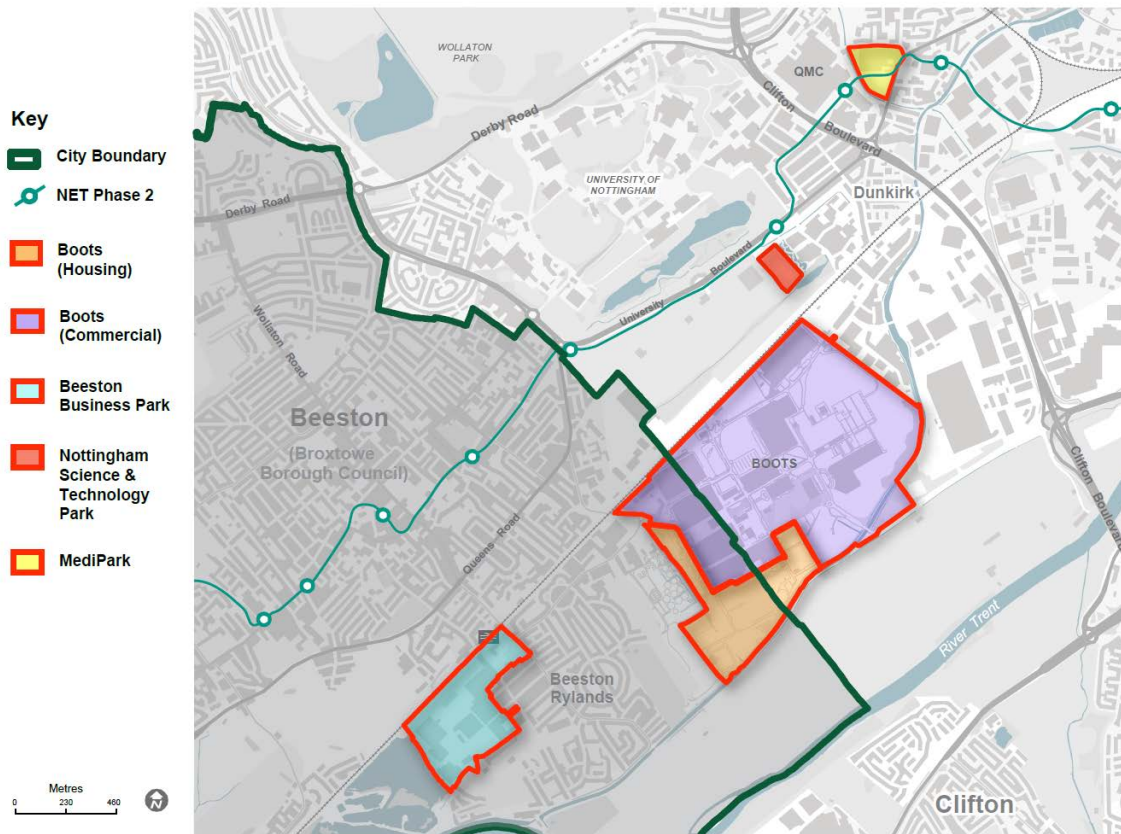
function of the specific visitor attractions served by the tram. In this sense it was thought clearly of benefit to those destinations/attractions directly served by the tramlines, but less relevant to the promotion of less central venues across the conurbation. This respondent also made the observation that the NET as currently configured does not directly serve the major sports venues to the south of the city centre: Trent Bridge cricket ground, The City Ground (Nottingham Forest Football Club) and Meadow Lane (Notts County Football Club).

### 5.3 UNLOCKING HARD TO ACCESS SITES

As noted above in relation to inward investment, both the DLR and Manchester Metrolink extension may also be regarded as having played a role in unlocking previously inaccessible brownfield sites for development (Knowles and Ferbrache 2014). Other examples of domestic light rail tend to be regarded as having played a less significant role in this regard – or perhaps were evaluated too soon to identify any discernible effect of this kind. This is certainly so in cases of Sheffield and the Tyne and Wear Metro extension in Sunderland (Hongbo & Mulley 2007; Lawless, P. & Gore, T. 1999; Dabinett, Gore, Haywood and Lawless 1999).

NET Two may not have been intended primarily to unlock inaccessible sites, but it does appear to have the potential to improve access to a number of strategically significant employment sites with the City. It also runs in close proximity to three designated regeneration zones identified in the Nottingham Growth Plan (Nottingham City Council 2012). The NET Two Business Case suggests that NET Two could serve as many as 2,000 workplaces.

Figure 3. Proximity of Clifton Line to key strategic employment/development sites



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Source: Nottingham Growth Plan, Nottingham City Council (2012)

The above map illustrates the proximity of the Toton Lane branch to a number of strategically significant employment and development sites in the south western quadrant of the City. As is evident from this map, Nottingham Science and Technology Park, Medipark, the University of Nottingham and the Queens Medical Centre are all directly served by this line. Sites associated with the Nottingham Enterprise Zone are also relatively close to the line. While we cannot say that these sites have been ‘unlocked’ by the development of NET Phase Two, we can suggest (on the basis of local stakeholders interviewed and site visits) that the accessibility of these sites has been improved. This is likely to aid the creation of what a local developer described as a ‘positive narrative’ about these sites by those responsible to marketing them to prospective occupiers.

#### 5.4 STIMULATING GROWTH THROUGH ADDRESSING TRANSPORT NETWORK CONSTRAINTS

Although it is widely assumed to be the case in policy circles that improved transport links can stimulate economic activity, research evidence is more equivocal. Dickens (1992) is not atypical in suggesting that some key conditions that must be fulfilled for transport investments including light rail to result in significant economic impact (following Parkinson):

- 1) Must be underemployed resources – the use of which will be facilitated by the investment.

- 2) Transport is a significant proportion of production costs.
- 3) Change in transport costs resulting from an investment must be large.
- 4) Demand for the product must be sensitive to fall in price (elastic).

In these circumstances, a fall in production costs resulting from a transport investment will result in a fall in the price of the finished goods or services. Demand being responsive to changes in price (it is elastic), this fall in price stimulates greater consumption of the finished good or service. This additional consumption expenditure creates the additional economic impact.

That said, Knowles and Ferbrache (2014) identify two UK light rail schemes as having stimulated economic activity through allowing more people to travel to work, shop or leisure activities. The two examples highlighted are Manchester's Metrolink and the DLR in relation to Canary Wharf. Both of which are suggested to have enabled increased travel to work, leisure and retail footfall in locations served by these networks. The route of NET Phase Two is such that it is certainly conceivable that the new lines could similarly increase travel to work, leisure and retail in both the city centre and surrounding employment sites served by the new line. Addressing precisely these kinds of network constraints, and integrational requirements, were a central part of the strategic rationale for NET Phase Two as noted in Section 1. A number of interviewees commented positively on the potential of NET Phase Two to address these issues, but it remains too early to assess the extent to which these objectives have been realised.

Two interviewees referred to the role that Phase One had played in helping to moderate or stabilize traffic congestion on the northern approaches to the City. They both felt it likely that Phase Two would play a similar role, alongside other enhancements to the road transport network, on the south western side of the conurbation. This is conceivable, but it remains too early to take a definitive view on the subject.

## 5.5 LAND AND PROPERTY VALUE INCREASES

Amongst the most consistently cited impacts associated with light rail development in an international context are increasing land and property values in areas served by this infrastructure. This tendency is particularly pronounced in studies of North American light rail development. Here the pattern appears to have been set by the landmark case of the Toronto Metro in the 1960s (Dickens 1992) and replicated in a number of subsequent studies of light rail schemes.

Similar studies would appear to have produced rather more mixed results in a UK and European context. Hongbo and Mulley's (2007) Sunderland study is typical. In contrast to the US studies that look at the land value impacts of light rail schemes, this study does not identify similar land value increases. They attribute this to the nature of the route and the local economic context:

*"The extension of Metro to Sunderland utilised existing rights of way for the track: it only traverses the northern area of the city of Sunderland and did not give rise to significant opportunities for new development. In addition, Sunderland, as part of the Northern Region in the UK, does not enjoy favourable regional economic trends or favourable social and physical conditions."*

In contrast, Hass-Klau et al (2004) in their wide ranging review of light rail schemes in Europe and North America note more consistent property and land value effects: *“Residential property and rent values were often higher when near a light rail line; office prices were also higher in many cases.”*

This research suggests that NET Phase Two could, over the long term, affect local land and property values. Comments such as these from a local property developer lend weight to the suggestion that impacts of this kind are not unlikely to be seen within corridors served by the tram in Nottingham:

*“Part of my enthusiasm for the site was its proximity to the tram stop. In our marketing of the site we have made a big play of our proximity to that.... We saw that as a very significant attribute of that location.” [Local property developer]*

*“Now has the tram had an impact? I can’t prove it, but anecdotally I would say it has influenced the success of the scheme.” [Local property developer commenting on the market success of a specific housing development served by the tram]*

*“...proximity to tramlines is key. Easy access to the Tram. It has a positive effect on saleability and prices... [its] part of a good narrative that will sell houses.” [local developer]*

This developer went on to say that his company had been looking at other potential development opportunities in the City:

*“We have been looking at other sites in the City.... The first thing we did was to map the Tramlines.”*

Indeed, he suggested that other local developers were also reappraising the potential of both residential and commercial development opportunities in corridors served by the new tram lines. Views of this kind were not restricted to housing development. Similar impacts were cited in relation to a business park served by the extended tram network:

*“There is a downside – University Boulevard has been a nightmare [during construction]... But now that it is done and open it’s very quick and painless. Incredible as people appreciate the speed in and out... it will enhance what we can do. It provides fast access to the city centre.” [Local developer]*

It would clearly be inappropriate to place too great a reliance on qualitative evidence of this kind, but it does suggest that the NET Phase Two project may be changing the investment behaviour of developers in Nottingham.

## 5.6 TRANSIT ORIENTATED DEVELOPMENT/INTEGRATED TRANSPORT PLANNING

One of the most consistent policy relevant recommendations to emerge from much of the research that has been undertaken on light rail concerns the importance of integrating transport and land-use planning. Some authors also suggest that this can only occur when schemes are developed under the auspices of a single authority that is responsible for both transport and land-use planning (Dickens 1992).



In this context, it is striking to note that the NET Phase Two project has been developed under the auspices of a single project promoter – Nottingham City Council (since the withdrawal of Nottinghamshire County Council in the early stages of the project). This may well have served to facilitate better integration of transport and land-use planning than is possible in areas where multiple authorities are involved. It is notable that in the case of Sheffield, the evaluators of the Supertram were explicit in stating that a failure to fully integrate transport and land use planning did adversely affect the ability of this scheme to maximise the economic development and regenerative benefits delivered by the scheme (Lawless, P. & Gore, T. 1999; Dabinett, Gore, Haywood and Lawless 1999).

One of the most striking characteristics of the NET network is the degree to which it now integrates with other transport infrastructure. As set out in Section 1, transport integration was a key strategic objective for the extended network. Indeed, both the Business Case documents prepared for NET Line One and Two make this objective very explicit. Furthermore, the Nottingham Local Transport Plan 2011-26 is similarly clear in positioning the NET at the heart of its vision for the creation of an integrated local transport network.

The redeveloped Nottingham Station now forms the hub from which the NET lines radiate to the north, west and south. The station serves the function of a multimodal interchange facilitating integration between light and heavy rail networks. The siting of the new Clifton park and ride facility integrates well with the newly duelled A453. The Toton Lane park and ride site fulfils a similar function for approaches to the city from the west. Alongside the pre-existing Line One facilities at Hucknall and Phoenix Park, NET Phase Two has effectively transformed the NET from a couple of lines arrowing out of the City to the north into a functioning and integrated network.

A number of interview respondents commented on the extent to which NET Phase Two has become a 'network' with the advent of the new lines to Toton Lane and Clifton. Furthermore, the Toton line has created the potential for an important link to the planned Toton HS2 hub. As such, NET Phase Two seems likely to have paved the way for future transport integration as and when the planned high speed rail network emerges. The choice of routes – serving key employment sites in the City as noted above – further reinforces the impression that NET Phase Two may effectively have been integrated into a local transport network that can support the development of key strategic sites within the city.

Strategic integration is increasingly evident in the location of recent major public sector capital projects both by the City Council itself and by key local stakeholders. The City Council's Loxley House offices are adjacent to Nottingham Station at the heart of the NET system. Similarly, three out of the four joint service centres built by the local NHS in collaboration with the City Council, at Clifton Cornerhouse, Mary Potter (Hyson Green) and the Riverside Centre (Bulwell) are all located close to the network. Recent developments by NTU, both teaching and residential, have been consolidating the existing City and Clifton campuses, and the new Fire Station on London Road is close to both the railway station and the tram.

## 6. ISSUES AND CHALLENGES

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Section 3 documented the local economic benefits in terms of employment and expenditure associated with the construction of NET Phase Two. Major infrastructure projects always create disruption for communities, households and businesses in close proximity to the works and NET Phase Two has been no exception<sup>37</sup>. One of the principal differences between NET Line One and NET Phase Two lies in the higher proportion of the route that follows public highways. Building a tramline in these circumstances is going to cause disruption to other highway users and households/businesses whose premises lie along the route. It is beyond the scope of this study to quantify the value of these negative impacts associated with the construction of the tram. We can however take some approximation of the numbers of businesses most affected from data available on the financial assistance packages made available jointly by Nottingham City Council and Nottinghamshire County Council<sup>38</sup>. Additionally, we can document the experience of some of these businesses through the submissions that they made to the relevant councils and interviews with business representatives based in the affected areas.

This section of the report also identifies a number of issues that, in the view of the research team, warrant further consideration as part of the planned 'lessons learned' exercise to be undertaken by Nottingham City Council and Tramlink Nottingham. It is beyond the scope and of this study to take a definitive view of these issues. We note them here as an input to this wider review process.

### 6.1 DISRUPTION TO BUSINESSES AND COMMUNITIES

The Financial Assistance Package was created primarily for small businesses in the tram corridors that could demonstrate that their turnover was reduced as a result of the scheme. Eligibility for assistance was based on an annual turnover of £500,000 or less, and payments calculated as between 50 and 70% of lost gross profit (depending on the size of business).

Payments have been made for the period of 'significant' construction works (generally from early 2013 to mid-2015) and there is also provision for a 'recovery period' when payments continue to be made after the works are complete. This is calculated as one third of the time that the significant works took place. This means that payments will continue to most claimant businesses until around Easter 2016. Claims totalling just over £2 million have been made so far and just over 100 businesses have received assistance<sup>39</sup>.

Additionally, a hardship fund was made available to businesses on Chilwell Road and High Road in Beeston. This reflected the exceptionally difficult trading conditions that they endured during the works as a result of total road closures depriving them of 'passing trade' and other impacts that the construction works had on their operations. A fund of £200,000 was available (and spent). This was available to businesses who were also claiming the main Financial Assistance Package. Payments to businesses in the County, and the hardship fund, have been made jointly by the City and County Councils.

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<sup>37</sup> See section 3 for a discussion of the local supply chain expenditure that will have benefited local businesses.

<sup>38</sup> Information on financial assistance reported here was supplied by Nottingham City Council.

<sup>39</sup> As at October 2015.

It is likely that other businesses – not eligible for financial assistance based on the criteria listed above – will also have been affected. This view is supported by the experiences of the business representatives consulted during the course of this project. A letter sent by a group of traders located in Beeston to the City Council in January 2014<sup>40</sup> summarises the kind of impact felt by those local businesses most directly affected by the works:

*“... the construction of NET Phase Two through Beeston and Chilwell is having an unprecedented impact on the businesses in the area, with the section comprising Chilwell Road, Beeston and High Road, Chilwell being severely affected as a result of the complete closure of the road and the loss of any through traffic... As we sit here today, Phase 1 of the works, which we were told would take six months to complete (April – September 2013), is not yet complete... ”*

*“By the time Phase 1 is complete, the businesses in that section will have endured the noise, dust, disruption, loss of turnover and stress for over a year, including the crucial Christmas trading period...”*

A business owner from this area noted particular dissatisfaction at revisions to the project plan for this section of the works from one allowing some one-way flow of traffic throughout the construction period, to one requiring total road closure in two phases.

A representative of the local Chamber of Commerce also acknowledged the impact of the construction phase of the work on affected businesses – both large and small. While noting that many of the smaller businesses affected were not Chamber members, he did cite larger companies in Chamber membership whose operations had been affected:

*“Some larger members were affected... for whom movement of both people and goods was a problem during the construction phase of the project.”*

Nevertheless, he went on to comment that while there was frustration amongst Chamber members at disruption from the construction of the tram, for the most part, there was also a general acceptance of the long term benefits that would be brought by completion of the NET Phase Two. Indeed this view was echoed by the proprietor of a Beeston business located in the heart of the most affected section of the route who, despite dissatisfaction with the manner in which the project had been managed, was still prepared to acknowledge the potential long term benefits expected to result from the extension of the tram network.

A further factor which may have exacerbated the nature and extent of road traffic congestion associated with the construction of NET Phase Two was the juxtaposition of this project with other major infrastructure projects underway in and around Nottingham during the construction works phase. In some cases these were long planned and cherished local projects such as the duelling of the A453 – a project that had been consistently identified as a major sub-regional transport priority over many years. This was noted by the Chamber of Commerce representative interviewed for this project who suggested that the duelling of the A453 and other work on the Nottingham ring road were likely to have exacerbated these impacts.

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<sup>40</sup> Letter to Nottingham City Council dated 31 January 2014. Quoted here by permission of the author.

The timing of the delivery of these projects was largely a function of when Central Government funding was approved and made available. Both schemes were provisionally approved, and funds allocated, by central government prior to the 2010 general election. However immediately after the election in May 2010, when work was due to begin in the autumn, the Chancellor announced that the widening of the A453 had been deferred ‘indefinitely’, and the BBC reported that the tram extension was also under review. Approval for the Tram extension was delayed until December 2011, when it was announced that construction work were to start in March 2012. Approval of funding for the A453 widening was announced in March 2012 with construction work to start between January and March 2013. At the same time, planned works to the M1 Junction 24/A50 were announced as to be delivered as part of the A453 works. At the very least co-ordination and planning of these two projects and mitigation of their impact on the local traffic infrastructure was made more challenging by the timing and sequencing of these decisions.

Both NET Phase Two and the A453 projects were, in effect, funded during a period when the then Coalition Government was searching for pre-planned infrastructure projects that could be used as part of attempts to provide economic stimulus in the context of the sluggish recovery from recession.

## 6.2 ISSUES FOR FURTHER CONSIDERATION

This section of the report identifies a number of issues that, in the view of the research team, warrant further consideration as part of the planned ‘lessons learned’ exercise to be undertaken by Nottingham City Council and Tramlink Nottingham. It is beyond the scope and of this study to take a definitive view of these issues. We note them here because respondents raised them during our fieldwork in relation to lessons learned during the delivery of NET Phase Two. It is hoped that these observations will form an input to this wider project review process.

### 6.2.1 PROJECT MANAGEMENT

Although not the primary focus of this research project, when asked about lessons learned from the delivery of this project that might be relevant to future projects of this type, a number of respondents have highlighted issues relating to project management (including communications with local stakeholders).

A Beeston business owner made the following observations:

*“The biggest complaint was that there was no visible leadership on the ground.... No real coordination of effort.”*

This business person did note that a good relationship had been built with the ‘lead local engineer’ on the ground, but that middle management capacity appeared to be a problem for the construction side of the project. This was said to have improved late in the project as resources were mobilised in order to minimise further delays to completion of the project.

Other business interviewees noted similar concerns – particularly in relation to the effective management of relations with local stakeholders and communications with those affected by the works. Similar

observations were made by another respondent when asked to what he attributed the slippage to the completion of the project:

*“I think generally the UK has a real lack of project management skills. Bear in mind there were 30 odd site managers. All of whom were project managers having to deal with lots of local stakeholders... and I think the fact that we don’t build as many tram systems in the UK meant that there isn’t the body of tram making, tram building skills that other countries have. I mean in France they build two a year. So the same teams go from one to the next. It’s easy building them when you have done that. In the UK we don’t build them often enough.”*

This perspective clearly lends support to the view that greater project management capacity and expertise would facilitate the construction of light rail schemes in the UK. Equally, this respondent saw this as a wider challenge facing transport/civil engineering in the UK rather than a project specific factor. To some extent the recent experience of other high profile light rail schemes in the UK would seem to bear this out. Edinburgh perhaps representing the clearest example.

The comment above about the frequency with which tramlines are constructed in the UK in comparison with France is also noteworthy. It may also go some way towards explaining the apparently greater interest of French based investors and civil engineering firms in undertaking tram projects in the UK than their domestic counterparts. Section 6.2.2 will explore this issue further.

## 6.2.2 FINANCING

When the concession to construct and operate the extended NET network was advertised during 2011, three consortia expressed interest. Two of these, Tramlink who eventually won the contract and the Arrow Consortium (who had built and operated Line One) bid for the concession. Tramlink were identified as the preferred bidder and the contract was eventually closed on 15<sup>th</sup> December 2011. This concession takes the form of a 23 year PFI scheme. In return for building and operating the extended network, the concessionaire received an availability (or access) payment once the network was operational in addition to fare-box receipts.

The structure of this concession became extremely important when it became clear that the construction and testing phase of the contract would overrun – by eight months in the final event. The consequence of this funding structure was that Tramlink lost access payments for the period of the overrun to project delivery timeframe. In effect, the local authority promoter of the scheme was thus insulated from the direct financial risks associated with project slippage.

At the time of writing, the financial implications of this overrun for individual members of the Tramlink consortium are unknown. The trade press<sup>41</sup> has attributed the bulk of the £165million pre-tax loss reported by the Vinci civil engineering division (Taylor Woodrow) in the UK during 2015 to the NET Phase Two project. This may or may not be accurate. It must be noted that Carillion, a member of the Arrow Consortium responsible for constructing Phase One, also lost money on the construction part of their contract. In this context, using a similar contracting/financing model for future projects of a similar type may prove challenging. A respondent summed up the problem in these terms:

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<sup>41</sup> <http://www.constructionenquirer.com/2015/07/03/vinci-suffers-colossal-217m-loss-in-uk/>

*“The question is, how you attract British companies to bid for projects of that type? Knowing what has happened to others. So there are a few lessons on either side there... Carillion lost money [on NET Line One]. John Lang of course lost money in Birmingham and as a result of that went bankrupt. And as a result of that O’Rourke bought them and became Lang O’Rourke. So they won’t touch a project of that type. And the others are too small... Balfour Beattie and so on have said they don’t want to work on tram related PFI projects and there aren’t any others left. So you are left with foreign construction companies. So it’s tricky. Very tricky. But the risk does lie with the private sector.”*

*“I think the other possible lessons. Birmingham has looked at the private finance project here and realised that it is very difficult to attract too many contractors from the UK into a private finance project. And so they have gone for an alliancing type structure, a bit like the Network Rail alliancing structure and they think that by the public sector taking more risk, in a sense, they will get more competition for the work. And that is probably undoubtedly true, but do you want the public sector to? Here remember, although Vinci lost money on the contract, the Council has not had to pay any more money. I mean the risk lay still with the private sector.”*

These two quotations neatly capture a sense of both the advantages and disadvantages associated with a PFI project of this type. From the local authority promoter’s perspective, financial risks associated with any unanticipated slippage to the project were borne by the private sector. However, from the perspective of private sector civil engineering contractors, projects structured and financed in this manner may look unattractive in the wake of recent experience of light rail construction projects in the UK. This in turn may have significant implications for the promoters of future tram schemes in the UK who clearly would wish to see meaningful competition for construction contracts in order to ensure appropriate value for money.

### **6.2.3 PARTNERSHIP STRUCTURE**

In light of the project management issues noted above it is necessary to consider whether the structure of the Tramlink Consortium could have been a contributing factor? The consortium is interesting in that on the operating side, Keolis and Wellglade formed a fully integrated joint venture to operate the NET. Taylor Woodrow Alstom (TWA) on the construction side of the consortium chose to operate as a non-integrated joint venture as indeed had Carillion and Bombardier on Phase One. One respondent did suggest that a fully integrated joint venture might have been preferable. However, it is worth noting that the rival Arrow Consortium was proposing to use a similar non-integrated joint venture on the construction side.

It is impossible to know whether this respondent commenting with the benefit of hindsight is correct. This may be an issue for potential commercial partners in the delivery of projects of this kind to consider in the future. If this was a potential downside of the particular partnership model adopted, it also conferred advantages in the eyes of the same observer. He felt that a strength of the consortium was that it was ‘operator led’ – reflecting the balance of the financial investment in the project.

*“I think the balance that we had 50/50 between the financial investors and the four, what we call the industrial sponsors was quite a good balance, because it focussed everyone’s attention on producing a return on investment, but at the same time, supporting the industrial sponsors.”*

Indeed this he saw as one of the key strengths of the Tralink consortium that helped it to strike an appropriate balance between achieving a financial return for investors and the requirement to develop a network that could be operated effectively and efficiently over the long term.

## 7. CONCLUSIONS AND LESSONS LEARNED

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The construction and operation of NET Phase Two has taken place during a period when the UK economy has been slowly recovering from the financial crisis and recession of 2008/09. Like all cities in the UK, Nottingham experienced an increase in unemployment and a decrease in employment rates. In this context, it is notable that construction employment increased significantly for residents in Nottinghamshire between 2010 and 2011 and in Nottingham between 2011 and 2013, in contrast to flat or falling national and regional trends.

It is likely that the construction and operation of NET Phase Two, alongside other major infrastructure projects underway in Nottingham during this period, contributed positively to the performance of the local construction and transport services sectors during this period.

### 7.1 THE EMPHASIS ON LOCAL IMPACT

The emphasis placed on local employment, training and supply chain impacts during the NET Phase Two project would seem to be unusual amongst those schemes elsewhere that we have reviewed.

- This emphasis was clearly reflected in the procurement strategy adopted for NET Phase Two.
- Documentary sources and interviews suggest that the emphasis placed on delivering local economic impact became more prominent in response to the recession.
- Respondents indicate that since this project was procured, the approach adopted by Nottingham City Council for this project has become a more common feature of publicly funded infrastructure projects elsewhere.
- Particularly noteworthy is the 'granular' targeted approach to the delivery of social benefits through procurement and contracting.
- In many respects, this project may be seen to have anticipated the 'quiet revolution' in public sector procurement law heralded by the Public Services (Social Value) Act 2012.
- The Employer Hub played a significant role in helping local firms access supply opportunities associated with the project.
- While it will never be possible to procure every input required for a project of this kind locally, respondents indicated that it often made economic sense for prime contractors to procure locally where they could.

### 7.2 ECONOMIC IMPACTS

The design and construction of Phase Two was a large and complicated project that has delivered significant impact and will continue to do so as it is used in the future. This assessment has been limited to the economic benefits associated with its construction and initial operation. Potentially important social and environmental benefits will be realised over the long term and are outside the scope of this study. Our assessment of impact from design and construction and some operational impacts can be summarised as:



- During the design and construction period around 2,900 years of employment in the local economy and a further 1,600 years of employment in the regional economy have been created, generating around £108m and £61m of gross value added respectively;
- During the design and construction period supply chain expenditures have generated around £140m of activity in the local economy and a further £77m in the regional economy; and
- Around 230 FTE jobs are estimated to have been created as a result of operation of the new services, through additional drivers, control staff and so on, which will generate around £78m of gross value added in the local economy during the next decade.

### 7.3 TRAINING AND RECRUITMENT

A key feature of this scheme was the collaborative approach between Nottingham City Council's Employer Hub, Job Centre Plus, local Further Education providers and the Tralink consortium members in delivering pre-employment training, local recruitment programmes, Apprenticeships, work experience and workforce training. To deliver pre-employment training and targeted recruitment for local candidates currently claiming Jobseekers' Allowance, the Employer Hub worked with Alstom and local colleges to take advantage of the national Sector Based Work Academy (SBWA) model.

- The 5 SBWAs for the NET Phase Two Works resulted in 80 candidates completing their course and attaining a NVQ Level 1 and a CSCS Card (Construction Skills Certification Scheme). In addition, the programme delivered by New College Nottingham also included an employability component, providing transferable accreditation for sustained work-readiness. Approximately 50 of these candidates achieved employment in the project.
- The 'work like' training experience offered by the New College SBWA – who constructed a section of tram track on their Basford Construction Academy site – was highlighted as a real strength that helped to improve the 'work readiness' of potential recruits.
- The Employer Hub played a key role in the recruitment of Apprentices who then received training through a partnership between a local college and a NET Phase Two employer.
- A total of 5 young people completed two-year Level 2 Apprenticeship courses in Construction Operations with Stephenson College and TWA, and 3 trainees completed Level 3 Apprenticeships with New College. In the Services, Nottingham Trams worked with West Notts College to deliver 6 Apprenticeships. Courses of this level and duration were possible because of the significant scale and long-running nature of the project, and both the level and the number of Apprenticeships achieved in NET Phase Two exceeds sectoral baselines established in recent national evaluation studies. This contributed to the project being awarded Construction Academy status by the CITB.
- New Entrant Trainees were a NET Phase Two target group comprising candidates recruited after completing school, college, university or whilst claiming Jobseekers' Allowance or other working age unemployment benefits. 393 New Entrants to the labour market were employed on the construction of NET Phase Two (219 works employees and 174 services employees).
- The project also facilitated significant workforce development of existing staff across both Works and Services employers. This included labour contractors such as Rullion Engineering and One Way Recruitment, who trained staff engaged in the project to NVQ Level 1 and 2 qualifications.

These initiatives played an important role in helping to deliver the employment and training benefits from the scheme to local residents. In the context of changing national policy on adult skills provision, the FE

providers involved in this project were innovative in the way that they deployed different resource streams (e.g. DWP and ESF) to fund training packages tailored to the needs of specific employers engaged in the delivery of NET Phase Two. The importance of such measures is a key lesson for project sponsors in other cities and regions seeking to maximise the local benefit of major infrastructure projects. Other local authorities are reported to be considering developing similar delivery models with the Nottingham Employer Hub regarded as an example of best practice.

Works employers felt that the overall benefit of the project could be summarised in terms of enabling construction and civil engineering employment in the local area to stabilise (in the context of long-term employment decline) rather than to provide significant 'new' or additional employment. This is an important conclusion in the context of projects that later came on stream (e.g. the A453 with Laing O'Rourke). NET Phase Two provided continuity of employment locally in the run up to what is now a pipeline of local and regional construction and civil engineering projects.

#### 7.4 WIDER ECONOMIC IMPACTS

There is a large and growing body of evidence on the economic impacts of Light Rail schemes of the kind constructed in Nottingham. There remain gaps in this evidence base, but it is possible to identify a range of commonly identified impact types that are often associated with the development of light rail schemes. It is likely to be the case that NET Phase Two will also generate similar future impacts now that it is in operation:

- Extension of labour market catchment areas: The combination of strategic employment sites and communities served by NET2, coupled with the integration of the new tramlines with heavy rail and park and ride facilities at Toton and Clifton, suggests that these impacts are likely.
- Stimulating inward investment/city image and quality: Fieldwork has suggested that the Tram has and is likely to deliver benefits in relation to enhancing the image of the City. Attributing particular instances of inward investment to a particular infrastructure project is problematic due to the wide range of factors that influence commercial investment decisions. Nevertheless, respondents confirmed that transport infrastructure is a factor considered by prospective inward investors.
- Unlocking previously hard to access sites for development: Fieldwork evidence suggests that NET Phase Two has already influenced property developers' perceptions of the potential offered by particular sites served by or in close proximity to the new tramlines.
- Stimulating growth through addressing transport network constraints: NET Phase Two has addressed local transport network constraints and, particularly in concert with other recent and ongoing improvements to the local transport infrastructure (A453, Ring Road and Station), is likely to facilitate local economic growth.
- Land and property value increases: The research team have found some anecdotal evidence of property price increases in residential areas served by the new lines. It remains too early to assess the likely nature and scale of these effects in Nottingham. In light of this evidence and the experience of other light rail schemes, it is probable that commercial and residential property values on sites served by the new tramlines will be enhanced.

Evidence from stakeholders suggests these kinds of benefit are likely to be realised by NET Phase Two in Nottingham over the long term. It remains too early to take a definitive view on the likely scale of these effects.

## 7.5 CHALLENGES AND ISSUES

As is to be expected with a major infrastructure project of this type, disruption associated with the construction phase of the project did adversely impact on local businesses and communities along the route. Some of this disruption is inevitable given the nature of major infrastructure projects of this kind. This report used information on the uptake of financial assistance by businesses to put a rough scale on the number of affected businesses.

A number of respondents also highlighted the importance of project management capability for the delivery of complex infrastructure projects of this kind. While this may in part reflect choices made by Tramlink partners over the question of whether to operate as an incorporated or unincorporated joint ventures, it was also suggested that this may result from something of a sector wide skills shortage. A further contributing factor may be the relatively low volume of light rail projects constructed in the UK – this means that capability is not retained and developed in the way that is possible when tram projects are developed on an ongoing basis.

The specific structure of the PFI concession adopted for NET Phase Two was appropriate for the promoter of the project – Nottingham City Council – in that it insulated the local authority from financial risks associated with unanticipated project overrun. How far this model remains sustainable in light of the experience of civil engineering contractors who have incurred losses in connection with tram network construction in the UK is debatable. These issues are noted here for further consideration as part of the wider project review planned by Nottingham City Council and Tramlink Nottingham.

## 7.6 LESSONS LEARNED

It is inevitable that when a project of the scale and complexity of NET Phase Two is delivered, there will be lessons to be learned. All the project participants interviewed in the course of our fieldwork were asked to identify lessons relevant to the future implementation of similar projects in Nottingham and elsewhere. In a similar vein, a number of respondents identified elements of ‘good practice’ developed on the NET Phase Two project that could (and are) being replicated by other authorities and in other locations. It is however, hard to be categorical about causality in relation to these wider influences on practice that Nottingham’s NET Phase Two may have had. We can state that many of the respondents interviewed for this research felt that the NET Phase Two project has been influential. The following lessons were identified:

- 1) A positive lesson is the importance of signalling the commitment to maximising local economic impact through the procurement and contracting process. Furthermore, the project has provided a powerful demonstration of the scope to incorporate social and economic benefits to specific target groups into major infrastructure projects procured by the public sector. The promulgation of public sector austerity into the foreseeable future and, by extension, the need to ensure that public investments deliver against multiple policy objectives is likely to make this approach even more relevant to public authorities in the future.
- 2) Similarly, an unanticipated lesson was that public awareness of local job opportunities associated with the project helped to mitigate concerns around disruption during the works period. Local employment and training initiatives such as those assessed here deliver valuable benefits in their own terms, but

they can also form a useful part of the stakeholder management strategies that support the development of major infrastructure projects.

- 3) The importance of the scheme promoter (Nottingham City Council) facilitating and coordinating local recruitment, training and supply chain activity – in this case through the Employer Hub. This capacity played a key role in ‘capturing’ local employment and training benefits for residents of the City. In short, inclusion of these kinds of targets and objectives in the tender documentation and concessionaire’s agreement – important though this was – is not sufficient to realise these benefits. It also showed that public bodies procuring projects of this kind must also invest in the capacity to realise these benefits themselves.
- 4) The project demonstrated the importance of public funding, in this case from Job Centre Plus and the Skills Funding Agency through the Sector Based Work Academy model, in enabling training initiatives to facilitate access to employment opportunities by local unemployment benefit claimants. These initiatives were central to enabling local unemployed residents access opportunities associated with NET Phase Two. It is unlikely that commercial contractors could have engaged in this activity without public funding.
- 5) The need for early engagement with schools and colleges to raise awareness of opportunities linked to the project and engagement with national schemes such as the Prince's Trust 'Get In to Construction' programme. This may be challenging given the usually quite short time windows between contract closure and the commencement of construction. But several respondents felt that longer lead times would have helped to realise greater benefits and ensure that local partnerships were established in good time to facilitate implementation.
- 6) The co-ordination and planning of NET Phase Two, alongside other major transport infrastructure projects, and the mitigation of their impact on the local traffic infrastructure were made more challenging by the timing and sequencing of Central Government funding decisions. In part, this is explicable in relation to the desire to identify pre-planned infrastructure projects capable of providing economic stimulus in the wake of the Recession.

## 7.7 CONCLUSIONS

The construction and initial operation of NET Phase Two took place during a period when the UK economy was slowly recovering from the financial crisis and recession of 2008/09. The advent of recession led the scheme’s promoters to place more emphasis on using the project to deliver local economic benefits. In this context, it is notable that construction employment increased significantly for residents in Nottinghamshire between 2010 and 2011 and in Nottingham between 2011 and 2013, in contrast to flat or falling national and regional trends. It is likely that the construction and operation of NET Phase Two, alongside other major infrastructure projects underway in Nottingham during this period, contributed positively to the performance of the local construction and transport services sectors during this period. It is also likely that the project helped to provide a degree of continuity of employment for construction workers during a period when the sector was under some stress in the aftermath of recession.

The project has illustrated the manner in which major infrastructure projects can play an important role in providing a local economic stimulus in recessionary and post-recessionary environments. The employment, skills and supply chain impacts associated with this project were invaluable for Nottingham because they came at a time of particular economic stress in the wake of recession. The procurement

approach adopted for the Concession was a significant factor in achieving this outcome. Equally important was the investment made by Nottingham City Council in the Employer Hub - which played a central role in achieving positive employment and training outcomes for local people. Indeed, local authorities seeking to maximise the local benefit arising from major infrastructure projects should consider the experience of the NET Phase Two project.

From a transport and spatial planning perspective, it is clear that the development of NET Phase Two has demonstrated a good level of strategic integration with other transport infrastructure and development plans in and around the City. This is likely to facilitate the realisation of future economic and social benefits within the localities served by the extended tram network.

Finally, NET Phase Two has served an important demonstration function. It has shown that the communities, businesses and institutions of Nottingham can deliver large and complex infrastructure projects in challenging circumstances.

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## ANNEX 1 KEY PERFORMANCE INDICATORS

Key Performance Indicator	Overall Target	Split of Target (Local/ Wider/Regional)
Targeted Recruitment	100% of vacancies to be notified to Local Agencies (i.e. through the City Council's Employer Hub)	50% of recruitment from the Local Impact Area; 30% of recruitment from the Wider Impact Area; 10% of recruitment from the Regional Impact Area
Person-weeks of employment for New entrant trainees	5486 person-weeks in the Works element	60% provided by residents of the Local Impact Area and 40% provided by residents of the Wider Impact Area
	6084 person-weeks in the Services element	60% provided by residents of the Local Impact Area and 40% provided by residents of the Wider Impact Area
New Entrants engaged	87 in the Works element	60% provided by residents of the Local Impact Area and 40% provided by residents of the Wider Impact Area
	84 in the Services element	60% provided by residents of the Local Impact Area and 40% provided by residents of the Wider Impact Area
New entrant trainee accreditation	90% completion of NVQ Level 2 or equivalent (Services only)	
Work experience and internship person-weeks provided	150 person-weeks in Works	60% provided by residents of the Local Impact Area and 40% provided by residents of the Wider Impact Area
	500 person-weeks in Services	60% provided by residents of the Local Impact Area and 40% provided by residents of the Wider Impact Area
Value of supplies, services or sub-contracts invoiced by firms in the target areas.	£68 m from Works suppliers in the Local, Wider and Regional Impact Areas	A minimum of £41 m in the Works element for the Local and Wider Impact Area A minimum of £27m in the Works element for the Regional Impact Area.
	£4m per year in the first 3 years of the Services element then approx. £10m per year thereafter	£4m per year initially from suppliers in the Local, Wider and Regional Impact Areas then approx. £10m per year thereafter

Source: Annex 1 to Part 4 of Schedule 20 in the Concession Agreement, 'Sustainability – Employment & Training', Table 4 'Key Performance Indicators', pages 33-34.